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Perception of Beauty

Edited by Martha Peaslee Levine



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Meet the editor



Dr. Martha Peaslee Levine is an associate professor of Pediatrics, Psychiatry, and Humanities at the Penn State College of Medicine. She teaches Humanities to students through all 4 years of their medical training and encourages them to consider how we perceive others and how this can affect the doctor-patient relationship. Through her work within the field of eating disorders, she often tackles the way women are viewed and the challenging expectations that they struggle against. Combining these interests, she has edited this volume that examines how we perceive beauty. As a psychiatrist, she challenges you to be open to new concepts and ideas. That is the only way to discover the world around you and challenge your own Perception of Beauty.

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Preface

I will admit that I had a certain bias when I agreed to edit this book, *Perception of Beauty*. As a psychiatrist working in the field of eating disorders, I am often drawn into discussions on societal considerations of beauty. I recently heard a program on BBC Outlook that examined "The Perfect Body." Former model, Victoire Dauxerre, discussed messages that she was given within the fashion industry that propelled her toward an eating disorder. Messages are given to all of us on a daily basis, which raise questions as to how we are perceived. In many advertisements and other media outlets, happiness is linked with beauty (and often thinness). Many of my clients believe that if they aren't happy it is because they are not thin enough. They equate themselves with a very external view of beauty and accomplishment. These talented individuals (many of them young women) find it difficult to define their unique talents or identify things that they like about themselves. They worry about how people perceive them, and since that is often through the external, they agonize over every aspect of their appearance.

An additional challenge for individuals struggling with eating disorders is that their perceptions of their appearances are distorted. They see themselves as larger than they really are, and in our weight-stigmatizing world, this brings even more discomfort. One woman whom I work with weighs less than 100 pounds but is convinced that she will break the exam table when she sits on it. Her perception of herself is affected by her illness. So whether it is through accurate interpretation of expectations communicated to women or their own distorted views of their bodies, perception of beauty is a constant challenge that I try to help others tackle. A number of the chapters of this book consider judgments made of women and how that affects their overall perception of beauty.

Yet once the chapter proposals came in, it started to become clear that there are many other aspects that can be considered within *The Perception of Beauty*. In my work within medical humanities and with medical and graduate students, I often look at perceptions related to communication, especially between doctors and patients. While these instances are not directly affected or defined by beauty, they highlight how differently the same encounter can be perceived by two people. Many of the chapters that I reviewed looked at perception, expectation, and "rules" that can govern how we perceive images around us.

Within the submissions, I found so many interesting aspects related to the perception of beauty, and I learned so much. I hope that the reader has that same delighted experience of dropping into the world of someone else's expertise and having the chance to view life and our environment in a new way. The book includes 12 chapters. I toyed with how to group them and ended up creating four sections, which I will briefly describe. There is an overlap in themes within the chapters, and some could have easily secured a place in a different section. That is part of the delight, seeing how life and beauty tie to the spiritual, to rules, to culture, and to our own selves.

Chapter 1 raises the question of what is meant by beauty. Is beauty a feature of the object or our own perception? Using developmental stages, the author takes the reader on a journey that considers individual and cultural growth through the ages. This journey of the “I” is toward greater appreciation of the beauty that surrounds us. Chapter 2 takes the reader on an adventure through the evolution of Byzantine art and examines the different categories of saints and how their identities are defined by their physical attributes. Chapter 3 examines the naked human body in art as defined by modern advertisements. The author works to encourage viewing the body as a part of soulful and compassionate caring rather than as an object to be exploited and lusted after. The second section of the book moves from the spiritual to rules that work to define beauty. However, in Chapter 4, as the author looks at interior design, not only are rules offered for consideration but also the concept that our own responses to space help in defining beauty. Chapter 5 delves into neuroesthetics and neuroscience within the framework of philosophical order to identify how we perceive and define beauty. Chapter 6 develops computational methods to design a photo beauty measurement system, which can distinguish photo aesthetics—defining amateur vs. professional photographs. Within the third section, authors consider social and cultural issues as we perceive and define beauty. Chapter 7 allows for a continuation of the discussion of neuroscience as the authors examine differential trajectories related to attractiveness biases as children learn to recognize male and female features. This attractiveness bias is explored within elements of culture through the next chapters. Chapter 8 focuses on the role of mass media in peoples’ perceptions of beauty. Chapter 9 takes the reader into the world of female athletes as they explore the experience of four different athletes over four decades and their experience of how beauty is perceived and manipulated through language. Chapter 10 explores the challenge of stereotyping and biases as related to culture and diversity in the field of plastic surgery. Chapter 11 takes readers behind the Islamic veil and helps readers understand how cultural and religious roles affect not only a perception of beauty in society but also within one’s own family and home. Chapter 12 allows readers to circle back and contemplate themselves and the world, their perceptions and expectations, their identities, and ability to de-identify from their static self to connect with a larger freedom and sense of well-being.

As the expression goes, “beauty is in the eyes of the beholder,” the authors ask us to consider whether the perception of beauty has been defined by our genetics and culture over the years—has it grown and changed? Do certain neural connections define our emotional reactions to beauty? Does beauty follow any rules or laws? Can the aspiration toward beauty be detrimental? Or can we divorce ourselves from dictates and sink into a mindful connection with our internal beauty? Will this contemplative lens allow us to move past expectations, rules, and roles and develop a kinship with nature, art, and beauty? On this journey, we will no longer define beauty by what we see with our eyes, but what we as an “I” connect with on a deeper level. We can move from the superficial where “beauty is only skin deep” to an intense appreciation of beauty in all of its variations in nature, art, and life.

Happy reading.

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Spiritual Nature in the Perception of Beauty

The Beholder's I: The Perception of Beauty and the Development of the Self

Stephen H. Richmond

Additional information is available at the end of the chapter

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Abstract

A consideration of the perception of beauty immediately bridges the subjective and objective. To what extent is beauty residing in the object and to what extent is it a property of the subjectivity of the perceiver? Is beauty an objective feature of the object, like color, for example, which nonetheless needs to be perceived and therefore configured by the observer? Or is there some more complex relationship between the beauty that we seem to perceive "out there" and the state of our internal development? The dualistic framing of that would place beauty either out in the world or as an aspect of the self itself implies an overly dualistic view of the self and the self's environment. I will explore a view that the average development of individuals within a society determines structures of group consciousness, and one element of each structure is aesthetic, meaning that it configures the perception of beauty.

Keywords: beauty, aesthetics, self, development, modernity

1. Introduction

Before we can embark on a discussion of aspects of the perception of beauty, we might ask just what we mean by beauty? As is often the case with such exercises, what initially seems self-evident becomes increasingly obscure and difficult to pin down with increased scrutiny. We notice something "out there" which we label as beautiful. But is beauty really a feature of the object? Is it objective? If we were to say that it resides in features of the object (like symmetry or proportion) it would not necessarily render a discussion of the perception of beauty moot; our perceptual apparatuses configure our appreciation of objective features of the external world also. These questions of the relation of the subjective to the objective have parallels in psychoanalytic theories, such as object relations theory, attachment theory, and relational theory, among others. They also echo the traditional discussions of nature versus nurture,

that is, the subject finding itself within a particular environment, which becomes, for better or worse, its nurture.

Contemporary analytic models emphasize a view of the subject in relation with his or her environment, which initially for humans (due to our utter, and long, dependency at birth) is always another human caregiver. Winnicott's phrase "there's no such thing as a baby" [1] is a pithy summary of the shift to seeing the dyad of infant and caregiver as the phenomenon of interest, study, and care, rather than the infant in isolation. The dyad is seen as having emergent properties that are derived from the contributions of the individuals, but that go beyond them. Development unfolds through a process of the infant internalizing moments of self-other interaction [2], which then form the basis of implicit working models that configure the experience of subsequent interactions. The influence between self and environment then is bidirectional, though not necessarily always symmetric or equal.

Ekman [3] has demonstrated that humans experience a set of basic emotions that are hard-wired and set biologically and are therefore universal. These emotions are, however, invariably mediated through culturally specific expression rules. The expression rules are the proximate influence of the larger culture in configuring how the individual can give social expression to the underlying emotions. Those rules are the medium of expression. They can facilitate or hinder those expressions. Since it requires an intersubjective process to integrate emotion, the expression rules are crucial contributors to what developmental avenues are available for the self in development. The expression rules transmit what amounts to aesthetic languages, languages that are either rich or impoverished in terms of developmental potential.

Several authors have described stages of human cultural development that are conceived as being derived from the average individual development of participants in that culture. We can look to these descriptions as providing a picture both of the cultural worldview, including its aesthetics, as well as the psychological processes of the individuals participating in that culture. Just as in relational theory, in which the quality of relating is an expression of characteristics of the developing self-in-relation, we can look to evolving aesthetics on the level of cultural stages to characterize aspects of the evolving self.

I have contended elsewhere that psychoanalysis should be considered a form of applied aesthetics, parallel to medicine as applied science [4]. A corollary to this is the idea that art has a tendency to engage self-development as well as to reflect it, which psychoanalysis then makes use of. In this essay, I will explore how features of self-development configure broad stages of group consciousness, which then reflect, among other things, aesthetic vision, including the experience of beauty.

2. Stages of cultural development section

Ekman's expression rules are, of course, social constructions; they are both constructed socially but also configure how subsequent social interactions are experienced. Contemporary psychoanalytic models have shifted from viewing the self in isolation to a view of the self as constituted in a relationship; the unit of study becomes the dyad, rather than the individual [5].

Hence, the subjectivity of our emotional experience is configured by nature in combination with nurture (the current synthesis of the traditional dichotomy of nature versus nurture). We know from attachment and developmental psychology research that development is configured by social interactions and that knowledge of one's emotions is gained through bidirectional communications with early caregivers. This means that the expression rules that Ekman described end up impacting not just our emotional expression interpersonally, but also intrapsychically—we learn what we feel by learning to express those feelings to others.

Psychoanalysis (and all psychoanalytically derived therapies) make use of this phenomenon for healing. These therapies are exercises in deepening one's knowledge of one's emotional world by expressing one's feeling to another person. That is, one learns to talk more deeply and authentically to oneself through the effort to speak more authentically and deeply to someone else. Freud called the basic instructions to the analysand (the patient in analysis) the fundamental rule. These instructions were to try to say what comes to mind and to relax the usual social editing that we have been programmed through our upbringings to engage pre-reflectively in order to fit in socially.

In other words, the fundamental rule amounts to instructions to loosen and undo the cultural specific expression rules. From a neurophysiology standpoint, these expression rules mediate an interaction between the limbic system, part of the midbrain, and where our emotions are processed, and the neocortex, the location of our social modeling. They are mediated by implicit, subconscious/unconscious procedures and schemes encoded in the right prefrontal cortex [6]. So Freud's early case material involved people struggling with disavowed emotions: feelings and intentions that they had learned were socially unacceptable and therefore had to be disowned—the neocortex fighting with, struggling to integrate, the limbic, or animal brain.

That these experiences are encoded procedurally (right pre-frontal cortex) rather than discursively, in the left hemisphere language functions has important implication for how they are engaged aesthetically. Discursive (episodic) memory/knowledge, is the knowledge of facts and figures—the content of knowledge that can be expressed in language. Procedural memory encodes the knowledge of how to do things. This is often illustrated by pointing to physical procedures, such as how to ride a bicycle. The crucial point is that there are not just physical procedures, but also psychological and emotional procedures, and these importantly mediate our implicit relational knowing and being. Ekman's expression rules are largely procedural. Procedural knowledge is activated and accessed differently than discursive knowledge is. Unlike discursive knowledge, which can be called to mind (what is the capital of Georgia? etc.), procedural knowledge is accessed by enacting it. Unless you have formed a secondary verbal memory for whether you can ride a bicycle, you could only access that procedure by performing it—your body is what knows how to ride the bicycle. This is why art always has to be enacted. Unlike the accumulation of propositional systems of knowledge as is seen in science and philosophy, in which one can build on the conclusions of previous researchers, the work of art only has an impact in its enactment. Another way of stating this is that the implicit procedural schemes that configure our set of identifications, and with it our emotionality, has to be enacted in time and space in order for the work of emotional integration to take place. Still another way of expressing this is that it requires play [7, 8].

Thus, as the self, or I, unfolds in development, the development is in concert with group structures that configure elements of the aesthetic language available to the self, which are then made use of to give intersubjective expression in the ongoing task of integrating the underlying emotional experience.

Several authors have described stages of human cultural development that are conceived as being derived from the average individual development of participants in that culture. We can look to these descriptions as providing a picture both of the cultural worldview, including its aesthetics, as well as the psychological processes of the individuals participating in that culture. Wilber [9] has correlated several of these accounts with one another and found that they are describing the same underlying reality, and indeed, even the descriptive labels have broad overlap. Habermas' epochs (*archaic, magical-animistic, mythological, mythic-rational, rational-reflective, world citizens*), are broadly equivalent to Gebser's stages (*archaic, magic, mythic, mental, integral-aperspectival*), which map on to Bellah's stages of religious development (*primitive, archaic, historic, early modern, modern*) [9].

With this set of concepts, we can begin to lay out some of the features of these cultural epochs, including a history of their art and aesthetics, with correlations to the psychological and emotional processes on the individual level. A major reference point for processes at the level of the individual level is the point of development along Piaget's cognitive line.

Piaget's sequence [10] goes *sensorimotor, preconceptual-preoperational, intuitive(conceptual)-pre-operational, concrete operational, formal operational*. For example, using this scheme, we would see early foraging social structures, part of the archaic level, as using largely sensorimotor level of cognitions; social organization at this level is around the immediate family. As the average level of cognitive development moves into preoperational, at the magic level, the social structure expands to include clans, with hunter-gatherer organization. As intuitive-pre-operational structures unfold at the individual level, the overall level moves from magic toward mythic. This level finds social structures that are tribe based and horticultural in the organization. Once concrete operations take hold cognitively, the mythic level is fully in place, with the full agrarian social organization and theocratic empires, complete with Gods and hero worship. The transition into early formal operational thinking, at the mythic-rational level, with the emergence of abstract thought, allowed for the unfolding of the Renaissance, and the nation state. Full formal operational thinking led to the Western Enlightenment and the development of the industrial revolution. By Wilber's account, the United States continues in a transitional state, between mythic and full rational structures, which can account for recent political currents, as well as aesthetic themes, as progressive and regressive forces struggle with one another. Late formal operations, with systems, thinking and polyvalent logic would correspond to global or world-centric social systems, systems that are as yet fledgling.

My goal is to describe these underlying structures of consciousness in order to clarify how they configure our general view of the world, and specifically how they impact aesthetics and appreciation of beauty. One element involves the way these structures relate to one another in their development and unfolding. Generally, each stage emerges out of the previous stage, transcending, or differentiating, from the previous structure, with a subsequent downward

integration with the original stage. With human psychic development, the direction is toward successive internal differentiations. One illustration of this process is in cognitive development. In cognitive development, the substance of one stage becomes the material that the next stage works on or processes. This has an important impact on self-experience; the subject(self) of experience becomes part of the object of contemplation and subsequent integration in the next stage. So at one stage, sensory-motor, we essentially are our perceptual experiences, and we are our body; at the next stage, there has been internal differentiation of an emotional self, which is the core of a self that is no longer the body, but now has a body—but this self essentially *is* the particular emotion that is manifesting in that moment.

We begin to examine the sequence of developmental stages. The initial stage is sensory-motor, made up the most basic, biologically organized percepts. The pre-operational stage involves physical actions in manipulating physically perceived objects. The self at this stage is the body which engages the environment through physical manipulation; Freud's oral stage. We can see at this point the beginning of the move inward, as indeed, all these stages tend to unfold with increased levels of interiority, even as psychologically, they involve a de-centering, or shift away from self-centeredness. The pre-operational stage is still largely external, in that the material for processing is the physical percept, and the manner of manipulation remains physical, on the outside—but it also represents an early unfolding of intentionality, which is always on the inside, not the outside. Intentionality appears at this stage with pretend play, which introduces the question of "who is it" that is pretending. Fonagy and his colleagues [7] describe an important milestone in self-development that occurs during the pre-operational stage, around age 4, which is expressed in the "false belief test." A child is presented with a box with an external label describing its contents—for this example, we will say that it shows chocolates. The child is asked to tell what is in the box; the answer will be "chocolates." Then the box is opened, and it is revealed to contain crayons. Once closed again, the child is queried as to the box's contents, and this time answers "crayons." Then the child is asked to imagine a friend, who hasn't seen the open box; what will this friend say is in the box? If the child is younger than four, the typical answer will be "crayons;" if the child is older than four, the usual response is "chocolates." Development theorist will point to this as an indication of the development of a theory of mind in the child. After this milestone, the child is able to hold in his or her mind an image of the other child and to realize that it is distinct and unique to that other person. This is the beginning of the emergence, still quite underdeveloped, of the *point of view*. And the sequence is inward, into the internal world.

With the next stage, concrete operations, the substance of the earlier stage—physical manipulations of the external world—become the material to be worked upon. Now there is a truly mental operation, though still manipulating a physical action. This is a huge step forward and allows for a much more logical, structured inner world, albeit still concrete and rather rigid. Societal structures that emanate from this level are labeled *mythic*; examples include the great imperialistic nation states. The emphasis is on fidelity to role and rule, conformism to a role provided from the outside (since true interiority does not yet emerge until the next stage). When viewed from the next stage of formal operations(*rational* level societal stage), the mythic structure can be seen as overly concrete, lacking appreciation of alternative views, and totalitarian. These are elements at both the individual level(for example, a parent asserting

rules of the household to a 7-year-old “because those are the rules”) as well as at the societal level, with totalitarian governments imposing state religions (in the case of communism, the state religion is atheism). When viewed from the previous stage, *magical* level structures, the mythic level is a movement toward greater inclusion, greater overall integration; each stage is adequate, but each successive stage is more adequate. The relative concreteness of the mythic level, when viewed from the rational level, is actually a step toward less concreteness relative to the magical level. For example, magic level societal structures tend to be organized around bloodlines, rather than role/rule participation. Societies that are magically structured will attempt to preserve the good by cleansing the bad—literally ethnic cleansing, in which the evil or bad blood is eliminated. Mythic structures, on the other hand, preserve the good by converting the bad and incorporating it—everything is fine if you join The Party (but there is, of course, only one Party). Note how blood lines are more bodily based, more concrete, though the rule/role of the next stage is still relatively concrete, in that it is like an action that has to be undertaken or not, and the nature of the rule or role cannot be considered (literally can't be conceived of yet at this level).

The unfolding of formal operational thinking at the individual level, and rational level societal structures is transformative. It is only at this stage that a true interiority opens up. Cognitively, the mental operations which in the previous level could only be used to manipulate concrete sensory data become themselves the material for operations at this new level. Individuals at this level can, for the first time, think about the nature of thought. The opening of this capacity, typically around age 12 with the full myelination of the corpus callosum (the broad fiber tract that connects the two hemispheres of the brain), heralds the work of adolescence. One important aspect of this work is to bring into awareness the previously implicitly accepted rules and roles assigned by society and parents and to explicitly digest them, integrating them as deeply held principals rather than as religiously followed rules.

This account of development, both of individual and group cognition, helps explain a very broad sequence of development in art. The earliest productions by humans that are usual thought of as artistic production are the Paleolithic cave paintings, usually estimated to date from approximately 40,000 years ago. They tend to depict isolated images, such as particular animals, sometimes with human figures, quite iconographic (that is, lacking anything close to realism). Theorist debate whether to even consider them art per se, though they are often seen as precursors of what later would be considered art. The sense that they have a surface or superficial aspect would fit the notion that they reflect a sensory-motor processing of the world. Along these lines, they may also reflect what could be called sensory motor concerns—the primal struggle against nature and the elements, the struggle for food and basic shelter. Gebser [11, p. 48] summarizes key aspects of this stage, that of “magic man” as involving five characteristics: (1) egolessness; (2) a point-like unitary world; (3) spacelessness and timelessness; (4) a merger with nature; and (5) a magical reaction to being merged, imbuing him with supernatural power.

The mythic structure, as discussed above, relates to concrete operations in cognitive development for the individual. Gebser sees the magical stage as being *before time*, or before the emergence of our awareness of time. With the emergent awareness of time with the mythical structure, comes also awareness of *the soul*.

...whereas the distinguishing characteristic of the magic structure was the emergent awareness of nature, the essential characteristic of the mythical structure is the emergent awareness of the soul. Magic man's sleep-like consciousness of natural time is the precondition for mythical man's coming to awareness of the soul. Wherever we encounter seasonal rituals in the later periods of the magic structure, and particularly in astronomical deliberations, as for example among the Babylonians and later in Egyptian and Mexican civilization, we find anticipations of the mythical structure. Such forms of evidence indicate that the coming-to-awareness of nature has reached its conclusion, a process whereby the rhythm of nature with its conspicuous auditory emphasis becomes, in a purely natural way, temporal. This is the decisive step taken by magic man out of his interlacing with nature [italics in original] [11, p. 61].

To illustrate this transition from magical to mythic levels, Gebser cites examples of Occidental art dating from the second millennium B. C., for example, a colored stucco relief depicting a "Prince with a Crown of Feathers" from the Palace in Minos. The scene presents "terrestrial man (and not a divinity)" distinguished from the background of reeds and grasses [11, p. 62]. Though this figure is terrestrial, that is, of a human, not a God, it is still quite stylized and non-realistic. The art of the mythic period tends to be *concrete and literal*, consistent with the concrete operations stage of development and is typically dominated by religious art and iconography [9, p. 213]. It lacks depth, both visually, with the absence of visual perspective, and psychologically, in that there is no inner world depicted. With no space internally there is no internal or psychological perspective, and as such, there is no individuality, no uniqueness. Myths tend to be structured as personifications of Universal forces. They depict the formal and therefore external and standardized rules and roles of this level. The action is externalized into the world, not reflected upon internally. This matches a dynamic in work in therapy with individuals functioning at this level. Projections are directed by therapist outside the room, are then considered from a distance [12]. To call these "counter-projective" techniques might give the wrong impression, if that were to imply an effort, at least initially, to get the patient to stop projecting (I say "at least initially, because successful work might eventually lead to less of a tendency to project indigestible emotional material as integration successfully unfolds). Projections are joined by the therapist, but then directed past the therapist to some target outside the room. For example, a patient seen in the hospital might complain of not being able to smoke during the interview; the therapist might commiserate about the frustration of having to put up with seemingly arbitrary rules—the frustration is directed toward the faceless institution in order to dissipate the emotional charge in the room and allow the interview to proceed. This is in contrast to more conventional psychoanalytic techniques that invite the patient to project onto the patient and work through the issue in the transference. Harry Stack Sullivan was considered a master of these approaches. He was said to gradually shift his chair around so that he was eventually gazing in the same direction as the patient, literally enacting physically the empathic joining with the patient's point of view. It was said that patients would be less paranoid after sitting with Sullivan [12].

While Wilber calls the next stage *rational*, and Habermas labels it *rational-reflective*, Gebser refers to it as *mental* [9]. The transition, on the individual level, to what Fonagy [7] calls *mentalization* begins with adolescence, and the full flowering of this stage could be seen as the successful work of adolescence. On the societal level, the renaissance was the adolescence of Western culture, and the Western Enlightenment corresponds to the attainment of young

adulthood. It would be hard to exaggerate the impact of the unfolding of this stage has at both the level of individual development and at the cultural and group level. Recall the cognitive sequence, of successive dis-identification and differentiation from the earlier level, which then becomes the material that the new level acts upon; this is essentially the emergence of successive new dimensions of reality. Gebser also calls this level *perspectival*, which emphasizes the attainment of perspective in art. Literally, the third dimension is now included and depicted. But he is also emphasizing perspective in art as only one indication of a broader shift in overall consciousness. The appreciation of depth in space which is reflected in perspective is mirrored in the unfolding of internal space and psychological perspective. On the individual level, there is a differentiation of the internal world from the external. At the mythic level, adherence to role was attained by merging with and being/enacting the role. At the mental/rational stage, the ability to separate from role allows the ability to reflect upon and process (do work on) the role. Because role can now be thought about without having to be enacted, it is more completely mental and internal. With this comes the capacity for a more completely mental definition of self, which has impact societally on types of citizenship. Thought and feeling become more fully differentiated. Fonagy's fully mentalizing person includes the ability to think deeply about what one is feeling, and feel deeply about what one is thinking.

Remember, what is subject at one stage becomes the object of the subject's contemplation at the next stage. This also means that the stages represent an evolution in the self's set of identifications—what it imbued with "I-ness" shifts with the stages. The progression of internal differentiations means that what had to be concretely enacted at one stage may be available for mental contemplation at the next stage. This is particularly evident with the emergence of the rational stage, corresponding to formal operations at a cognitive level. As such, it is the first purely mental, or internal stage, in which one is able, for the first time, to think about thinking. As with the ability to hold space more fully in mentation, with perspectival consciousness, a similar shift occurs in relation to time. As people are less embedded in their physicality, they are less embedded in time. The circular, repetitive experience of time in nature is replaced by linear, clock time.

There is an important sense in which each evolving stage represents the differentiation of a new dimension of reality that is then added to the reality of the previous stage. Each stage is "more whole, more inclusive, more complete" than the previous stage [13]. We can get a feeling for this by looking at how one dimension relates to higher dimensions in geometry, particularly as it relates to the experience of time. If we think about how one dimension relates to the next lower dimension from which it emerges, we see that the next higher dimension tends to be experienced as *time* from the point of view of the lower dimension. So, geometrically, a single point in space is zero dimensions. Movement through space traces a line, a single dimension. A line moving through space traces a two-dimensional plane. A plane moving through space produces the third dimension of space, that is, a space with physical depth. From the point of view of the point moving through space to produce the line, movement and therefore duration is experienced. That single point can only be at one location as it traces the line through time. But from the point of view of the line, all the points exist simultaneously. Similarly, a line moves through space to trace a cube. From the point of view of the line, the cube is the experience of movement and duration; from the point of the cube, each line along the path still exists—simultaneity replaces duration, therefore space replaces time.

This has a great impact on both the individual and cultural levels. As people are less embedded in their physicality, they are less embedded in time. And a huge consequence is that one can now think about time without having to enact it to the same degree. The circular, repetitive experience of time in nature is replaced by linear, clock time. The wide distribution of cheap pocket watches, which occurred in the eighteenth century, along with the differentiation of the individual internally from the conformist social roles allowed for the development of a middle class, and individual driven consumerism. *Time is money* as an Enlightenment ideal could only develop as time became more purely mental.

As is implied in the point about the transformation of the experience of time and space, the rational or mental stage of cultural development is also commonly referred to as *modern*. There are many definitions of modernity, but a widely held view is that a key process involves the differentiation of the value spheres of the True, the Good, and the Beautiful [14]. It is during the Western Enlightenment that we see the impact of this on the level of social institutions involved with science, religion, and art. In philosophy, Kant's three great works (The Critique of Pure Reason, 1781; The Critique of Practical Reason, 1788; and The Critique of Judgment, 1790) describe and delimit the approaches successively, to Science, Ethics, and Aesthetics [15, pp. 85–87]. Much like the new freedom internally on the individual level, with the differentiation of thought from emotion, the differentiation of the value spheres allowed each to unfold with new levels of depth and freedom.

Science, freed from the dogma of religion, transformed the world. I do not have space in this discussion to do justice to the utter transformation of our world that modern science has unfolded, but perhaps the ubiquity of these effects render an exhaustive discussion of this unnecessary. I would emphasize how this process involved an opening up of internal space, parallel to the perspectival depth achieved in external space. This involved a transcending of the previous level's view of time and space. As technology, as applied science, takes up increasing space in our world, more and more of the world we live in becomes a projection of our inner worlds. In urban environments, it is possible to live in settings in which literally everything visible originated as an idea in a person's consciousness before finding physical manifestation in the outer world. Recall, this is all part of the sequence of internal differentiations, leading to the emergence of the mental world, sometimes referred to as the noosphere. The noosphere, or mental world, is seen as emerging from the biosphere, the realm of life, which emerges from the physiosphere, or lifeless universe [16]. At each stage, what could only be manifested through physical enactment can gradually be experienced internally, as a mental event—the “eye of flesh” can become the “eye of mind” [14]. A vivid example is Einstein's famous thought experiment, of imagining that he was riding on a photon at the speed of light. In his imagination, he transcended the limits of time and space.

Greater depth of post-conventional ethical development unfolded, manifesting in the liberation movements that reflect Enlightenment ideals. In the previous stage, self is still embedded concretely in how we act in the external world, it is also embedded in our bodies. With the mental stage, our sense of self and therefore citizenship can transcend our bodies and therefore our biology. The liberation ideals of the Enlightenment reflect this in the re-defining of citizenship rights as no longer rooted in biologic elements such as race or gender. Personhood

is now based on an idea rather than a concrete biologic or physical attribute. Wilber sees the appearance of women's liberation movements as a sign of the emergence of rational level societal structures [15]. Tolerance of opposing views is another unique manifestation in the world of the mental/rational level. This was institutionalized in Constitution of the United States, with minority rights protected against the power both of the majority and of the government, as well as in the separation of church and state, and guarantee of freedom of religion. For the first time in the history of the world, the twentieth century saw a general consensus on the level of nation states for the abolition of slavery.

All of this is reflected in modern art. Leonardo's *Trattato della Pittura* was the first scientific discussion of all types of perspective and included the first detailed discussion of light as it impacts the eye and not just as a symbol of the Divine [11, p. 19]. In form, there is a movement toward greater realism. In content, there is a movement away from idealized scenes and figures that depict the social rolls and conformism of the mythic stage; there are more representations of ordinary people in the midst of ordinary life. There is a greater emphasis on single moments of living, and with it, the psychological depth that contextualize that given moment. In literature, novels appear, which are accounts of this new, internal and individual psychological landscape. Secular subjects can be taken up as the church's dominance over all forms of expression is relaxed. This happens equally with music as with art and literature. The almost entirely ceremonial church music gave way to increasingly emotional, complex, romantic and individual expressions.

Although I am using words like a stage, and level, we should emphasize these are types of processes, and as such, they unfold in time in space. A particular moment of aesthetic appreciation is as much a function of the dynamic unfolding of process and development. As such, a major form that art takes is in the depiction of the dynamics of growth and development itself. This cuts across the different levels. So early religious iconography is just as much about development as it is understood at that level (development means striving toward God) as a modern psychological novel is. Freud, who had such an impact on modern aesthetic sensibility, started with concerns about pathological side tracks in the unfolding of the mental level. Complexity involves the differentiation of function, allowing specialization, followed by subsequent integration. Pathology can occur both with incomplete differentiation to begin with or with differentiation which defies subsequent integration and thus becomes dissociation. The *Studies in Hysteria* involved cases, mostly women, in which there was difficulty in the mental self's integration with the bodily, animal self, discussed in that system as drives that emanate from the *id*, or it(not me). The expression rules which Victorian society made available to these women was a kind of aesthetic language available to narrate the moment to moment affective experience of living and was inadequate in these cases to allow for a full integration of their affective experience. Instead, they were forced to dissociate and repress important elements of their inner worlds, resulting in symptoms.

Much of the art and literature of the mental stage involves the struggle to reach and consolidate at this level. This is reflected in the truism that for a novel, or movie, or play (more broadly, a story) to be compelling, it must involve growth and development in the protagonist. This is true even in classical tragedy, in which the development typically involves an earned awareness of

in the protagonist of his or her fatal flaw. Much of the classic American Theatre can be seen in this light, as depicting struggles reconcile the demands of roll deriving from the previous, mythic stage, with the earning dual yearnings that emerge as part of the differentiations of the mental/rational stage, the yearnings both for individuation and authenticity, on the one hand, and intimacy and communion on the other. These are themes found in abundance in the plays of Williams, O'Neill, Miller, and Wilson. These are themes found often in novel and films, as well, such as Ecco's *The Name of The Rose*, which depicts the struggle of the rational to emerge in the face of the regressive pull of the mythic in the form of The Inquisition.

As you will recall, we discussed earlier the tendency for beauty to evoke love toward the object. Clynes [17] has pointed out the close relationship between love, empathy and the appreciation of beauty; we tend to develop loving feelings toward an artist, writer, or musician who deeply moves us.

This theme of love and beauty leads into a discussion of yet another unfolding that many writers see as a potential for human development. Wilber describes a post-rational stage involving what he calls *vision-logic*. Gebser describes a level he calls *integral-aperspectival*. From a cognitive processing point of view, the subject of one stage becomes the object of the next. Informal operations, there is the ability to think about thoughts. Post rational stages take up systems thinking cognitively, that is, thinking about more and more complex combinations of thought. Examples at this level might include abstract and cubist art.

One of the major themes of process and development that we have been discussing involves increasing complexity as a function of differentiation of function, with subsequent integration. This process manifests on the individual and group level, and in small versions that are nested within larger and larger manifestations. The shift from prokaryotes, single cell organism that lacks an encapsulated nucleus, to eukaryotes, which have encapsulated nuclei, is an example from early in phylogenetic development. Multicellular development can only unfold so far before specialization of the function at the cellular and tissue level is necessary for further development. The specialization of the liver for detoxification frees the other cells and tissues of the body from that task, allowing those other tissues to concentrate on their unique functions, be it circulating the blood as with the heart, filtering out waste and water with the kidney, insulating the body from the external world with the skin, or the unfolding of interiority and consciousness with the brain. The differentiation of the value spheres can be seen in a similar light. Pathology at both the individual and societal level can be attributed to the twin dangers of incomplete differentiation and merger at the lower level, or dissociation and lack of subsequent integration at the higher level. Much of the post-modern critique of Western Culture amounts to a version of the later, in which science has colonized and suppressed the other two value spheres, leading to a soulless modern world, with technology run amuck [6, 15, 18]. Much of post-modern art and culture can be seen in this light.

In contrast is a vision of the value spheres as increasingly integrated, in which a clear view of objective reality informs and is informed by a deepening moral sentiment, both of which interact with a deepening individual subjectivity and aesthetic. Wilber [15] has described the Buddhist ideas of *Buddha, Dharma, and Sangha* as corresponding to the value spheres—Dharma, the teaching, to objective truth, Sangha, the community of like seekers,

to moral sentiment, and Buddha, the development of the individual self, to individual subjectivity expressed through aesthetics. Different spiritual paths which correspond to the value spheres have been identified as moving toward the same omega point [19]. Wilber [9, 14] describes a sequence of spiritual or post-mental stages—*sychnic, subtle, causal and nondual*.

We have discussed the development of the individual self, or “I” as that development has unfolded within its complementary social matrix, emphasizing the aesthetic aspect of the cultural experience. Two of the main configuring dynamics of that development has been the sequence of internal differentiations, as well as the differentiation of the value spheres of the True, the Good, and the Beautiful, institutionalized in social and cultural structures as Science, Religion, and Art. These three value spheres engage three different facets of reality, and use differing languages—the language of “it” for science’s examination of the external, objective world, the language of “we” for the shared values of the realms of morality and religion, and the language of “I” as the subject experiencing the realm of beauty. The art of the sensory-motor realm takes as its content or referent the world or sensation itself, and sees with the “eye of the flesh.” The art of the mental realm takes as its referent the content of the psyche as mentally perceived. Examples at this level include surrealism, conceptual art, abstract art and abstract expressionism. Marcel Duchamp summed this up: “I wanted to get away from the physical aspect of painting. I was much more interested in creating *ideas* in painting. I wanted to put painting once more at the service of the mind” [14, p. 192]. The art of the subtle level takes as its referents visions and illuminations of archetypal forms, “soul art.” Frantisek Kupka stated, “Yes, painting means clothing the processes of the human soul in plastic forms” [14, p. 192]. Tibetan *thangkas* paintings, used to support contemplation, are other examples at this level. Wilber [14] points out that these are not symbolic, metaphoric or allegorical representations, but direct images of one’s subtle level potentials.

Wilber [14, p. 193] refers to the causal and non-dual levels as partaking of the “eye of spirit.” At this level, there is no particular level of the referent, which means that this “formless” art might make use of any and all levels, from the sensory-motor imagery of a Zen landscape to the subtle/causal level of the Tibetan *thangkas*.

What characterizes this art is not its content, but the utter the absence of the self-contraction in the artist who paints it, an absence of that in the greatest of this art, can at least temporarily evoke a similar freedom in the viewer, which

was Schopenhauer’s profound insight about the power of great art: it’s being transcendence [14, p. 193].

As has been discussed above, each successive unfolding transcends and includes the previous level, achieving greater and great adequacy and completeness of appreciation of reality in all its depth and beauty. The beginning of this discussion involved considering how we perceive what is beautiful; the backdrop to this is the implicit assumption that we distinguish beauty as sometimes present, and sometimes not. In as much as art is both a reflection of a state of mind but also a way of evoking certain states, these latter stages move toward psychological, emotional and spiritual states in which integration is more and more achieved.

These states tend to involve an appreciation of beauty as everywhere all at once, just as truth seems self-evident, as well as the rightness of everything [20, 21]. The True, the Good and the Beautiful become again integrated, intertwined and self-evident. The journey of the I, then, is toward a greater and greater appreciation of beauty as everywhere and in everything at once, as truth and rightness become equally increasingly imminent and self-evident. As Wilber sums it up: "Art is in the eye of the beholder, in the I of the beholder: Art is the I of Spirit." [14, p. 194].

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Animae Pulchrae: Depiction of Sainly Images in Byzantine Mural Painting

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Additional information is available at the end of the chapter

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Abstract

This chapter investigates the visual aspects of physical beauty of the saintly images depicted within the painterly ensembles of Byzantine art in the period between sixth and fifteenth centuries. It also examines the processes of transposition of beauty as a religious and ideological notion into the visual sphere of its iconographic and aesthetic significance. During the millennium of development of Byzantine mural painting, the different categories of saints have evolved in assemblies of respectable and influential characters with whom the believers could communicate through silent prayers, as well as through their own self-comparison. In that process of ideological interaction between the faithful and the saints as the “constitutional members” of the painted microcosmos of Christian temples, the physical appearance of the saintly images was, by all means, a strong argument in the religious discourse regarding their role in the mission for salvation of humanity. In that regard, each saintly category has received different visual concept of aesthetic values related to their specific physical attraction. Hence, different saintly categories have acquired different aesthetic codes for visual configuration of beauty in the structural design of their iconographic appearance throughout the era of Byzantine artistic production.

Keywords: Byzantine painting, frescoes, saintly images, iconography, physical beauty

1. Introduction

In the eyes of the beholder, the fresco programs of the Byzantine churches were not only a didactic textbook for their religious education through visual paradigms but also a whole world of ideological attitudes and ideas shaped in aesthetic forms of attractive vistas. This particularly refers to the painted cycles illustrating Evangelic stories and Biblical episodes that were designed and depicted across the walls of the temples to give the faithful the necessary

arguments to upgrade and strengthen their belief. The first register of the painted program of any Byzantine church, which encompassed a gallery of represented saintly figures, was the one closest to the beholder and therefore most valuable in regard to their self-recognition in terms of ideological and religious perception and comprehension. Belonging to different categories, established according to the diverse roles they have played in the process of development of the faith and its institutions, these saints gained their specific place and function within the painted ensembles of the religious edifices (angels usually guard the entrances, apostles support the vaulting structures, bishops fill the sanctuary, holy warriors decorate the pillars, etc.). Hence, they became constitutional members of the great assembly of Christian characters, mandatory for embellishment of the lowest zone of the painted church decoration. Represented in larger-than-life dimensions, depicted in full frontal positions, and marked by the characteristic features of their personal contribution to the faith, the saintly figures have become the closest “collaborators” of the believers in the continuous process of religious upbringing of the congregation.

In order to meet the emotional and spiritual needs, as well as expectations of the faithful in the process of the religious interaction, the saintly images had to express a certain amount of aesthetic energy in order to “attract” believers’ attention and fulfill their didactic function of supreme and unchallenging role models. Therefore, a catalog of saintly images was established in the frames of which diverse characters have gained different aesthetic features in regard to their place in the history of the Christian church [1]. Their social background, religious function, and cultic implications were also encompassed in this aesthetic design in a form of visual configuration that reflected not only their physical appearance but also the overall charisma [2]. In that manner, the typological structure of the different categories of saintly images could be expressed through their portraiture, corporeality, and emotional expression appropriate to their deeds done for the faith, as well as adequate to their educational mission for the believers. This “functional beauty” of the Byzantine saints was due to the canonic background of their aesthetic concept established on their sustainable spiritual roles played in the ceremonial story of salvation [3–5]. However, besides the significance of their historical acknowledgment, their sustainable function for the congregation was much more important if one bears in mind the power of their visual appearance over the vigilant senses of the worshippers in the mystical ambience of the Christian church. Reflecting the inner spiritual charge through a set of carefully drafted visual features [6] that should act as a silent, yet powerful PR, the physical appearance of the saintly figures became a painterly matrix of spiritual beauty of the depicted characters which grew into a luxurious catalog of pure and undisputed sacred portraiture.

Although the category of beauty as a visual determinant of someone’s physical appearance within the fresco ensembles was never in the focus of Byzantine scholars, some attempts to analyze its structural core have been made recently [7]. These efforts spring from the notion of the unavoidable visual determination of a saint or a category of saints as a prerequisite for their successful intercession between the believers’ expectation and the higher power of ultimate soteriology. In that regard, the wholehearted angels, the resolute apostles, the wise bishops, the brave soldiers, the dedicated healers, the self-denying martyrs, the devout

hermits, and the modest female saints were all given distinctive features of facial and corporeal character which reflects their inner—spiritual, as well as external—physical capacity. If one should accept the idea that *the form indicates the essence*, that is the visual structure is an external indicator of the substance, then the outlook of the saintly images should be seen as a collection of qualitative references to their overall personality, most importantly to their ability to transmit theological messages to the congregation. Accordingly, the physical appearance of the saints could serve as a powerful instrument for visually enhanced religious action and therefore it should have been designed and depicted in the most corresponding manner. That manner encompassed distinctive features of physiognomy, facial exposition, stance, corporal expression, attitude, temper, and costume of the saintly representations as structural components of their psychological chemistry, as well as physical attractiveness united in the aesthetically provocative and artistically compelling compound of *beauty* [8]. In this chapter, we analyze the different categories of saints in relation to the iconographic benchmarks of beauty encompassed by their specific and highly recognizable physical appearance.

2. Beauty and the categories of saints

Since each category of saints is marked by its own aesthetic code which reflects the inner psychical status, that is the personality, as well as the outer physical appearance, that is the visual attractiveness of the saintly images, each one of them radiates with several distinctive typological determinants of sacral look in the sphere of physical beauty. Hence, each category is characterized by an artistic code of likeness which encompasses two components: (1) the canonical matrix of saints' visual aspects dependent on the iconographic samplers and (2) the inventive configuration of saints' distinctive traits inspired by the imaginative expression of Byzantine painters. The first component was determined by the strict rules prescribed by painterly guidebooks mandatory for all iconographers and fresco painters, while the second one was due to the magnitude of artists' personal painterly idiolects permeated with creative energy, genuine impulse, and unrestrained fantasy. The unity of the two components is actually the artistic product which at the same time reflects the normative boundaries, yet radiates with power and passion of artistic illumination. This unity respects the iconographic canons, but ennobles them with the illustrative manners of painterly expression characteristic of diverse time periods, different artistic trends, and various painters. Of course, we have to keep in mind that each saintly category had a different spiritual significance for the believers built upon their historic and ecclesiastic background, thus the images had to radiate with the specific visual energy characteristic of each category individually. Accordingly, the eight categories of saints found in the fresco arrangements of sacral edifices from the Byzantine period (sixth to fifteenth century): angels, apostles, bishops, martyrs, holy healers, holy warriors, hermits, and female saints have been marked by eight clusters of aesthetic signatures, resulting in eight different painterly labels of saintly beauty. Each of them will be analyzed in the following subchapters.

2.1. Angels

As inhabitants of the celestial heights and messengers of God, the angels occupy a special place in the visual gallery of saintly characters due to their heavenly origin, as well as their supernal nature. Sensual and light-weighted, vibrant and graceful, the supernatural angelic individuals are marked by the features of superiority, charity, compassion, benefaction, and kindness. As intermediaries between heaven and earth and representatives of the superb power of godly intentions for the faithful, the angels are blessed with the virtues of purity and grace, physical seductiveness, and spiritual intensity. As the most exotic of all saintly characters, the angelic creatures can float and hang in the air, balance in the imaginary horizons, as well as be stable and earthbound as much as any other member of the “pantheon” of Christian saints. Originated in the heavenly spheres of the eternal Kingdom, the angels emanate facial features of perfect harmony, composed of round shapes and oval contours with almond-like eyes, rosy cheeks, and juicy lips, and ornamented with luxuriant locks of long, curly hair. Their facial expression is gentle and calm, illuminative, tender, and radiant. Tall and skinny, long-legged, and attractive are the basic features of angels’ corporal appearance which, encompassing their appealing bodies, as well as their elegance, refer to the most desirable form of beauty in the world of saintly characters. The postures of the represented angels are noble and elegant, classy and glamorous, radiating with superior lightness and aerial exuberance. With energetic charge composed of celestial sparkles that permeate the figures with ceremonial motions, the angels look like cosmic voyagers who have come down to earth from the most exotic spheres of the universe. Dressed in white garments made of light fabrics, or, occasionally, in exclusively ornamented costumes with militant or aristocratic insignia, the heavenly messengers, warriors, and landlords astonish with their graceful appearance, imposing elegance, as well as stylish impression.

From the dignified stances of the pretentiously handsome angels in the Basilica of Sant’ Apollinare Nuovo in Ravenna (executed in the period between 556 and 569) [9] to the powerful and vigorous angelic figures from the Kariye djami in Istanbul (1321) [10], the angels have gone a long way through the horizons of physical beauty in Byzantine painting. In that regard, one should mention the suggestively portrayed and aristocratically dressed angels from the church of Dormition in Nicaea (Turkey) represented with vivid, almost human-like facial expression [11], as well as the womanly elegant figure of the archangel from the decorative program of the church of St. Sophia in Constantinople [12], both from the second half of the ninth century. Among the many beautiful angelic representations from the mid-Byzantine period, the one decorating the eastern wall of the church of St. George at Kurbinovo in Macedonia (1191) is, by all means, the most attractive (**Figure 1**). Tall and slender, sophisticated and weightless, with long extremities and a feminine portrait, the archangel Gabriel from the Kurbinovo temple is one of the most alluring saintly characters of the twelfth century. The energetic pose of the angel, the temperament gesture full of inner self-confidence, the rhythmically conducted pace, and the dynamic unrest of the light draperies, as secondary traits of the Kurbinovo angelic depiction, are characteristic enough of a jubilant “top model” in the world of saintly characters. The thirteenth century introduces more manly traits in the representation of angels in regard to the corpulence of their figures, as well as the accentuated attention to the design of their costumes, as shown



Figure 1. The church of St. George at Kurbinovo, Archangel Gabriel.

by the representations in the church of the Virgin Peribleptos in Ohrid (1295) (**Figure 2**). In the fourteenth century, the angels have become breathtaking male individuals with delicate complexion and athletic figures who accompany historic personages, as in the naos of the Lesnovo monastery in Macedonia (1342–1343) [13], or safeguard the entrance to the temple, as in the church of St. Andreas near Skopje (1388–1389) [14].

2.2. Apostles

Being among those who accompanied Jesus on His mission of salvation, the apostles gained a particular place in Christian religion as closest collaborators of the Messiah. Witnesses of Christ's ministry and members of his personal entourage, the 12 disciples have become his direct successors in the aftermath of His Passion and Resurrection. Marked by the physical features of sturdiness and vigor, as well as the spiritual traits of unwavering determination, the holy apostles have become members of the saintly gallery as early as the beginnings of painterly decoration of the Christian temples. Immovable and unbreakable, dedicated and proactive, the 12 devoted associates of Jesus gained visual traits of imposing physical strength and firmly modeled psychological characters. In that regard, their facial features are constructed in a manner that displays voluminous forms and accentuated secondary traits appropriate to the different age of each individual. Peaceful and dignified, serious and full of personal integrity, the facial expression of the apostles match their internal affection for humanity, as well as the solemn dimension of their kindhearted nature. In regard to their



Figure 2. The church of the Virgin Peribleptos in Ohrid, Archangel Gabriel.

corporal appearance, one should notice the firm musculature of their bodies which reflects the power of endurance, the intensity of the physical activities, as well as the magnitude of their missionary performances. Since the bodies are strong and vigorous, the postures of the apostles are stable and resolute, powerful and proud, emanating potency and determination, carnal steadiness, and physical well-being. Permeated with energetic charge of a kinetic nature, yet represented with moderate motion and dignified movements, the apostles look like monumental celestial heroes descended from the horizons of supreme spiritual power. Dressed in characteristic apostolic costumes, depicted with diverse hair styles and inventively configured facial “supplements,” the 12 disciples of Christ are the most “iconic” of all members of the saintly elite.

Making their entry into the painterly world of saintly characters even in the times of the Roman catacombs [15, 16], the apostles have earned their permanent place among the most representative individuals of Christendom. In the Byzantine period, the apostles Peter and Paul became the true representatives of the apostolic community in the sphere of painterly depictions as the two monumental pillars of perseverance and religious determination. This duo took the role of the leaders of saintly processions in the sixth century [17] and later

Peter and Paul appear as symbols of the apostolic group and guardians of Christ's testament and His missionary legacy. That is the case with the monumental and physically powerful figures of the apostles in the church of St. Demetrius at Vladimir from the end of the twelfth century [18], as well as with the suggestive and authoritative portraits of Sts Peter and Paul in the church of saint Achilleos in Arilje (Serbia) from the end of the thirteenth century [19]. The massive corporal appearance of Sts Peter and Paul from the fresco ensemble of the church of the Holy Virgin at Matejče in Macedonia (1384–1352) are consistent with their role of safeguards of the north entrance to the temple [20], while the elegant and graceful figure of St. Peter depicted within the painterly decoration of the Kalenić monastery in Serbia (third decade of the fifteenth century) corresponds to the poetic stylistic nature of the fresco ensemble in the church [21]. One of the most presentable apostolic images from the fourteenth century fresco painting is the strong, muscular, and powerful figure of St. Paul, represented within the fresco arrangement of the church of St. Nichetas at Banjani near Skopje (1323–1324) (**Figure 3**). Manly and dominant, courageous and superior, with a resolute step and a decisive motion, as well as full of sparkling energy, the image of St. Paul from the Banjani temple is one of the most impressive pictures of apostolic predisposition and fervent determination.



Figure 3. The church of St. Nichetas at Banjani, Apostle Paul.

2.3. Bishops

The category of bishops encompasses the respected individuals that, at certain times, occupied the Episcopal centers of the orthodox world as the most renowned representatives of the Christian faith. Intellectuals and scholars, preachers and orators, the bishops were represented as noble, experienced and erudite leaders of the congregation. Well-educated and ennobled with essential wisdom, passionately devoted to theological disputes, and highly creative in the sphere of religious thought and scripts, the bishops were marked by visual traits of devoted missionaries, enduring teachers, and honorable advisers of the faithful. Venerated and admired, esteemed and followed by the believers, the great church fathers of the Orthodoxy were represented in a manner that reflected their exclusive religious status as the most respected leaders of the Christian institution, as well as members of the highest ecclesiastic entourage. In that regard, their facial features are composed with an enhanced anatomic approach that encompasses the wrinkles and ridges to display the golden age of their sophisticated spiritual wisdom. Elderly and mature, solemn and suggestive, aged and bearded, the bishops' images glow with the warm sparkles of religious experience. Their facial expression is calm, yet inviting, strict yet consolatory; the suggestive gaze of the eyes as a primary feature of their facial articulation matches the fervent and ever-watchful nature of their religious devotion. Noble and generous, convincing, serene, and compassionate, the bishops' images radiate with inner composure and soothing energy. Similarly, their corporal appearance is imposing and monumental, elegant and dignified, thus they look as colossal pillars of the architectural structure of the church institution. Represented in postures of full frontal stature when depicted as portraits or in three-quarter processional poses when shown as members of the Officiating liturgical service, their figures are imposingly ceremonial in motion, delicately vibrant, and ritualistic, determined by the harmonious and well-balanced rhythm of their movements. Charged with the sophisticated power of their inner spiritual energy, the bishops move slowly and gracefully, blessing the faithful from the walls of the edifice or performing the church rituals in the sanctuary. Depicted with voluminous facial shapes and saturated in colors, the bishops' images are permeated with the energetic expression of deep emotional charge. In regard to the colors, the respectable leaders of the church communities have the following nuances of the spectrum: pale ochre for the tan, warm brown for the wrinkles, auburn for the ridges, greenish for the shades, and snowy white for their hairs and beards.

From the rigorous and almost remorseless facial outlook of Ravenna's archbishop Maximianus (548) depicted as a member of Emperor Justinian's retinue in San Vitale [22] to the formally configured peacefulness on the images of Serbian archpriests (second half of the sixteenth century) represented in the narthex of the Patriarchate in Peć [23], there is a vast palette of facial expressions that can be seen within bishops' portraiture. It is of course due to the different approach of the painters to the artistic currents of different time periods, as well as the intention of the authors to depict the church individuals in regard to their historical status and ecclesiastic privileges. However, the physical look of the bishops has always reflected a type of beauty compulsorily related to maturity and generosity, as primary aspect of their spiritual personality. In that regard, we can point to the imposing serenity of the countenances and the mild configuration of the facial patina of St. Basil the Great and St. Nicholas (second half of the tenth century) in the painted ensemble of Agioi Anargyroi in Kastoria [24], as well as to the noble composure of the

graphically wrinkled face of St. Niphon in the fresco painting of the Holy Mother of God church in Veljusa, Macedonia (ca. 1085) [25]. The solemn postures of the bishops' figures officiating in the sanctuary of the Serbian church of the Holy Trinity in Sopoćani (1272–1276), the festive stances of their ceremonial bow, the delicate composure of their facial mimicry, and the harmonious coloristic spectrum of their chromatic definition saturated with golden ochre and hazel shades are another example of unrestrained attentiveness, prudence, and devotion. Somewhat more energized is the portrait of St. Clement from the painted arrangement of the Holy Mother of God church in Ohrid (Virgin Peribleptos) from 1295, executed with accentuated voluminous configuration of the facial anatomy, vivid shapes, and pictorial colors, with a purpose to picture the highly authoritative role of the bishop as the first archpriest in the influential Episcopal see of Ohrid. The dynamic facial architecture that ridges around the suggestively contoured eyes, the multistructured facial constitution, the muscular figure, as well as the colorful resonance of optically diversified shades and hues glowing in his inflamed facial expression make this image of St. Clement one of the most remarkable creations in saintly portraiture in the history of the Byzantine painting (**Figure 4**).

2.4. Martyrs

The category of martyrs includes those who have suffered a tragic death due to their religious determination, usually in the earliest times of Christianity. They have proudly sacrificed themselves for the common ideological cause and were put to many tortures resulting in glorious

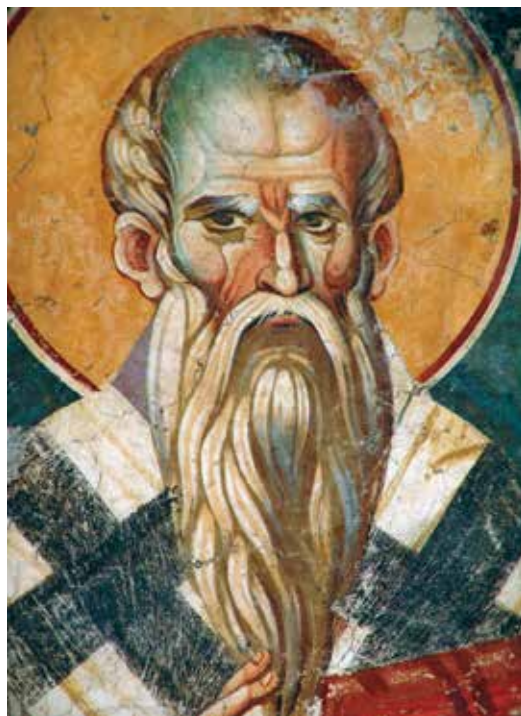


Figure 4. The church of the Virgin Peribleptos in Ohrid, St. Clement of Ohrid.

and memorable death. After being celebrated as the most courageous followers of Christ who have never renounced their faith in spite of the unbearable torments, the martyrs came to be associated with the bravest devotion to Christianity and were considered as the most stable columns of Christian dedication. Suffering at the hands of pagan emperors and governments at a relatively young age, the martyrs were looked upon as uncompromising devotees sacrificed at the altar of salvation in the dawn of the Christian epoch. Thence, their physical appearance should reflect the youthful energy and the resolute determination encompassed by their dignified, as well as resilient outlook. Due to the courageous character that led them into voluntary death, the facial features of the martyr saints are composed of mild curvatures, serene architectural lines, and saturated palette of colors. Young and vibrant, strong and resistant, the portraits of the martyrs reflect their inner strength, spiritual power, and ideological energy. That is why their facial expression is always an expression of willingness and capacity, resilience and bravery. Proud and insolent, bold and adamant, the martyrs are pictured with accentuated vividness of the facial configuration reflecting the inner fount of inflamed spirituality. In regard to the corporal appearance, the martyrs display a variety of different typological features. However, the anatomy of their bodies is always elaborated nicely, showing a great deal of unrestrained muscular construction due to the youthful age and the physical strength of the manly figures. The postures are marked by an underlined elegance and are usually frontal in the projection, but scenic due to the lively rhythm of the corporeal motion. The martyrs are represented in the full outburst of their carnal energy, manifested through a distinctive range of remarkable stances and accentuated figural gestures. Given an energetic charge of elastic movements of the bodies and resolute gestures of the upper extremities, the martyr saints are pictured with hands in a pose of blessing or in a stance of a devoted prayer. Depicted in various costumes that denote their diverse social statuses—from modest clothing to luxuriously ornamented garments, the martyr saints are the class of sacral personages with the most heterogeneous costumes in the history of the Byzantine painting. That can also refer to the chromatic range of the palette applied to their faces and figures; the glowing ochre and the crystal ecru for the tans, the warm auburn and the deep chestnut for the hairs and beards, as well as Pink rose for the cheeks and light gray for the shades are the most common colors for the depiction of martyrs' portraits.

Starting from the first ever depicted procession of martyrs dressed in ceremonially white garments in Ravenna's Sant'Apollinare Nuovo (556–569) [26] and closing with the picturesque row of ritually lined up characters in the paracession of St. George in the Hilandar monastery on Mount Athos (second half of the seventeenth century) [27], the Byzantine art has left a multitude of remarkable specimens of martyrs' images. Among them, one should mention the illustrative and highly picturesque portraits of the ones who suffered their martyrdom in the time of Emperor Julian the Apostate, depicted in the church dedicated to the Tiberiopolean martyrs in Strumica, Macedonia (turn of the tenth century) [28], as well as the gentle, aristocratic and almost poetic representation of St. Christopher holding a martyr cross in the fresco ensemble of the church of St. George in Omorphoklissia in Greece (end of the thirteenth century [29]. Another portrait of St. Christopher painted almost at the same time in the Petrova crkva in Ras (Serbia) displays quite different characteristic; although solemn in stature and elegant in the posture, the martyr represented in the Serbian temple is marked by a decisive gaze of the eyes and a firm psychological attitude of his resilient gesture [30].

However, in the range of the numerous martyr portraits preserved in the fresco decoration of Byzantine temples, we have to acknowledge the outstanding spiritual composure of the image of St. Jacob the Persian from the church of St. George in Staro Nagoričino in Macedonia (1317–1318) (**Figure 5**), one of the most exceptional examples of sophisticated approach to the configuration of a medieval saintly image. Handsome and exotic, firm and corpulent, St. Jacob the martyr is depicted with a perfect oval of his facial appearance, darkish tan, and a tamed hairdo, appropriate to his oriental origin. Dressed in a lavishly decorated cloak ornamented with rich and colorful embroidery, this image of St. Jacob reflects the affluent courtly position he once held at his home country. Chromatically saturated with pastel colors: olive for the tan, hazel-greenish for the facial shades, nut-brown for the hair, and warm brown for the garment, St. Jacob the Persian, exotically represented as a noble and dignified oriental individual, can be encountered among the most “attractive” martyrs of the Byzantine painterly culture of the fourteenth century.

2.5. Holy healers

The category of Holy healers encompasses several saintly characters who appear as true symbols of physical and spiritual health. Although the brothers Sts. Kosmas and Damian, as well as the most venerated by the congregation—St. Panteleimon, were the most frequently represented



Figure 5. The church of St. George at Staro Nagoričino, St. Jacob the Persian.

physicians within the painted ensembles of Byzantine churches; other representatives of this category (St. Kyros, St. Luke the Surgeon, St. John, St. Sampson, etc.) also appear in the fresco decoration of sacral edifices throughout the medieval epoch. Performing the noble duties of physical and psychological healing of the pure and underprivileged, helping the sick and the mentally unstable, assisting the ones suffering from diseases, and comforting the weak and the fragile, the holy physicians have gained the admiration of the believers due to their benevolent activities and humanistic approach. Committed to the beneficial tasks of medication and dedicating their lives to mastering the curative skills, the holy healers gained the respect of distinctive members of the Christian society on the ground of their professional devotion, as well as their humane determination. Picturing the charitable Christian virtues and symbolizing the health care given to the people wholeheartedly, the *anargyroi* received the attentive outlook of young and determined, noble and alert, dignified, and tender characters. In that regard, their facial features are young, fresh, and vigilant, permeated with a suggestive facial energy and illuminative strength. Facial ovals, almond-shaped eyes, bushy hairs, and beardless countenances are the most frequent characteristics of the saintly category dedicated to the noble spheres of practical medicine. Since the faces are youthful and full of inner vitality, the facial expression of the physicians is always attentive, watchful, and responsive, radiating the noble energy of their vigorous humanistic determination. Their corporal appearance is also energetic, vivacious, and decisive, while the postures are always fully frontal and firmly configured. Equipped with medical instruments and a box of curative potions and lotions, as a distinctive emblem of the many successful treatments they have performed gladly, the holy healers are always depicted in stable and dignified poses, ennobled with careful and gentle motions, appropriate to their responsible and reliable occupation. Wearing traditional garments adequate to their social status and affiliation, the physicians usually occupy some of the most noticeable places in the spatial organization of church decorations.

Among the most remarkable specimens of painterly images of the holy physician saints, one has to mention the portrait of St. Panteleimon depicted at the end of the eleventh century in the fresco ensemble of the church dedicated to the Holy Mother of God in Veljusa [31]. The holy physician in Veljusa is depicted with a mild facial oval, almond-shaped eyes, basket-like hair style, gentle facial expression, and a massive, muscular corpus, all reflecting the full-blooded, yet affectionate humanistic determination of the medicine man. The gentle composure of the portrait, softly modeled with mild curvatures and toned anatomic components of the same saint represented in the ensemble of the church dedicated to St. Panteleimon at Nerezi, Macedonia (ca. 1166) makes it even more amazing (**Figures 6, 7**). Depicted with fair complexion, luscious facial anatomy, elegant hairdo, and generous expression, the image of St. Panteleimon in the Nerezi church emanates a strong psychological determination visualized through the large almond-shaped eyes and the resolute glance. Similarly, the neat image of St. Panteleimon in the church of St. George at Kurbinovo (1191) [32] is dressed in luxurious cloak ornamented with embroidery, while his “colleagues,” Sts. Kosmas and Damian are dressed more modestly, but are represented with the same decisive and determinant attitude, as their fashionably clothed companion. Usually depicted as representatives of the category of the holy healers, this trio makes a small, but a respectable assembly of competent physicians wholeheartedly dedicated to their merciful occupation. That is the case with the depiction of St. Panteleimon flanked by



Figure 6. The church of St. Panteleimon at Nerezi, St. Panteleimon.



Figure 7. The church of St. Panteleimon at Nerezi, St. Panteleimon (detail).

St. Kosmas and St. Damian in the Ascension church in Žiča, Serbia (1315), where the saints are represented with slender corporal appearance, elegant motion, graceful postures, and gentle facial expression [33]. Articulating care and compassion, empathy and spontaneous affection, the three physicians from the Žiča monastery summarize the inner ethical nature and the external physical beauty of the holy healers in the most appropriate manner.

2.6. Holy warriors

The category of the holy warriors, unavoidable in the painted decoration of the Byzantine temples, encompasses a dozen individuals who appear as the most athletic figures among the representatives of the saintly gallery. Due to their bravery, described in hagiographic texts, as well as the uncompromising nature of courageous fighters against the evil, the holy warriors received painterly features of masculine and vigorous outlook as a true match to the furious battles they have fought, to the celebrated victories they have won, and to the benevolent victims they have become in honor of the Christian faith. Therefore, their facial features are constructed vividly: the mild oval of the face refers to their youth, the plump cheeks and the rosy tan speak of their full-blooded energy, and the flashy eyes burn in the eternal fire of their physical, as well as spiritual supremacy. Their facial expression is adequate to the youthful countenances and the firm facial architecture they possess and encompasses a wide scale of different emotional reflections, mainly summarized in the references of bravery, self-confidence, commitment, and reliability. Being strong and courageous, adamant and irresistible, the holy warrior saints are depicted with firm corporal anatomy, elaborated boldly in details and represented with accentuated muscular anatomy of the figures. The enforced corporeality, stressed through the swaying poses of swaggering motion of the figures is the dominant element in conception of the warrior depictions which radiates with power and passion of their evident youth, obvious strength, and verified courage. Hence, the poses of the holy warriors are determined and ready for action, energetic and dynamic, abundant in kinetic mobility, and bursting with inexhaustible strength and inner potency. Superior and irresistible, powerful and invincible, the warrior saints emanate the spicy sparkles of their potent energetic charge through different sets of motion that refer to their vivid temper and tireless nature. Dressed in lavishly assembled military costumes and proudly holding the spears, swords, and shields, that is their militant equipment, the holy warriors deserve the title of “officers and gentlemen” on the ground of their luxurious uniforms, their relentless attitudes, and, most of all, the power and passion of their struggling determination.

From the time of Early Christianity, when an exclusive image of Christ as a soldier, dressed in a militant attire was represented in the Archiepiscopal chapel in Ravenna (second decade of the sixth century) [34], the depictions of warrior saints have become frequent enough to be unavoidable in the decorative ensembles of the Byzantine era. However, the most remarkable warrior characters can be detected in the painted arrangements of the Middle Byzantine and Late Byzantine period—starting with the imposingly presentable and vigorously self-assured image of St. Demetrius in the church of St. Archangel Michael in Kiev (beginning of the twelfth century) [35], as well as the irresistibly handsome depictions of St. Theodore Stratelates and St. Merkurios from the fresco arrangement of the church of Panagia Kosmosotira in Pherres (after 1152) [36], portrayed in a full masculine bloom and fashionably luxurious military array. A decade later,

the warrior saints in the church of St. Panteleimon at Nerezi manifest a firm martial attitude and a thick charge of kinetic energy [37], while the figures of St. George and St. Demetrios from the church of Hagioi Anargyroi in Kastoria (ca. 1180) fascinate with the noble facial expressions, elaborated corporeality, and glamorous ornamentation of their lavishly assembled uniforms (**Figure 8**). In the fresco painting of the church of Virgin Peribleptos in Ohrid (1295), the warrior saints gained larger-than-life dimensions of ruthless fighters against evil [38], while in the church of St. George at Staro Nagoričino (1317–1318), Christ’s soldiers were depicted in elegant and dignified poses glowing with inner spiritual charm and a chivalrous gallantry [39]. Also, the luscious facial oval, the soft and gentle nuances of the tan, the alluring eyes and the stylish hairdo of the patron saint in the St. Nichetas church at Banjani (1323–1324), as well as his vainly good-looking figure, occupy one of the main places in the “department” of saintly beauty in the art of the fourteenth century [40]. Similarly, the holy warriors depicted within the fresco ensemble of the Dečani monastery in Serbia (1347–1348) display a number of playful poses and a wide scale of dynamic motions of their energetic and warm-blooded nature [41]. Beautiful and



Figure 8. The church of Hagioi Anargyroi in Kastoria, St. George and St. Demetrios.

well trimmed, gentle in the expressions, and uncompromising in their temperament gestures, the soldiers depicted in the fresco decoration of Dečani can be compared to a company of heroic knights descended from the celestial spheres of Heaven.

2.7. Hermits

The category that encompasses the eremites is a very specific one since its members are the most radical devotees within the Christian “pantheon” of saints. Depicted ascetically and stripped to their natural, nude outlook as ultimate defenders of the purity of faith, the hermits are one of the most impressive class of saints due to their extremely expressive appearance. Pale and aged prematurely, wrinkled and darkened due to their permanent exposure to the severe climatic conditions and radical changes of the weather, these enduring zealots have gained features of sturdy and unwavering soldiers of the anchoritic army of determinate survivors. Living a life of benevolent refugees from civilized communities, the eremites represent the final border of human denial and self-torture in the name of the Christian faith. In that regard, they are represented with pale complexion of the faces and a wrinkled anatomy of the images as primary facial features of their exhausted countenances. The dark bags under the eyes, the yellowish color of the skin, the loose facial structure permeated with deep ridges, as well as the gray tone of the drained muscular lines are encompassed by the rude facial expression, “backed” in the hell-shaped oven of their physical self-torture. The dramatically suggestive gaze of the declined ocular portion of the faces, the dehydrated skin of the foreheads, the withered cheeks, the loose lips, and the snow-like hairs and beards can hardly fit in any category of physical beauty known to the artistic production of humanity. However, the expressive glow of their self-determination, the sophisticated sparkles of the long-term dedication to ascetism, as well as the supreme inner tranquility of their psychological profiles create an exclusive category of “attractiveness” that is much more spiritual than aesthetical. The same refers to their corporal appearance which is anorexic in the contours and rigid in the overall silhouette. Extremely skinny and malnourished, with declined strength and a minimum of corporal energy, the eremites display their everlasting restraint of all earthly pleasures and welfare benefits. Therefore, their postures are mainly static, expressing only the necessary motion for a prayer, a blessing, or a total devotion to religious ecstasy. However, a slight energetic charge of a kinetic outburst in the position of the praying hands has been given to the depiction of the eremites in order to expose their inner spiritual dedication and vigorous temptation. Dressed in garments made of rough fabrics, or much more often nude and covered with thick hair all over their bodies, the hermits are the most modest saintly characters in regard to their clothing.

Although the eremites appear in the painted decoration of the Byzantine monuments later than the rest of the saintly images, the Middle and the Late Byzantine period display a range of remarkable portraits of the representatives of this ascetic category. In that regard, the figure of St. Paul of Thebes dressed in a minimum-tailored garment and the image of St. Makarios of Egypt covered with fur-like hairs from the ossuary of the Bačkovovo monastery in Bulgaria can be encountered among the most impressive eremitic portrayals created at the turn of the twelfth century [42]. No less attractive is the figure of St. Onuphrios from the fresco ensemble of the church dedicated to St. Archangel Michael in Prilep, Macedonia (ca. 1275) represented in a temperament motion of a prayer and covered with short, but thick

“layer” of a costume-like hair (**Figure 9**), as well as the image of St. Peter the Athonite from the decorative program of Protaton on Mount Athos (1290) with an impressive, golden-ochre tanned face and a fur coat made of human hairs (**Figure 10**). The next century brings a representative catalog of eremitic depictions, among which one has to point to the tall, slender, rude, and boney figures of the four hermitic saints depicted in the second level of the narthex of the St. Sophia cathedral in Ohrid (1345–1346) [43], as well as the matching saints represented in the narthex of the Holy Mother of God church in Matejče (1348–1352) [44]. The Matejče eremites, which are very similar to those depicted in the Ohrid cathedral, are the quintessential example of characteristic design of the four zealots (St. Barbaros, St. Peter the Athonite, St. Makarios of Egypt, and St. Arsenios), pictured together as a small assembly of pure devotees to ascetic Christianity. One also has to mention that in the case of Matejče, as a representative of the fourteenth century painting, the dress code of the eremites abandons the modest garments in favor of simple *perisomae* (depicted in different colors), but retains the specific carnal hair as the most “fashionable” way of clothing of the hermitic devotees. The frail faces, the white hairs, the impressively long beards and the short furry coats made of human hairs, altogether with the exhausted muscular bodily architecture are the traits of beauty inspired by the deepest and most secluded ascetic ideals.



Figure 9. The church of St. Archangel Michael in Prilep, St. Onuphrios.

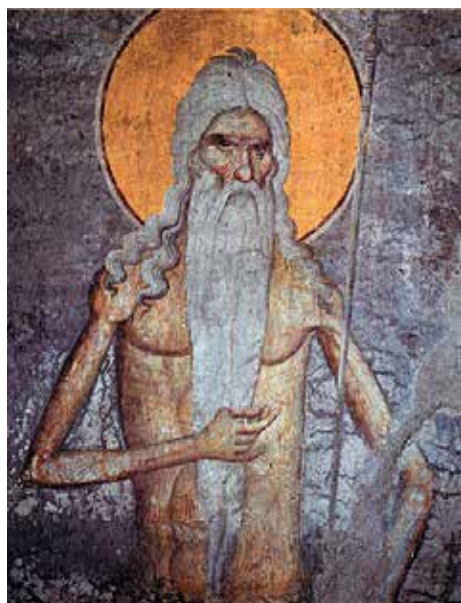


Figure 10. The church of Panagia Olimpiotissa at Elasson, St. Peter the Athonite.

2.8. Female saints

The last category of saints in relation to the notion and manifestation of beauty is the one of female saints, included within the gallery of holy characters depicted in the first register of church decorations. Belonging to two separate subcategories—modest nuns and extravagant lady aristocrats, the female saintly characters are the most appealing portion of the figural arrangement in the fresco decoration due to their gentle outlook, tender femininity, and affectionate nature. Although the two subcategories display different features of facial and corporal aesthetic exposure, they both express a mutual visual reference of physical likeness, presentable appearance, and pleasing exposition. In that regard, their facial features display mild curvatures and fair complexion, permeated with serene facial architecture and inner spiritual tranquility. The facial expressions are calm and tenderhearted, merciful, and compassionate. Radiating with composure and laxity and glowing with innocence and unimposing virtues, the female saints in Byzantine painting are the true jewels of visual attractiveness and stand for the most appealing vistas in the world of pure and unrivaled painterly imagination. Their corporal appearance is also very desirable—tall and slender, elegant and graceful, and noble and dignified, the figures of the female saints fill the interior of Byzantine churches with cultivated aesthetics of their femininity, permeated with the hues of gender sensitivity and irresistible vulnerability. With elegant postures and graceful gestures that manifest their spiritual devotion to an obedient prayer, the female saints are imbued with energetic charge of a mild nature, tamed exposure, and quiet temperament. The graceful movement of the elongated fingers, the ceremonial motion of restrained gestures, as well as the mild expression of dignified affection are the basic features of saintly energy that ornament the figures of the female Christian individuals. The greatest distinction between the depiction of the nuns and

the aristocratic women is within the dress code, which, in the first case, constitutes of modest robes nuanced in pastel colors, while in the second, of luxurious and lavishly decorated garments, ornamented with rich embroidery and adorned with abundance of precious stones.

The real physical beauty of painted female saints is exposed for the first time in the second half of the sixth century in the depiction of the procession of ladies in the church of Sant' Apollinare Nuovo in Ravenna [45]. Elegant and glamorous, graceful and ceremonious, the female characters in this basilica are, by all means, the most beautiful assembly of extravagant ladies in the history of Byzantine painting. The middle Byzantine period was the time of differentiation of the female individuals in relation to their social status and hence, their physical depiction. The best example in this regard is the gallery of female saints represented in the church of St. George at Kurbinovo (1191), where the three mildly configured and modestly dressed nuns are accompanied by the three extravagantly positioned and fashionably costumed lady aristocrats [46]. Similar case can be found among the saintly representations of the church dedicated to Sts Peter and Paul in Berende, Bulgaria (mid-fourteenth century), where St. Paraskevi, depicted as an unpretentious and humble monastic inhabitant, is accompanied by the feminine and highly attractive St. Kiriaki [47]. From the same period, the representations of the modest nuns Paraskevi and Barbara in the church of St. George at Pološko in Macedonia are painted together with St. Kiriaki portrayed as a glamorous beauty with refined complexion and *Haute couture* [48]. At the turn of the fifteenth century, the fresco painting of the paraclession built next to the temple of Sts Constantine and Helena in Ohrid reveals yet another similar example—the modest and gentle appearance of St. Sosana (**Figure 11**) *versus* the aristocratically attractive portrait of St. Catherine (**Figure 12**) was the finishing touch to the manifestation of two-dimensional female beauty in Byzantine mural painting.



Figure 11. The church of Sts Constantine and Helena in Ohrid, St. Sosana.



Figure 12. The church of Sts Constantine and Helena in Ohrid, St. Catherine.

3. Conclusion

In the course of the evolution of Byzantine art, the different categories of saints have gained diverse identities in regard to the depiction of their physical appearance. The beauty as a distinctive aesthetical category of the depicted saintly characters was dependent on their social structure, religious mission, and association with certain physiological references such as strength, temper, passion, and spiritual charisma. Hence, the sensual, weightless, and exuberant angels; the determinate, ambitious, and resolute apostles; the suggestive, dignified, and authoritative bishops; the courageous, committed, and fearless martyrs; the noble, benevolent, and charitable healers; the powerful, vigorous, and passionate warriors; the modest, exhausted, and self-denying hermits; as well as the gentle, affectionate, and radiating female saints have distinguished aspects of physical beauty established on their essential significance for the believers. The superior angels, the proud apostles, the wise bishops, the brave martyrs, the dedicated healers, the alert warriors, the ascetic hermits, as well as the tender female saints constitute eight different clusters of physical beauty rooted in the visual spheres of religious meaning, transformed into aesthetic impression. In that context, the angels are graceful as celestial aristocrats, the apostles are energetic as relentless missionaries, the bishops are prudent as

tireless teachers, the martyrs are bold as unwavering tribunes, the healers are compassionate as beneficent auxiliaries, the warriors are invincible as victorious generals, the hermits are self-determined as salvational victims, and the female saints are attractive as representatives of the aesthetically superior gender. Radiating with charm and passion, shining with endurance and devotion, gleaming with power and resilience, and/or impressing with courtesy and manners, the saints have not only beautified the vision of the congregation, but have also given their most presentable appearance to the grandiose horizon of Christian belief and artistry.

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Aesthetics of the Naked Human Body: From Pornography (Sexualised Lust Object) to Iconography (Aesthetics of Human Nobility and Wisdom) in an Anthropology of Physical Beauty

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Additional information is available at the end of the chapter

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Abstract

In many religious circles and philosophies of life, the human body is excluded from the realm of spirituality and meaning. Due to a dualistic approach, nudity is viewed as merely a physical and corporeal category. In social media, there is the real danger that the naked human body is exploited for commercial gain. Advertisements often leave the impression that the body, very specifically the genitals, is designed merely for physical desire and corporeal chemistry. They become easily objects for lust, excluded from the beauty of graceful existence and noble courage. It is argued that the naked human body is not designed for pornographic exploitation and promiscuous sensuality but for compassionate intimacy and nurturing care in order to instil a humane dimension in human and sexual encounters. In this regard, antiquity and the Michelangesque perspective can contribute to a paradigm shift from abusive exploitation to the beauty of vulnerable sensitivity. In order to foster an integrative approach to theory formation in anthropology, the methodology of stereometric thinking is proposed.

Keywords: nudity, pornography, aesthetics, beautification of the human body, stereometric thinking, compassionate intimacy, promiscuity

1. Introductory remarks

In terms of a pragmatist view of life, our being human is often reduced to merely a mechanistic producer of things: man as *homo faber* (man as a producer of things; the making human being). In terms of an atomistic approach in medicine, the human body is perceived as a skeleton with

muscles, tissue, organs and chemical processes. Due to utilitarian moral theories, the human body is often in bioethics degraded to the status of a functional object. However, more and more a biomedical model, very specifically, an analytical approach to human embodiment with the danger of fragmentation and instrumentalisation, is being replaced by a more humane, spiritual and aesthetic approach. The shift is from an aggressive approach to a more qualitative and holistic approach [1]; i.e., to view the human body as an integral part of life and an ingredient of soulful embodiment (corporeal beautification): *I am my body, I don't merely 'have' a body.*

This shift towards a more aesthetic approach to human life is even detectable in processes of high-tech digitalisation and information technology with its emphasis on 'big data'. Man is also the creator of beauty: man as *homo aestheticus*. For example, Steve Jobs, the digital entrepreneur of Apple, introduced aesthetics to the computer business. He combined his slogan 'Let's make a dent in the universe' [2] with the aesthetics and art of design. While his youth companion Steve Wozniak could see 'a sonnet in a circuit', Jobs, by contrast, could look at a beige box and see beauty [3]. 'He imagined a computer that was graceful and elegant as it was useful, an intersection of technology and art that resulted in something truly special' [3].

Steve Jobs changed a possible bankrupt company, Apple, into a financial miracle. The secret? He stayed true to his original vision for Apple: He believed there was room for beauty and art amid technology and commerce [4].

If one transfers the notion of beauty to human life, very specifically the naked human body, what would be the implication for theory formation in anthropology and the human quest for meaning and significance? Thus, the aesthetic question: For what purpose is the human body designed?

In a more moral approach anthropology, the fundamental question is often an ethical one: What is good and what is bad/evil? In many philosophies of life and religious circles, as influenced by Platonic dualism (the body is merely an inferior prison of the human soul), there is immediately the association that the human body, with its sensual needs, is from a lower order and should be suppressed in a Stoic way. Due to the Stoic principle of *apatheia*, emotions are rendered as obstacles to true knowledge. "So the passions (*pathē*) must be overcome in order that the ideal of 'dispassionateness' (*apatheia*) may be attained" [5].

Scepticism regarding the value of the sensual human body with its passions and sexual needs can be traced back to what one can call the *Platonic dualism in anthropology*. For example, Plato [6] provides us with the idea that a soul can be deprived of its body; that it does not come fully into its own until it has been separated from the body, and that it is immortal. The body is therefore merely clothing for the soul, a kind of prison from which it should escape and be liberated [7].

In general, the human body was in many religious circles and philosophies of life excluded from 'soulfulness' and reduced to the realm of 'flesh' (*sarx*). The genitals were not part of the beauty of the human soul and viewed as irrelevant for maintaining spiritual excellence. Beauty was therefore more an abstract spiritual category than an explicit corporeal and sensual category.



Figure 1. Depiction of human sinfulness and hell in the Last Judgement. Baigio da Cesena, a papal master of ceremonies, criticised Michelangelo's work saying that nude figures had no place in such a sacred place and that the paintings would be more at home in a public tavern. Michelangelo included da Cesena in the Last Judgement as Minos, one of the three judges of the underworld. When Baigio complained to the Pope, the Pontiff explained that he had no jurisdiction over hell and that the portrait would have to remain. In Greek mythology, Minos was the king of Crete and was the son of Zeus and Europa. He became one of the three judges of the underworld after his own death, and Michelangelo has depicted Minos with ass-ears and wrapped in serpent's coils. The coils indicate to what circle of hell the damned are destined. The serpent's bite on the genitals of Minos (da Cesena) illustrates Michelangelo's disdain for the Cardinal and the fact that official ecclesiology always connected human sinfulness to sexuality and the area of the human genitals. Public domain: for research purposes only.

What is most needed is a paradigm shift: From the body as object exposed to abusive exploitation, to the body as subject: corporeality and physicality as icons of embodied soulfulness and compassionate caring (**Figure 1**).^{1,2}

2. Basic assumptions and core questions

Instead of a dualistic approach in anthropology, what is meant by an integral approach to corporeal beauty? Is it also possible to see in the naked human body *more* than merely physical well being and biological chemistry? Are the human body and genitals merely objects for sexual exploitation, to be used for power abuse and rape, or is it possible to use the body for the beautification of life and the fostering of human dignity and meaningful hope—the human body as spiritual entity, soulful embodiment—embodied soulfulness?

¹My contribution is based on research over a period of 20 years and seminanted in the publication on icons [8].

²Online: <http://www.italian-renaissance-art.com/Last-Judgement.html>. Accessed: 23/05/2014. Public domain.

In the social media, film, many magazines and public advertisements, the naked human body is often projected as a commodity and portrayed as object for lust and sexual gratification (**Figure 2**).

Therefore, in many conservative Christian circles, nakedness and explicit sensual corporeality are bad and essentially 'sinful'. But: 'The sexual itself is not sinful. Real ignorance of the sexual, when nonetheless it is present, is reserved for the beast, which is enthralled in the blindness of instinct and acts blindly' [9]. On the contrary, I want to posit that human sexuality is an intrinsic component of soulful embodiment and embodied soulfulness. The naked human body is not designed for 'blind instinct' (the beast), but for 'compassionate intimacy' (the beauty)—the physical ordinary, becomes the representation of the spiritual extraordinary.

Beautifying the human body implies the following: the ordinary (human flesh) should be viewed as extraordinary, as a piece of art (expression of worth, value, dignity and identity). In 1992, Ellen Dissanyake wrote a book entitled *Homo Aestheticus: Where Art comes from and Why* [10]. Her basic assumption is that art can be regarded as a natural general proclivity that manifests itself in culturally learned specifics and bodily expressions such as dances, songs,



Figure 2. In order to change the paradigm of the human body image and meaning of the genitals, the proposed shift should be from a hedonistic male functionalism and the commercialised exploitation of the sexual organ (the penis as a tool), to the aesthetics and beauty of the genitals within the whole of male embodiment (the penis as an integral part of an ensouled body). The image suggests a 'more' that can seduce. The posture of the body is suggestive and open for a kind of commercialised exploitation, rather than merely an advertisement of male underwear. Public advertisement on pavement Copenhagen. Photo: D.J. Louw.

performances, visual display and poetic speech. Art makes life special, because making art involves taking something out of its everyday and ordinary use context and making it somehow special—the ordinary becomes extraordinary.

If the naked human body is indeed about the aesthetics of the extraordinary, the art of embodied corporeality, what is the implication for an anthropology of beauty in theory formation? Thus, the intriguing aesthetic and anthropological question: to what extent can the human body, nakedness and physicality, be viewed as vital elements and means of beauty in order to contribute to the beautification of life rather than the exploitation of life? How can nakedness make life extraordinary rather than a nightmare to be survived? How can physicality become a means to express humane encounters that contribute to peaceful coexistence rather than violent destruction and inhumane exploitation?

2.1. Antiquity: the nobility of human embodiment—the nude body as subject and representation of wisdom

The basic assumption for founding a theory of aesthetics in anthropological thinking, namely that the human anatomy plays a fundamental role in the understanding of harmony and beauty, as well as the expression of spiritual wholeness and beauty, is illustrated in many pieces of art in antiquity and classic Greek sculpturing.

In antiquity, the human body was a gendered subject and not an externalised object. It was only in contemporary societies that the body began to be regarded exclusively as a passive object of desire. According to Erez [11], this is evident in the censorship efforts ancient sculpture has been subject to. Modern man's refusal to view naked human bodies is closely related to the fear that too long a gaze will suggest a homoerotic interest and thus a homosexual identity [12]. In contemporary society, the tendency is that the body is viewed rather as an exclusively passive, sexualised object robbed from subjectivity and nobility than an icon of vital spirituality (**Figure 3**).

Within Greek art, the naked human body and its perfect symmetry equal beauty and should be assessed as a piece of art. Spivey [13] refers to the canonisation of human embodiment in art by Polycleitus (**Figure 4**).

For Polycleitus, the human body is from an aesthetic point of view perfect due to the tension between symmetry, balance and harmony. This principle of harmony and balance is basic to the classic depiction of the human being as an expression of beauty and therefore as human grace and nobility. Every part of the body is 'beautiful'. Even the sexual organs played a decisive role in the depiction of human embodiment as 'divine' and expression of spiritual values such as nobility, courage, grace and wisdom.

Already in *The Republic*, Plato wrote about the qualities that can heal and beautify life. It all starts with gentleness, the characteristics of a philosophical disposition [14]. Grace and seamliness of form and movement should complete gentleness. They are qualities of poetry, rhythm and harmony. And the content of poetry depends on moral character. 'So, if our young men are to do their proper work in life, they must follow after these qualities wherever they may be found. And they are to be found in any sort of workmanship, such as



Figure 3. The statue of the priest Ahmose and his mother, 18th Dynasty 1490–1499 BC, is quite remarkable. In Egyptian anthropology, the soul was viewed as an intrinsic part of human embodiment. Often in Egyptian sculptures, it seems as if the face was emotionless. This is not the case here. The figures represent complacent intimacy and projects soulfulness. It could be described as an excellent example of embodied aesthetics. One can even ‘see’ on their faces what they are thinking: contentment and fulfilment. Permission: National Museum, Copenhagen; photo: D.J. Louw.



Figure 4. The image from an ancient Greek statue in the classical Polycleitus-style (around 450 BC) suggests grace, harmony, control, inherent integrity and dignified courage. Within the whole of embodiment, male sexual identity becomes ‘whole’. Permission: Royal Cast Museum, Copenhagen; photo: D.J. Louw.

painting, weaving, embroidery, architecture, the making of furniture; and also in the human frame and in all the works of nature: in all these grace and seemliness may be present or absent’ [15].

With reference to the interplay between grace, the naked human body and aesthetics, the so-called *Three Graces* in ancient art has become a classic indeed (**Figure 5**).

The following remark by Plato, underlines the fact that in Hellenistic art, nudity was removed from the idea of promiscuity. Greek art and sculptures rather were attempts to combine nudity with nobility, grace and profound wisdom. ‘Rather we must seek those craftsmen whose instinct guides them to whatsoever is lovely and gracious’ [16] (**Figure 6**).

The naked human body represents gracious movement and courageous self-affirmation. The human body should therefore be rendered not as 'ugly' and from a lower order, wherein merely sensuality is playing a role in the establishment of meaning. The human body establishes and represents the spiritual striving towards wholeness, healing, integration and harmony, despite the existential reality of disintegration and external factors that rob our human existence from dignity and a sense of well-being—the existential reality of ugliness.

2.2. Aesthetics in theory formation: the paradoxical but significant interplay between beauty and ugliness

Ugliness should be viewed as an important ingredient of aesthetics. In the *Republic*, Plato maintained that ugliness (understood as a lack of harmony) was the opposite of the goodness



Figure 5. The Graces and Cupido by Thorvaldsen. Permission: Thorvaldsen Museum, Copenhagen, In Greco-Roman mythology, the three graces belong to the inner circle of Venus, the goddess of Love. As the classical artists pose—standing close together and embracing—they were supposed to express giving, receiving and returning; but they could also be understood to symbolise the seasons. B. Jørnæs Undated: 87. Denmark. Photos: D.J. Louw.



Figure 6. The interplay between womanhood and the creation of the beauty of life. Grace and seemliness of form and movement should complete gentleness. Sculpture in fountain, inner courtyard. Permission: NY Carlsberg Glyptotek founded by Carl Jacobsen. Copenhagen, Denmark; photo: D.J. Louw.

of the soul [17]. He described ugliness as an aesthetic quality in its capacity to instil feelings of intense emotion, ultimately creating a pleasurable experience.

Ugly is not necessarily the opposite of beauty or merely the absence of form, asymmetry, disharmony, disfigurement and deformation or even the various forms of the repugnant (the ungainly, death and the void, the horrendous, the vacuous, the sickening, the felonious, the spectral, the demoniac, the witchlike and the satanic) [18].³ Ugliness rather frames beauty within the context of the shadow side of life. As such ugliness is an aesthetic category and a kind of perception that wrestles with the danger of corruption that can destroy a sense of dignity and justice. Instead of wholeness and integrity, ugliness as a spiritual category points in the direction of disintegration and disorientation rather than merely formlessness. According to Umberto Eco, all the synonyms for 'ugly' contain a reaction of disgust if not violent repulsion, horror or fear [18]: 'In truth, in the course of our history, we ought to distinguish between manifestations of ugliness in itself (excrement, decomposing carrion, or someone covered with the sores who gives off a nauseating stench) from those of formal ugliness, understood as lack of equilibrium in the organic relationship between the parts of a whole' [19]. Ugliness thus helps to demarcate beauty within the interplay between what is significant for the healing of life and what is not.

Aesthetics⁴ implies more than the 'beautiful'; it indicates an intensified awareness that stirs imaginative imaging and poetic creativity. Aesthetics⁵ interpenetrates reality and goes beyond or beneath the surface of things by means of creative imagination. As a hermeneutical event, aesthetics interprets reality from the perspective of creative reshaping and illuminative imaging. The fact that a work of art has some aesthetic intent or effect does not mean that the image is necessarily attractive to the eye of every viewer. 'Remember that *aesthetic* refers to heightened sensory awareness. It is the opposite of *anaesthetic*—that is, a dulling or loss of consciousness—not the opposite of ugly' [22].

The concept of aesthetics is slippery for the human mind; it evades any attempt to capture or define its meaning in rational categories. However, one can say that aesthetic experiences operate within the tension between sensual encounters/subjective attraction (being struck by....) and creative imaging; it coincides with the human attempt to make a qualitative assessment regarding the value, meaning and significance of phenomena observed. It refers to a kind of qualitative scrutiny within the act of evaluative decoding.

Schulte-Susse [23] links aesthetics with the theory of perspective (perspectivism). The theory of perspective addresses the question of how to represent a three-dimensional object on a two-dimensional surface, or how to represent a three-dimensional object via a material form or sculpture, so that the representation and image of the object, the idea within the object, corresponds with the proportions of the immediacy with the act of seeing, feeling and experienc-

³'Too much to allow us to carry on saying that ugliness is merely the opposite of beauty understood as harmony, proportion, or integrity' [18].

⁴Campbell and Cilliers [20] points out that aesthetics is a multidimensional concept which at least includes concepts such as judgement of beauty, experiences of sensibility, evaluative observation, and imagination (anticipation and transformation). The concept has become attenuated in most discourses.

⁵Grözinger [21] describes aesthetic experience as the practical theological endeavour which is in search of those corresponding experiences (*Entsprechung*) between the content and form of the Christian faith. Aesthetics describes a dialectical movement between presentation and withdrawal/concealment, between the *form* of the revelation and the *Being* of God.

ing. Aesthetics can thus be associated with the intention and value assessment of the subject in relationship with the viewed or observed object.

Reiner Matzker [24] relates aesthetics to the act of mediation within the tension between subject (impression and interpretation) and object or the implicit idea as related to an object or something perceived and observed. To mediate always implies an act of signifying, some *thing* is signified [25]. Mediation operates within the connections between form (*eidōs*; essence, meaning) and matter (*hylē*; ontic dimension). In the act of mediation and representation, the projection of what is observed and seen implies virtuosity: skill, competence and know-how, i.e. artistic proficiency.

The mediatory function of a medium is to communicate, to inform, to disclose and to make something knowable. Aesthetics becomes an instrument (medium), an image (means) about something (content). It transcends its own limitations in the direction of signification. In this regard, aesthetics implies acts of symbolisation (to symbolise, from the Greek *symbálein* = to link to halves) and processes of meaning making [25]. Aesthetics then expands the horizon of interpretation of human beings; it creates a grammar of mediation.

In aesthetics, there is a constant interplay between reality, image and significance, and particularly in the sense that through mediation aesthetics become the attempt to represent 'something'. This representation presupposes a kind of competence or skill that one can call 'art'. Through aesthetics, a value is attached to the product which invites the viewer to linger and to ponder, to grasp the 'something'. This moment of significant articulation implies an act of evaluation that one can call 'mediation as an act of beautification'; the mediation signifies the product as a 'piece of art' [26]. In the act of mediation, the viewer assigns artistic significance to the object. As a piece of art, the object invites the viewer to attribute 'meaning'; to imitate (Plato: art as *mimesis*) the image; to reveal and to make apparent (Aristotle: art as hermeneutics).

The point in my argument thus far is that the naked human body is not per se ugly. Ugliness is a qualitative category within the interplay between beauty and the struggle to 'save' life from corruption and abusive exploitation. Even bodily deformation should not be enough reason to degrade the body to a lower degree of repulsiveness. The body entails more than sensuality and should not be viewed as merely a lust object to be exploited for sexual gratification. The body should indeed be reframed as an icon of compassionate intimacy.

2.3. The human figure in a stereometric approach to anthropology: corporeal expression of wholeness and the quest for beautification

In an integrative approach to our being human, the body is an essential element of what one can call 'human wholeness'. In fact, the body is about embodiment; i.e. the notion that soul is an embodied entity. I don't have a body; *I am my body*. Within the existential, daily orientation in life, corporeality plays a fundamental role in the establishment of inter-subjectivity and meaningful social interaction and communication.

In Hebrew and Semitic thinking, even the bodily organs have been viewed as representations of the whole of our being. In anthropology, this approach is called stereometric thinking. Stereometric thinking 'pegs out the sphere of man's existence by enumerating his characteristic organs, thus circumscribing man as a whole' [27]. Concepts like heart, soul and spirit are

often used alternately in Hebrew poetry to reveal certain aspects of the human being. One component of our being human, for example the 'heart' or 'mind', represents the whole of life.

A stereometric approach firmly opposes any disregard of the embodied dimension of man's special status. 'Wherever any specific aspect of human existence is considered, whether it is *nēphēsh* (soul), *ruach* (spirit), *lev* (heart), or *basar* (flesh), it is always intrinsically linked with the whole of man: Man does not *have* a soul; in a very specific way man *is* soul, desire, finitude, etc.' [28]. Stereometrics does not view a person in terms of isolated, different parts, but as a functional unit (whole) within a network of relationships.

Dunn [29] suggests that a better word in English for *soma* (body) is the alternative term 'embodiment'. In this sense, *sōma* is a relational concept. It is integrated with *psyche*. According to Dunn [30], both terms (*psyche/nephesh* and *pneuma/ruach*) express an original identification of 'breath' as life force which cannot be separated from embodiment. Together with *sarx* (which refers to our vulnerability/weakness and belonging to the world) and *sōma* (which denotes a concrete being in the world), *psyche* denotes the spiritual totality of our being human within the dynamics of relationships.

In an African approach to anthropology, the body is part of the rhythm of life. Therefore, the notion of *homo aestheticus* (the human being as the enjoyer of life) is more fundamental than the aggressive approach of *homo faber* (the human being as the maker of things). What is envisaged in an African spirituality is harmony (the beautification of life) within interpersonal relationships: *Umuntu ungumuntu ngabantu/motho ke motho ka batho*—approximately translated as 'A person is a person through other people' [31].

One can conclude and say that beauty as an aesthetic category in anthropology refers to the notion of 'wholeness': every part of the human anatomy, the physiological, biological, neurological, hormonal components, constitutes together with the affective, the conative and cognitive, a sense of identity and integrative functionality—a harmonious whole. Whole is therefore not a static category of perfection and completeness. Wholeness is in fact a 'spiritual category' referring to a sense of integrity, identity and purposefulness. In this sense, wholeness should be rendered as an aesthetic category.

Beauty as an anthropological category encompasses the following aesthetics dimensions in an existential approach to daily human orientation and our striving to instil a sense of human dignity and meaning (significance) in life.

Beautification implies:

- *Vocation and meaning*: a sense of purposefulness, belongingness and significance.
- *Virtue and value*: a sense of moral integrity, responsibility (*respondeo ergo sum*) and sensitivity.
- *Vision and hope*: a sense of expectation, anticipation of something new and constructive change by means of imaginary creativity.
- *Volition and courage/boldness/nobility*: a sense of devotion, commitment and outreach despite resistance.
- *Vitality and embodiment*: a sense of aliveness (*L'Energie spirituelle*) [32].

- *Spirituality and zeal*: a sense of transcendence within a framework of a philosophy of life and belief system that contributes to significant future orientation and bold decision-making.

Within reference to the previous outline of the place of aesthetics in a qualitative approach to theory formation in anthropology, the human body should thus be rendered as 'icon' of soulfulness, nobility and grace. In an inclusive approach, the body includes all aspects of our being human and symbolises wholeness. It represents attitude and aptitude; it reveals or hides the inclinations of the human heart and should therefore be rendered as a sanctuary of spiritual and divine energy.

2.4. From object of exploiting desire (fig leaf) to saintly body (icon): the Michelangelesque perspective

It was the contention of George of Cyprus [33] that the word *eikōn* signifies inter alia the 'saintly body': bodily images as representations of spiritual and divine elements in life. And this is more or less what is meant by a Michelangelesque perspective.

In my view, it was Michelangelo who made a kind of 'breakthrough' in the sense that he viewed the perfect human figure as a representation of human dignity and eternal divinity. The naked human figure is portrayed as a 'perfect' and classic reflection of nobility and dignity.

One can say that it was Michelangelo who made the first authoritative statement in art that the naked human body—that body which, in Gothic times, had been the subject of shame and concealment—could be made the means of expressing noble sentiments, life-giving energy and God-like perfection [34]. The Sistine ceiling therefore passionately asserts the unity of the human body, mind and spirit. In his depiction of the creation of Adam, when Adam stretches out his hand so that it almost touches the hand of God, it is as if 'an electric charge seems to pass between the fingers. Out of this glorious physical specimen, God has created a human soul' [35]. The body becomes a soul, and the soul embodied physicality.

For Leonardo da Vinci, beauty was the moment of mystical encounter (*der Augenblick des Mysteriums*), and for Michelangelo, it was the interrelatedness of the parts within the harmonious whole of embodiment; embodiment as determined by the principle of torment and moral suffering [36]. For Michelangelo, aesthetics thrives within the tension and conflict between Hellenism (the classical ideals) and Christian thinking (the eternal idea).

From Socrates, Michelangelo learned that the purpose of painting was to present the human soul, the life of human souls, as an expression of the very internal being of humans. According to Néret [37], Michelangelo was interested only in the people he painted because perfect bodies were the carriers and containers of the idea of eternity and sacred soulfulness. Real art is actually only possible in sculpture when the artist reveals the essence (the soul) which is already embodied in the marble.

An example of the sexualised beautification of male nudity is the statue of David by Michelangelo. Western society often used a fig leaf to protect the male genitals. 'In an effort to hide *David's* nudity, the fig leaf draws attention to its relevance as an object of sexual desire. Furthermore, it casts nudity primarily as a matter of sexual desire, ignoring a whole spectrum

of cultural, social and political ideas associated with the body' [38]. The fig leaf makes it seem as though David's body is only relevant as an object of desire. 'To the contrary, Michelangelo depicts David in a context completely unrelated to sexual desire, in the moment before he encounters the giant Goliath, right when he is focused on the awaiting battle' (**Figure 7**) [38].

Michelangelo's portrayal of David had both a spiritual and political meaning. David's nudity reflects an inner tension and spirited resourcefulness in his pose and musculature so that the good of spiritual courage can conquer the bad of unfaithful blasphemy. It represents divine faithfulness rather than violent destruction and folly (Goliath). The statue draws attention to the inner qualities of courage' resolve, and faith necessarily presupposed by David's victory. On a second level, the nude pose presents political freedom for the authorities of Florence.

The tragedy, however, was that the clergy and contemporaries of Michelangelo responded with the ugliness of moralism and skewed images of promiscuity. See in this regard, the response of the papal master of ceremonies, Biago da Cesena, when he saw the fresco of the *Last Judgement*. He declared it to be 'most disgraceful that in such a sacred place those nude figures should have been depicted all exposing themselves so shamefully' [39].

The point is that with the fig leaf, David's aesthetic beauty is changed into the ugliness of commercialised sexuality and the promiscuity of sexual desires without courageous fidelity. Nudity becomes politicised and is associated with reckless power, the vice of domination and the promiscuity of sexual exploitation. Under strict censorship, sexuality is deployed for aims of social and political powerful control.

During Pius V's pontificate, the Congregation of the Council of Trent decided, on 11th January 1564, to have the private parts covered. This was the most pornographically oriented decision in the history of Christian spirituality! Pope Paul IV therefore summoned the House of Carafa Daniele da Volterra to cover the genitals. The artist who did the covering up was given



Figure 7. David facing Goliath projecting noble courage (aesthetics of the human soul expressed in the beauty of male nudity) over against brutal violence (the ugliness violence and destruction). Michelangelo, copy in front of Royal Plaster Museum, Copenhagen; photo: D.J. Louw.

the name 'Braghettone', meaning 'trouser painter' [40]. The 'trouser painter' transformed the beauty of physical beauty into the ugliness of promiscuity. The fig leaf reduced the beauty of the genitals into pornographic phallicism.

2.5. Pornography (promiscuous reduction): instrumentalisation and commodification of the human body

One can call the obsession with the body and health, through the processes of commercialisation and exploitation (marketing), 'bodyism' and 'healthism'. The naked body and the surface of the body become a social text with *religio*-mythical meaning, i.e. it refers to who we are as gendered human beings and how we understand meaning. Through the impact of the media, the body as a social text becomes a symbolic stage upon which the drama of socialisation is enacted, and bodily adornment becomes the language through which the social self is expressed in its search for meaning [41]. In this regard, nudity becomes commercialised: gratuitous nudity [42].⁶ Nudity has become naturalised to such an extent that advertisements of half-transparent underwear revealing the genitals have become normal; they have become cultural products. This tendency leads to the phenomena of gender titillation,⁷ sexual exploitation and the objectification of human embodiment (gratuitous nudity).

For example, in contemporary society, the female body tends to become an object of lust and seduction. In the social media, the female body was high jacked by business, companies, the advertisement enterprise and the social media to sell products. The commodification of the female body contributes to the fact that femininity is constantly being robbed of soulful beauty and portrayed as an idol of glamour, fame and flirting sensuality (**Figure 8**).

In ancient Greek culture, womanhood was associated with wisdom and portrayed as the object of pure love.⁸ In Hellenistic mythology, wisdom was presented by the clothed figure of Minerva, draped with soft linen to protect wisdom against folly. Together with the owl, femininity presented the wisdom of human dignity and the intellectuality of democratic leadership. Femininity was a kind of symbol of serene intellectuality to be needed most by courageous men (**Figure 9**).

In antiquity, it was not necessary and even not the fashion to put up statues of nude females because a draped female body was the epitome of wisdom and dignity. The draped figure distinguishes itself from male identity. When it came to heroic aesthetics, nudity was more

⁶*Gratuitous nudity* refers to the utilisation of the naked body for conveying information about a product across the range of the public languages of magazines and advertising. It is about nudity "on appro" without being requested. For example, in fashion advertising the relationship of the partly clothed male icon or female icon to the product is often obscure. The partly nude body confronts the viewer with something numinous.

⁷'Titillate' is derived from the Latin for tickling, or to excite another pleasurably, superficially or erotically [43]. Titillation is about portraying the body in order to arouse and to create sensuously felt emotions that stimulate human beings sexually and eventually lead to action in order to get satisfaction.

⁸Clark [44] points out that the stabilising, comprehensive religions of the world, the religions which penetrate every part of our being human – in Egypt, India or China – gave the female principle of creation at least as much importance as the male (societies of obedience). The aggressive, nomadic societies – Israel, Islam, the Protestant North (societies of will), conceived their gods as male. "It's a curious fact that the all-male religions have produced no religious imagery – in most cases has forbidden it. The great religious art of the world is deeply involved with the female principle" [44].



Figure 8. The female body is projected as a commodity to be possessed by male monsters and sexual driven animals. Sexuality is degraded to the level of primitive instinct and violent libido. Photo was taken in a shopping mall (Sony Centre) Berlin a week before Christmas 2012 (D.J. Louw).



Figure 9. Statue of Minerva with owl as symbol of wisdom. The goddess is clothed because her identity resides in her capacity to lead and to guide into wisdom as the drapery for meaningful life. Copenhagen. Photo: D.J. Louw.

preserved for the young athletic male body. Strength was associated with masculinity and should be used by athletes and the military to protect society. Nudity as heroic, divine athletic was something to be avoided for women [45]. Full nudity connoted more the vigour of the male body than the serenity of the female. The female figure was associated with vulnerability and should be protected in order to safeguard civilised education and wisdom. While female nudity should be protected, male nudity was associated risking one's life and should

therefore be exposed fully. The shape of the male genitals contributed to the youthful beauty of male identity, not to pornographic exploitation.

Pornography is derived from two Greek words, *pornay* and *graphay* [46]. *Pornay* is derived from *peraymi*, which means 'to sell', usually in reference to a slave or prostitute for hire. *Graphay* refers to that which is written, inscribed or pictured. 'Pornography' then literally means to picture or describe prostitutes, with the connotation of an unequal slave/master relationship in which sexuality becomes a commodity deprived of the beauty of true love (commercialised sex).

Pornography is therefore not nakedness as such (see the statute of David by Michelangelo and the paintings in the Sistine Chapel) or explicit sexual pictures or portrayals of sexual acts, or erotic material, stimulating sexual excitement. The criterion cannot be sexual excitement or fantasy, because then any stimulation or visual impression related to sexual connotations and to sex will fall into the category of pornography. The criterion for judging a work to be pornographic is sexual exploitation within the schism between ensoulment and embodiment, between aesthetics and sensuality and between *eros* and *agape*. A dualistic anthropology easily feeds promiscuity and pornography. The written (pictured/portrayed/depicted) language of the human body is then not compassionate love and faithful intimacy, but abused *eros* and carnal exploitation.

Pornography refers very specifically to *sexual exploitation and the dehumanisation of sex* so that human beings are treated as things or commodities [47]. Pornography points in the direction of the depiction or the description of the abuse of sex as power. The naked human body is then detached from virtue and hijacked for merely violent sexuality (physical and psychological violence against others and oneself). Nakedness thus then promotes promiscuity.

In this sense, pornography is the description or depiction of obscenity with the effect of violating the dignity and rights of the human person through the exploitation and commercialisation of sexuality and sex. Explicit descriptions or depictions of males, females or children in dehumanised, mutilated, animalistic, submissive, distorted, sadistic and/or masochistic positions which place and keep them in undignified, subordinate roles and positions, all constitute pornography. Pornography reduces sex to the level of animal copulation and tends to rob sex of intimacy and tenderness.

The central issue at stake in pornography is the promiscuous intention of the viewer and reader as well as hedonistic setting of lust with the intention of illegal exploitation; lust and sensuality have become detached from compassionate love and intimate faithfulness.

With promiscuity is then meant an *immoral functionalism (obscene and obscure)* in which the human genitals and body are separated from the spiritual realm of soul, meaning normativity (ethics) and aesthetics. Promiscuity makes sexuality ugly because it can destroy human dignity. By promiscuity is then meant *sexual immorality and infidelity*, i.e. the abuse of sexuality for immoral purposes (*porneuo*) [48] including illegitimate intercourse, adultery, prostitution, fornication and absence of chastity.

Immoral functionalism is about obscene reductionism, wherein the human body is isolated from its humane framework and aesthetic design, namely compassionate intimacy and soulful integration.

2.6. The spiritual beauty of the human body: sanctuary of compassionate soulfulness and icon of intimate aesthetics

It was Socrates who described the body and its movements as spiritual indications of the ‘workings of the soul’ [49]. The idealisation of the beauty of the human body was in Greek art closely related to the interplay between the way feelings affect the body in action and represent the ‘workings of the soul’. Due to the fame of Pheidias, the sculptor who Pericles entrusted to supervise the decoration of temples (480 BC), the classic approach to represent the human body in any position or movement reflected ‘the inner life of the figures’ [50].

The human body is not an idol of lust but an icon of soulful aesthetics and compassionate intimacy. The human body is thus designed to create intimate spaces of human encounter, wherein the ‘other’ is exposed to unconditional love, compassionate caring—caring that seeks to overcome the fear for rejection and loss.

Compassionate intimacy should enhance humane authenticity, as well as sustainable friendship and an ethos of non-discriminatory equality and unconditional acceptance. The notion of compassionate intimacy is an attempt to emphasise and introduce images of companionship, trustful partner, faithful colleague and caring nurturer (**Figure 10**).



Figure 10. Plaster copy in of the Royal Cast Collection, Copenhagen. Permission from museum; photo D.J. Louw. The child Dionysus in the arms of a Sicilian found in 1594 in Greece, fourth century BC. I was totally overwhelmed by the combination between male vigour and strength combined with sensitivity and caring embracement. The genitals are an inherent part of the intimate space of care created by the ‘patriarchal figure’. One can say that the sculpture portrays ‘sacred phallicism’ healed by compassionate intimacy. The penis nurtures and cannot destroy; the penis as an icon of intimacy and faithful commitment. The macho male can become indeed an idol of a caring and compassionate human being beyond the boundaries of merely gender differentiation (either male or female).

3. Conclusion

Embodied intimacy and sensual spirituality imply the following paradigm shifts in an anthropology of human nakedness (noble nudity).

- From the soul-body dualism to integrative and compassionate intimacy.
Embodiment then represents qualitative intimacy as the realm for creating a space for human dignity through the enfleshment of unconditional love. One should accept one's body as home: A living space meant for communication and relationships.
- From gender performance to human beautification. The body is no longer viewed and handled as a machine but is holistically enjoyed as a living organism. Embodiment represents processes of personal sensitivity and caring other empowerment.

Beauty implies more than physicality. It refers to the representation of meaning and the body as the evidence of grace and humane nobility. The proportions of the body and the harmony of body wholeness project beauty. The anatomy of the body reveals 'inner beauty'.⁹ The human body partakes in the divine beauty of creation; every part of the body contains an element of divinity and hence of beauty [52].

The notion that the beauty of human corporality embodies the aesthetics of the human soul ([53], p. 16); the human body as the anatomy of the human soul should be rendered as a deconstruction of the pagan thinking and metaphysical dualism in anthropology. The advantage of the Michelangelesque perspective on nudity is the paradigm shift from the hedonistic perspective of promiscuity to the aesthetic perspective of beauty: from the performance of sexuality to the enjoyment of sexuality. Why? It is because the human body and the genitals are not designed to destroy and to ruin, but to heal and to beautify. Beautification then means instilling human dignity and guaranteeing trust and faithfulness. The paradigm shift is from violent sex (the abuse of power) to intimate sex (compassionate caring)); from carnal promiscuity (destruction and exploitation) to spiritual aesthetics (healing and intimacy).

It is my contention that *compassionate intimacy* can help to shift paradigms regarding the meaning of the naked human body from threat power and abusive exploitation to the beauty of vulnerable sensitivity. In this regard, the human genitals become sacred instruments for the maintenance of a significant life. They are not designed for promiscuity and rape. A penis and vagina should be reframed; they should be viewed and beautified as icons of compassionate intimacy, vulnerable care and graceful harmony.

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⁹According to Greek culture, the body is evidence of divine and inner meaning [51].

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Rules for the Perception of Beauty

Places that Reflect Beauty

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Additional information is available at the end of the chapter

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Abstract

Places are where we live! We call them “interiors.” Thus, “interior design” is the science that describes creating the places; so should interior design reflect beauty? Interior design is the specialization that creates places where people can find beauty, safety and a healthy environment to live in comfortable and sustainable ways. Beauty is one of the essential elements that a designer should consider while creating an environment, but do all users perceive this beauty? Moreover, what do designers have to do, to affect the users’ perception, so they can feel the beauty within their surroundings? Many questions need clarification, from the scientific theory point of views. To do so, the use of case studies will enable proving that these rules are applicable to real projects. This chapter explores the methods of perceiving different types of interiors. Any user living in the selected place or interior will perceive these stimuli reflected in the design. The users do not have the same personality or the same culture, which affects the full scope of the places and their reflection, as well as the messages of the interiors. Therefore, after analysis of these topics, within the places, a clear layout of guidelines could lead to generating an interior design that truly reflects the beauty to the end users.

Keywords: perception of interior, interior design, interior design psychology, beauty of interior design, Reiss’s motivations

1. Interiors and beauty, an introduction

Academics, researchers and writers discuss and argue regarding the vast scope of the interior design, as a profession, that deals with the physical aspects of spaces. Others deliberate the environmental effects that encompass these spaces. An important aspect is to ensure clarification of any new points raised, as they will often need more studies and research.

“Interiors” and “Beauty” are what we call, as professionals, aesthetical interiors. Nevertheless, “Beauty” here will reflect the perception of these “Interiors.” The following short definitions will enable us to start our journey in these “Places That Reflect Beauty.”

1.1. What is interior?

“An interior is where we live, work and are entertained.” “An interior is all and any place that embraces people to live.” “An interior is a place that encloses and surrounds our life.”

From these previous statements, we could possibly conclude that interiors are all spaces, whether inside or outside. These spaces have physical aspects and visual properties. Materials, furniture, furnishings and equipment that have colors, textures, shapes and forms define the physical conditions. On the other hand, the same spaces have psychological impacts due to their specific layouts, styles, colors and textures, which become places due to their belonging to someone. Therefore, through the particular selection of an interior’s components, we, as designers, can affect the users unconsciously, even as they consciously experience these interiors. Whatever the design reflects, it will affect its users positively or negatively, depending on the designers’ knowledge, skills and competencies. The wider the designer’s experience, the closer the achievement of interior perfection and the better satisfaction of the users’ needs.

Interiors—either design, decoration or architecture—represent the space that becomes a place because of its users. It is a creative challenge, which requires innovative solutions to enable people to react positively within it. The potential of interiors is realized in their connections with the design. It is the use of philosophy and concepts to create a unique design proposal. Interiors are sometimes the reflection of the exterior to some extent in many cases. There are no separations, isolation or detachment from the surroundings. A recognized practice is to bring life and activity to the interior spaces and convert them into interior places [1].

1.2. The meanings of beauty

“Beauty is the satisfaction and pleasure that rises due to the perception of any object or creature.” “Beauty is attracting and giving its receiver a charming feeling.” “The happiness that occurs within anyone while dealing physically with his/her surrounds.”

The perception and extent of beauty differs from one person to another. Beauty in its purest form is not often widely acknowledged by a mainstream audience due to the diversity of culture and society. However, all creatures found in nature are beautiful to some extent. In analyzing them, we discover that they follow all of the rules associated with beauty. This pleasing relationship starts with the golden ratio in shapes and forms, the impeccable color schemes and the perfect compositions. Any personality or culture admires and evaluates the “Natural Beauty” or the “Ideal Beauty” as an entity.

It is about each human’s cognition and emotion. The feelings of calmness and stabilities occur unconsciously, psychologically, as a reflection of human perceptions, physiology, through the human vision, consciously or unconsciously, physically. The perception of beauty is in the eyes of the beholder as it is a personal experience. It is affected by the lifetime and the influence of trends, evolutionary through time. The composition of these interiors affects perception.

2. Perceptions, theories and interiors

Perception is not what we see, smell, touch or hear. Perception occurs when we are aware of what we see, smell, touch or hear. The process of perception starts with the human's physical senses. It then passes through the receptors, based on the person's focus, which enable him to understand what he is facing: a specific picture or environment, definitive odor, precise texture or particular rhythm. It does not require previous experience unless a judgment of the matter is necessary, as to whether it is suitable or unacceptable. Perception occurs when humans consciously receive a particular sensory element. Many theories control the attitude, but most of these theories focus on the visual sense. Concerning interiors, the visual sense is dominant, but the smell, the touch and the hearing senses are also important, as all the senses have an emotional impact [2].

The results received from our perception vary. They could last consciously for a particular time and then become unconscious with continuing effects. The relation between the human experience, cognitional and emotionally, and the level of perception, is relative. The persistence of feelings (consciously) is virtual and relates to some unconscious variations. Happiness, confidence, pleasure, attraction, satisfaction and optimism are positive feelings that result from these perceptions, whereas sadness, uncertainty, insecurity, doubt and even pessimism are some of the negative feelings caused by the perception of the surrounding environment. The interior or the place affects the inhabitants, as they perceive its components. This perception depends on the way these interiors arrange elements to provide positivity. If the users' productivities raise, it means their performance accelerates along with their feelings of aesthetics, that is the reflection of their well-designed environment [3].

2.1. Perception theories

Theories of knowledge rely on psychological philosophy. As humans are surrounded by elements and patterns, they interact physically with them, but once these factors affect human behavior, this means people have started to perceive them. As the perception is variable, theories have the purpose of clarifying and shaping the phenomena. Perception could be direct naïve realism or the active process of representative realism. They could be based on human cognition idealism or even as a matter of abstract existence phenomenism. Theories as philosophic concepts exist and are clear in their entire setting. Based on the perception theories, designing interiors have a set of standards as individual personality, cognition, values, education, and group cultures, professional ethics, faiths and beliefs. Therefore, by clarifying these theories, we will reach the basics of perceiving the beauty of an interior [4–6].

2.1.1. Naïve realism

Naïve realism is the direct common sense theory. It depends upon the perception of the facts related to each person's information and standards. The probabilities of this theory are enormous as it deviates among the variabilities of the receivers. So, keeping every element that each of us recognizes from our backgrounds will create a monotone and boring atmosphere, although stable and secure. A single change within it will produce uneasy feelings that could

vary in the perception and behavior of the person. Therefore, original information and elements play a significant role in creating those individual's interiors.

2.1.2. *Representative realism*

Representative realism is the indirect perception of any matter. It is the deeper impression that depends on a thoughtful approach to the surroundings. Unconsciously, we perceive components linked to the person's culture and education. Each element of the surroundings has a direct message, but through the perception of it, it translates to the deeper philosophic sensitivity of it. The interiors that include samples of each users' cultures will be well perceived and the users will react positively to it.

2.1.3. *Idealism*

Idealism depends on everything, from the spirit and the mind to the reality and the human experience. The end user has values and beliefs. By linking them to the environment, it will reflect ethics, standards and faiths. Perception only relies on those criteria; therefore, if any of these are absent, a lack of perception reality will occur. Spirit and cognitivism are the two basic forms of idealism perception. Cultures, education, ethics and beliefs are the keys for the productivities of such a way of perception. Interiors should include some aspects from each personality, cognition and value set to become a beautiful interior.

2.1.4. *Phenomenalism*

Perception of things does not change whether people perceive them or not. Unlike idealism, everything exists in our surrounds as phenomena created by a human or by nature. It depends on each behavior to perceive it, so it becomes a reaction. In such way of perception, people will react only if the surroundings attract them.

2.2. Perception of the interiors

People perceive their environment based on their background culture, education, emotions and cognitional and emotional phenomena. When the person in a space "processes" the available information, he/she perceives consciously, and so they use their relative cognition. Cognitive responses reflect what life has taught us (relevant, interesting, useful and desirable). All data added throughout time in the form of direct education or indirect culture backgrounds is cognition. While the person in the space "processes" the available information, he/she perceives unconsciously (automatically, involuntary). They use their comparative emotions. Emotional responses reflect our dominant sense (based on culture and personality). Emotions are the natural feelings based on data perception [7].

The link between people and their places is clarified through the explanation of environmental psychology. When a person enters an interior, he starts perceiving its surroundings. Two main responses occur: cognitive and emotional. This is the so-called behavioral response. The person starts to link his surrounding elements to all his background data (cognitive responses), then he links them to his feelings (emotional responses) and reacts based on all

of these steps. The reason for these reactions at the beginning is clear for him (conscious), and then he keeps behaving while forgetting the original reasons (unconsciously). These responses serve to prove the success of the interior (**Figure 1**).

People select and positively react to surroundings that enforce and strengthen their productivity. Productivity happens when humans feel safe and secure and when their surroundings reflect beauty. The interior designer has a prescribed responsibility to create an environment that helps individual personalities, genders and cultural and ethnical groups in their daily life.

As a user, how might one react to an interior? Environmental psychologists and designers suggest three possible answers that are abundant: through visual perception, the scent and the sound of the place. In fact, the senses that affect interior perception are vision, touch, smell and sound [8].

2.2.1. Visual perception

Humans see through the eyes but perceive through the brain. Many psychologists study this topic, but we will take into consideration the most relevant studies that deal with the perception of interiors, with all contents. To perceive means shaping information as a sophisticated mechanism. "Gestalt and Marr" designed a mental model to describe this. We will discuss the four main theories affecting the perception of interiors: perceptual organization, perceptual segregation, perceptual construction and perceiving intelligence [9].

a. Perceptual organization

The structure of the space is a composition of the physical elements and the hidden relation between them (**Figure 2**). The elements of the interior occur in a way that makes space appear to focus on specific points, without a straight design to lead to this stage, the creation of the whole from directed parts.

b. Perceptual segregation

The perception of the interior needs two visual steps, first to differentiate the separation and second to recognize the shapes of the components (**Figure 3**). The appearance of the interior appears completely after some seconds based on the receptor's ability of perception. The complete interior looks divided by two, but after a while, the full picture shows the unity of this interior.

c. Perceptual construction

Interiors appear as result of grouping the pieces all together in one scene (**Figure 4**). The whole picture gives the idea, but in perceiving it over time, the main seating and flooring details and patterns come out in the full perception.

d. Perceiving intelligence

The interior is dynamic. The composition and the details of its components lead the perceiver to a fourth dimension. The details and the main parts drive the vision to a continuity of scenes (**Figure 5**).

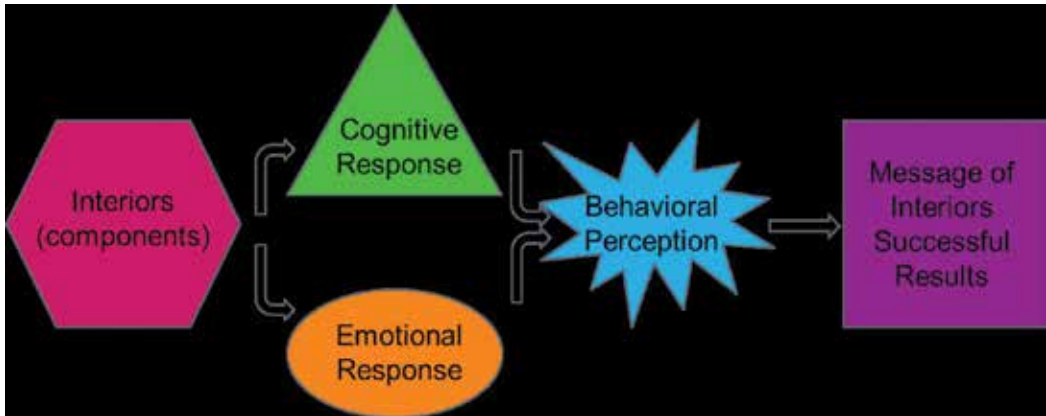


Figure 1. Perception process of the interiors.



Figure 2. Perceptual organization example.

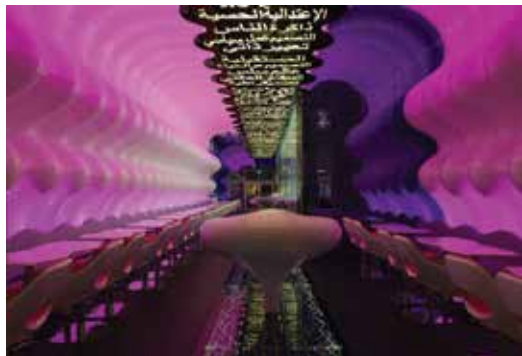


Figure 3. Perceptual segregation example.



Figure 4. Perceptual construction example.



Figure 5. Perceiving intelligence—example.

2.2.2. Scentscape perception

The scent is an additional element to create a psychological effect. So, using this tool to enhance the functionality and the productivity of a place is vital. It affects the human with full consciousness at the beginning, and then, it moves to the back of the mind, while still affecting the person's performance. Pleasant scents make people remain longer in the space. The scent can stimulate happiness, appetite, their motivation to complete a particular function and even their feeling of belonging in a place. To design the scent scheme in any interior, designers refer to the Scentscape. Scented space will feel larger, cleaner, fresh and bright; it adds part of the beauty to it.

2.2.3. Soundscape perception

Similar to the Scentscape, the soundscape is the schematic background sound of an interior. Surveys discover that people work 30% more effectively while listening to their favorite music without a tired feeling, whereas disturbing noises can make spaces appear dull and ugly. Many tools help designers in their duty of creating a soundscape: quiet rhythms lead to a relaxing mood. It is preferable to keep music at a low level, without the song lyrics (words); this helps in concentration. Live music creates a better mood than prerecorded songs. The designers should investigate to reach the best soundscape that makes the interior beautiful.

3. Interiors' messages

The message the person receives when using a space is the effect that the interior is having on a human. Any area presents an idea to whoever experiences the function of the place. An interaction occurs between the physical shape of a space and the user, resulting in psychological or emotional effects. If the designer has paid full attention to each detail, the full interior will give the correspondent effects needed to accomplish the functionality of this space in a pleasant and productive manner. Perfection is hard to achieve, yet the psychological effects of each interior component as in line, shape, form, color, pattern composition, lighting, scent, sound and even texture can bring an excellence to the place.

The design of an interior continuously affects people's behavior. Different sensory experiences through time create a mutual mood, with diverse details consistent with each culture and personality. Asking some questions will help to identify the targets of designing places of beauty, such as what does the interior designer want to express to the users? What should the interior look like? What is the reason for selecting this model? What is the purpose of this interior? When people use this interior, what will they feel? What is the message of this design? What was the primary motivation for such an interior design approach?

Psychologists, and specifically Steven Reiss, propel the identification of 16 different reactions or emotions as the reflection to any interior layout, calling them "*Reiss's 16 Motivations.*" [10].

3.1. Reiss's motivations

Steven Reiss, Psychologist, Professor Emeritus at the Ohio State University in Ohio, USA, studied the human reactions and found 16 different responses as a reflection of the average human being experiencing interior spaces. These reflections are the result of being in a place. He called them 16 motivations, leading as feelings of the users. These motivations (interior design messages) are the basics that designers should achieve by explaining and linking interior element selections to their psychological effects. These messages have meanings and enhance internal functionality based on their psychological effects. These 16 motivations (interior messages) are as follows: Power, Curiosity, Social Status, Honor, Idealism, Social Contact, Physical Activity, Independence, Romance, and Acceptance, Eating, Saving, Family, Tranquility, Vengeance and Order.

3.1.1. Power

The need for control of the will. The being under "Power" feeling occurs in distinct interiors and functions. To reach this emotion, a designer has to produce some details, but the architectural layout should interface to the full scope. People will feel under control if they see high ceilings, levels in the place, and extreme size in the majority of the interior elements. In addition, high quality will reflect some dominance but not for all type of personalities nor cultures (**Figure 6**). Power is an important emotional message in the governing spaces and the law areas such as courts.

3.1.2. Curiosity

The need to gain knowledge. Developing people in all type of activities and for all age levels needs special attention from the designer. To stimulate feelings of interest, designers need to activate an emotional response by creating diverse shapes and lines, colorfully, and with unexpected patterns (**Figure 7**). Classrooms for different study levels, libraries and shopping spaces are where "Curiosity" responses need enhancement.



Figure 6. Power message sample of Court Hall.



Figure 7. Curiosity message sample.

3.1.3. *Social status*

The need for social significance. The social level occurs in residential spaces, in branded shopping areas, in hospitality interiors and even in commercial spaces. This level reflects the inhabitant's social status through the grade of the interior components. The size of the interior, selection of luxury materials and the excess use of white colors (**Figure 8**) all represent and reflect a high level of social status.

3.1.4. *Honor*

The need to be faithful to the common values of an individual's ethnic group, family or clan. Traditions are the values of any society. To keep, preserve and show this culture reflects a feeling of



Figure 8. Social status message sample.

honor. It is the identity of any human group. Practically, all interiors will show a percentage of tradition, as the designer unconsciously adds it to the design (**Figure 9**). The spaces representing the message of Honor are mainly residential and governmental, but it could be hospitality, or for relative level commercial. The interior will involve a touch of the central tradition of the place or the users.

3.1.5. Idealism

The need for respecting human principles. Beliefs and principles are only philosophies, and people might share the same traditions, the same society, but could have very different ideas. The respect of each principle is vital between humans. This message will manifest clearly in a residential interior, (**Figure 10**) by adding a pattern as a symbol showing this idea.

3.1.6. Social contact

The need for a relationship with others. People need to interact together, even the most introvert ones. Gatherings often happen in residential and public commercial spaces. The interior must promote the number of people grouping all together in one place and at one time (**Figure 11**). The focus of such a place should be on verbal interaction and social discussions.

3.1.7. Physical activity

The need for work out of the body. This message could be, directly or indirectly applied in the interior. Every human needs to exercise. In residential interiors, if possible, adding exercise equipment can have a direct result and endorses the purpose of it. Whereas in other interiors, like in administrative spaces (**Figure 12**), where people spend a considerable amount of time without physical activities, the need for an unconscious feeling of movement is crucial to prevent lethargy.



Figure 9. Honor message sample.



Figure 10. Symbols patterns showing idealism' message.



Figure 11. Social contact message sample.

3.1.8. Independence

The need to be distinct and self-reliant. This message is used best to describe and show people who believe they are different and they do not copy anyone. Distinguished, self-confidence is their main personality trait. It is evident through their selection (**Figure 13**) of elements representing their interests. It could be in their own residence or in their projects—commercial or administrative.

3.1.9. Romance

The need for mating. The feminine touch that is inviting is one of the interior features that appear in the “boudoir” or other mutually physical spaces (**Figure 14**). The interior is full of fabrics, soft exciting colors, especially warm schemes. Lighting is indirect; lines and shapes are smooth. It is an intimate place, where any cultures or personalities can react within it.



Figure 12. Physical activity message sample.

3.1.10. Acceptance

The need for approval. Any human communication should respect others. While interacting, people need to feel their acceptance in front of others. Places for brainstorming and rehabilitation therapies, where all attendees are equal in distance regardless of hierarchy (**Figure 15**), improve and support the feelings of acceptance.



Figure 13. Independence message sample.

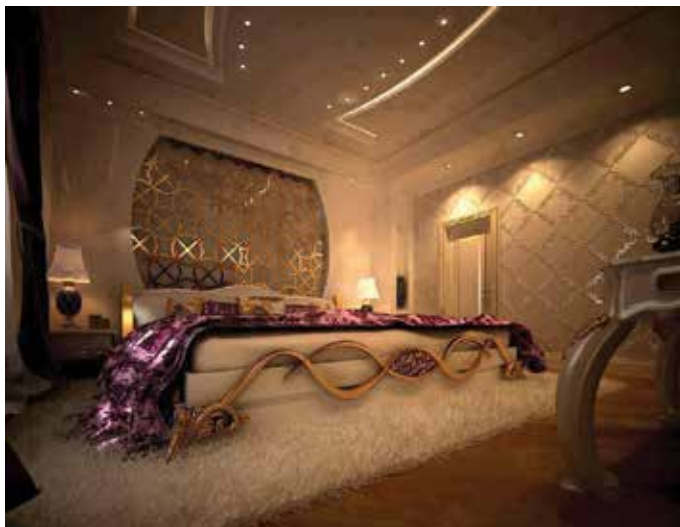


Figure 14. Romance message sample.



Figure 15. Acceptance message sample.

3.1.11. Eating

The need for food. Places full of cooking and food items will invite those who do not prepare to eat. Either private (residential) or public, like an open kitchen restaurant (**Figure 16**), if the food and the cooking process are clear to the user's eyes, the "Eating" message will have success, and the emotional response will call for a physical one.



Figure 16. Eating message sample.

3.1.12. Saving

The need to accumulate something. Real estate is the investment of choice for many human beings. While investing in some expensive items, which have value in some field, it will produce the same emotion as “Saving.” These elements could be artworks, precious references books and any particular collection (Figure 17). This is active in residential or even in publicly owned spaces and is ruled by the individual.



Figure 17. Saving message sample.

3.1.13. Family

The need to take care of one's offspring. The home should give a feeling of security and safety. Residential places are those where the family will raise their children. They should reflect all the family needs, allowing for exchange of experiences and promoting advice. Either these spaces are luxury or average, but essential needs for each family member are present without any possible distractions (**Figure 18**). It is kind of a "Social Contact" space, but with a homey setting.

3.1.14. Tranquility

The need to be secure and protected. Places to reduce stress are the best locations to escape today's complexities. Relaxation and restoration are crucial to facing life's difficulties. To realize "Tranquility," the designer needs to add elements of nature (**Figure 19**). This involves real plants, sources of water and stones. Greenery is necessary, but it is crucial to provide it naturally. This message is vital in residential, in commercial, in restoration and healthcare facilities.

3.1.15. Vengeance

The need to strike back against another person. Challenges are the spice of life and offer encouragement to reach higher levels. By exploring personal gains and trophies, the surround gets the inspiration to boost a level up (**Figure 20**). In addition, the display of certificates and acknowledgments promotes the viewpoint that the person who owns them is one that can be trusted.

3.1.16. Order

The need for prepared, established and conventional environments. The system people use to organize their life appears in their emotional responses. "Order" is very clear when shaping happens between different areas and activities in the same space (**Figure 21**).



Figure 18. Family message sample.



Figure 19. Tranquility message sample.



Figure 20. Vengeance message sample.



Figure 21. Order message sample.

4. Perception of beauty in interiors—Conclusion

The aesthetical interior or the beautiful place is where humans live, act and pursue their lives in a productive manner. An interior should reflect beauty as it is a self-reaction feeling or a behavioral response to space. However, the question is: Do places reflect beauty?

Perception theories in philosophy, as previously explained, define perception as general thoughts happening in the human mind. It is a complicated process, related to our cognition, which guides our views and insights. It is absolute thinking, which needs more studies to relate it to human behavior in spaces. However, philosophers and psychologists do have their points of view, which are a start to any development. Some of them, such as Gestalt and Marr, did produce some graphics to explain their theories. This was the starting point to linking these theories to the applications.

Designers studying these ideas in their preparation stages do apply them, either unconsciously or consciously, and the results are not only impressive, they also add another dimension to the perception of the interior, as the samples included previously show. It was the starting step, from my point of view, to link between the theoretical statements and the practical side of life. In another observation, the natural creations as shapes, forms, textures and colors are beauty interpreted in physical elements. I believe that designers and artists derive all their creations from Mother Nature where every particle is a clear expression of beauty. So philosophers, psychologists and designers are two sides of the same coin, where one reflects beauty as an idea and the second reflects beauty in physical elements seen by all.

The interpretation of statements from Reiss, as interior perceptions, is that results' tools help me to transmit these theories to future designers—my students. The real application for today's generation is necessary in this technological and software-driven world. Moreover, we start to realize that in our daily practical living, people need to use their physical senses in addition to their mental ones. While thinking, we get some perception of outright thoughts, but while living we need to feel these ideas.

I believe the applications of ideas will result in different and diverse interpretations, but this is what makes life so rich and full of options. If philosophies and concepts are proved theoretically and applied, beauty will occur by default. It was the detailing of Reiss's motivations in this chapter, where beauty happens as a direct result of actual application.

4.1. Basics Guidelines - Results

- a. The interior is where people live and act daily, in and out of spaces. The pattern of designs that include all the interior components, such as furniture, equipment, materials for all surfaces and lighting (natural or/and artificial), affects the appearance of this interior physically. It does affect people mentally and emotionally.

- b. Beauty exists in nature before the fabricated products, and it is the base of all aesthetics around us if designers follow its principles of shapes, forms, textures and color schemes.
- c. Perception theories are the heritage of all philosophers and psychologists, and the base of any science and field of study. The greater the physical pattern appears; this is due to the following of these theories. Theories are the base of every material matter.
- d. Perception of the interior, as theories, results in applications that enable and guide designers to create interiors that protect people. Places where they can find beauty, safety and a healthy environment to live in comfortable and sustainable ways. This perception follows steps and specific processes. It starts by viewing the link to human cognition, and then it produces emotional responses, that is what we call the behavioral responses (the personality, the culture and the education). At every step, we can judge the interior's success by the reaction the user has within the space. Either it will remain a space or it becomes a place!
- e. Visual perception is the guide for forming, aligning, shaping and selecting the different components of interiors. By following them, designers produce great interiors, as exemplified by the samples we discovered previously. They are interacting with the users, and this is what makes them beautiful. To be able to perform in a positive and productive manner means, the space becomes a place with a great impact—it becomes beautiful.
- f. Scentscape is a new kind of perception that affects enormously on the users' performance. It helps the interior statistic elements to shape people's activities.
- g. Soundscape is usually forgotten, but raises personal performance by around 30%. It deals with noise and the type of sound, where and when needed.
- h. Messages / Motivations; from theory to application, it is obvious that by following philosophy, the designer can create what is suitable and feasible to the end users. Clarity in the message is needed in a place for better results that suit the performance of the users and the beauty of the place. Following the message of the concept of design appears clear to the designer, and the philosophy of the design shapes the interior. It is the platform of creating the interior to guide the user to a beautiful place!
- i. Applications of theories will shape the appearance of these interiors and beauty will be the result: The Places that Reflect Beauty!

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The Problematic Perception of Beauty in the Artistic Field

Raquel Cascales

Additional information is available at the end of the chapter

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Abstract

Scientific discoveries of neuroscience are apparently explaining all the mysteries of the human brain. In particular, great advances have been made in the field of the perception of beauty. However, historical-philosophical revision, such as the one I carry out in this chapter, can shed light on the limits that this approach can have. To this end, I begin by reviewing the psychologization of beauty that has been carried out by David Hume since the origins of modernity. From this premise, I question the laws of art enunciated by one of the most prominent researches on neuroaesthetics, Vilayanur S. Ramachandran, by contrasting his conclusions in the light of the philosophy of art of Arthur Danto, who calls into question that the value of what is purely perceptible might be enough to understand art. He also rejects any identification of art with beauty, just as he is contrary to any general statement of the laws of art. With this contraposition, I try to show that the question of beauty in art goes far beyond mere visual perception.

Keywords: neuroaesthetics, beauty, philosophy of art, V.S. Ramachandran, A.C. Danto

1. Introduction

The excessive specialization of contemporary science usually tends to disregard the contributions of other sciences and, in some cases, to obviate the historical and theoretical concepts it works with. Nowadays, as regard to the consideration of the perception of beauty, attention has increasingly focused on neuroscientific studies. Although the findings in this area are providing very interesting results, I consider it important to show the development of the philosophical ideas underlying these approaches.

In this sense, I wish to begin by setting forth some historical issues related to the concept of beauty. In the first place, it should be noted that the perception of beauty underwent a psychological conversion in modernity, especially with the empiricist aesthetics of David Hume. This change resulted in a relativization of the concept of beauty, which neuroaesthetics is still trying to address at present. Thus, secondly, and for this reason, I will analyze the main contributions of neuroaesthetics and its defense of objectivity, especially developed by V.S. Ramachandran. Finally, I will confront Ramachandran's position on artistic beauty with that of the philosopher Arthur Danto in order to problematize the question about whether beauty and art can be identified completely.

2. The psychological conversion of the perception of beauty in modernity

Aesthetic reflection, the question of beauty, art and its connection with knowledge, has been present since antiquity. This is shown in the thought and the influence by authors such as Plato or Aristotle. However, we must be cautious when attempting to bring to current discussions the concerns about beauty as found in *Dialogues* or the Aristotelian description of art as *techné*, since the problems of present-day aesthetics have started in the Modern Age, since aesthetics became a discipline of its own.

The philosophers of antiquity considered that beauty was a property of the real objects, not only of the artistic ones, and therefore could be known in an objective way. The medieval philosophers continued to consider that the perception of beauty was objective and, in addition, human beings could discover the creator of such beauty through the contemplation of natural beauty. But all these conceptions changed completely in the modern era.

In the first half of the eighteenth century, aesthetics did not escape the influence of the rationalist scheme of Wolff and Leibniz and focused on the need to establish a science of perfect sensory knowledge. This is the context in which we find Baumgarten, the initiator of this study as a science. In his work *Aesthetica* (1750/1758), he gave the name of aesthetics to the philosophical science that studies beauty and art. Baumgarten conceives aesthetics as the "science of sensible knowledge"[1]. That is to say, it is based on the gnoseological criterion of the perfection in the specific realm of sensibility. But since he considers this capacity to be inferior to the rational, he also believes it has an inferior gnoseological value. Therefore, Baumgarten collects various aesthetic approaches and systematizes sensitive knowledge. With this, he led modern aesthetics to the terrain of subjectivation through the path of empiricism.

Empiricism is the fundamental trend in British philosophy since the influence of John Locke. Empiricism is characterized, among other things, as the rejection of the existence of innate ideas and the assertion that all our knowledge necessarily arises from sensible experience, that is, it has its origin in the senses. Within empiricist aesthetics, we find several figures, among which the most prominent is Anthony Ashley Cooper, Earl of Shaftesbury. This author considers that the human being possesses a moral and aesthetic nature that has its organ in feeling. Both the emphasis on empiricism and moral sentimentality will greatly influence Francis Hutcheson and David Hume, especially in the investigation and development of aesthetic "taste."

David Hume (1711–1776) was the empiricist philosopher who would have the greatest impact on the psychologization of beauty. There are several principles that stand out in his empiricist philosophy. In the first place, he affirms that all our ideas come from sensible impressions. In the second place, he makes a critique of the idea of cause that has greatly influenced contemporary theories of science. For Hume, the causal relation means that one phenomenon follows another but not that one is the cause of the other: the only thing we can affirm is that it has always happened this way. On the other hand, he makes a very strong criticism of inductive reasoning. He considers that induction is never complete and thus the foundations of universal laws must be established on a principle other than induction.

Hence, one of the essential theories of Hume's philosophy is that our ideas are associated according to principles, which in turn establish links between them. Ideas are naturally connected according to three laws: resemblance, contiguity and cause-effect relationship [2]. These three laws of association will have a decisive influence on the psychologization of perception. Many of the approaches of the later English psychologists will depart from these premises.

Before proceeding, it is worth making a pause to check the impact of this understanding of perception on the concept of beauty. To do this, we must turn to the fourth of Hume's *Four Dissertations*, published in 1757. In "Of the Standard of Taste" [3], the English philosopher sets forth his consideration of how beauty is perceived. He affirms that beauty is not a quality of the things themselves but only exists in the mind that contemplates them. Beauty is neither a transcendental or innate idea nor a sensory impression that seems to correspond with it. From this point of view, it seems that we can only identify a pleasant feeling, which we can assume that is caused by something beautiful but not that we have known something beautiful as such.

Beauty, then, is defined in relation to the subject since it is a property that lies in the beholder. That is to say, the feeling of pleasure provoked by beauty in the subject is the only thing that justifies our speaking of it. Taste takes place in the conformity between the object and the faculties of the mind. Research on how the feeling of pleasure is produced in the subject leads one to consider that there must be an organ capable of perceiving beauty. Both the organ and its aesthetic sense were called "taste." The experiences of taste would be immediate and spontaneous and would not be directly related to reason but rather to the realm of sensibility. From this point of view, an object is said to be beautiful because certain properties of the object stimulate our sensibility and make us feel its beauty.

In this sense, Hume discards the metaphysics of the beautiful but does not invalidate an empirical science of the aesthetic phenomenon. In fact, he believes that there must be rules in the arts that allow us to judge them. These rules cannot be established a priori but can only be established empirically. Thus, Hume states five conditions that are required to be able to make an aesthetic judgment adequately: (1) delicacy of taste; (2) practice of judging; (3) assiduous comparison of works; (4) being free of prejudices; and (5) good sense that avoids the influence of prejudices [3]. However, despite all his attempts, Hume fails to establish universality for aesthetic taste using the principles of his philosophy and the rules just mentioned.

In summary, we can say that the empiricist approach led to the consideration that beauty could only be perceived by the senses, thus reducing it to a matter of mere intellectual pleasure, which in turn provoked a relativistic consideration of beauty. This analysis had a great impact, first of all, among philosophers who reflected on beauty, especially Immanuel Kant. Later, both the enlightened and the romantic spirits, with their interest in the historical, progressively moved the reflection on beauty from a universal concept to concrete artistic work. However, while the post-Hegelian line focuses on studies on the history of art, the Anglo-Saxon world continues the research on the possibilities of perception and knowledge. At this point, it is important to mention the work of the art historian Ernst Gombrich, who investigated much about the laws of perception to develop his artistic theories, as can be seen in studies such as *The Image of the Eye: Further Studies in the Psychology of Pictorial Representation* [4].

In particular, it can be said that the legacy of Hume influenced English empiricist writers who were nourishing the associationist psychology, especially [5]. The Humean stance on how ideas combine in our minds influenced them decisively. Associationism will be taken up in particular by James Mill and John Stuart Mill, who laid the foundations of empirical and experimental psychology. The psychic processes, according to these authors, come one after the other, following certain laws of connection. Such laws could be quantified and described, which is why they consider that mental states can be measured to some extent. On one hand, these theories will influence the psychology of the Gestalt, centered on the laws of association and, on the other, they will influence neuroscience. Therefore, it is not surprising that when the techniques of brain and neurological analysis have been developed, the question of beauty has been formulated again.

3. The pursuit of objective beauty in neuroaesthetics

There is no doubt that neuroscience has made great advances in the knowledge of the brain. Much of the success of its research is due to the interdisciplinary approach that scientists have decided to take when it comes to studying the functions of the brain. In the 1960s, several lines of research converged, culminating in the publication of *The Neurosciences: A Study Program* (1966). This work was the result of 4 weeks of lectures organized by Fran O. Schmitt, which addressed a wide range of aspects of interest, constituting what later on would be known as neuroscience [6].

Almost 30 years passed before a researcher decided to focus his neuroscience research on the aesthetic perception [7]. In 1999, Semir Zeki published his investigations on art and the brain in individual articles [8, 9]. In addition to opening a new field of research, he coined the term neuroaesthetics and laid its foundations. In these articles, Zeki made a parallelism between the functioning of neurons and that of artists, especially with regard to the visual grasping of the world. According to Zeki, the work of artists shows externally the inner workings of the brain. The neuronal work breaks down visual information into color, luminosity, and motion, and then reconstructs the figure. In the same way, artists decompose the information received

and then translate it into their works. For this reason, it can be said that "the function of art is therefore an extension of the function of the brain - the seeking of knowledge in an ever changing world" [8].

Zeki's contributions on the neuronal behavior were well received and the comparison with art seemed to open new lines of investigation. In 2003, Semir Zeki and Hideaki Kawabata performed a relevant research on how the brain perceives beauty [10]. In this case, they were no longer doing a comparison with the artist, but they were trying to see how something more complex, beauty, is perceived. The researchers used functional magnetic resonance imaging (fMRI) to perform the study and find out if there were specific areas of the brain that were activated in the subjects when they appreciated paintings that they had considered beautiful. At first, in order to grasp the concept of beauty for each person, they offered them a large number of pictorial works that the subjects had to classify as beautiful, neutral or ugly. Subsequently, the process was repeated by analyzing it with functional magnetic resonance techniques.

Through this technique, they verified that the vision of a picture (classified as beautiful or not) does not activate the visual area of the whole brain but only specialized areas for the process and perception of that particular category of stimulus (such as portrait or landscape). This demonstration implicitly implies that at the basis of aesthetic judgments lies a functional specialization. Thus, what Kawabata and Zeki mean is that to be judged as beautiful, the painting must be processed by an area specialized in that particular type of work. Predictably, they also found that the judgment of paintings as beautiful (or not) is correlated with specific brain structures, mainly with the orbitofrontal cortex and motor cortex. The results of this research showed that although it is not possible to determine what beauty consists of in neuronal terms, we can know the zones of activation or increase of the neuronal activity when perceiving beauty:

"We cannot be said to have been able to determine what constitutes beauty in neural terms. Instead, the more meaningful question for both would currently seem to be the Kantian question outlined in the INTRODUCTION, namely what are the conditions implied by the existence of the phenomenon of beauty (or its absence) and of consciousness (or its absence) and what are the presuppositions that give validity to our esthetic judgments. In esthetics, the answer to both questions must be an activation of the brain's reward system with a certain intensity" (1704) [10].

The work of Professor Zeki has stimulated many neurologists to perform different investigations on the functions of the brain and the perception of beauty or art. Among the researchers who have had the most success in this line, V. Ramachandran stands out although he approaches it from a substantially different point of view. While up to now art was seen as a phenomenon that helped to explain the mechanisms of the brain, Ramachandran believes that art is a phenomenon that can actually be explained by the brain.

In fact, Ramachandran goes a step further and tries to explain, from neuroscience, what art is and which are the biological functions it has had in human beings from the evolutionary point of view. It is worth pausing here to see how the Indian professor starts from questioning how beauty is generated and which brain mechanisms are involved in the appreciation of beauty but then goes to stipulate universal laws of art.

In "The Science of Art" (1999), Ramachandran tries to explain that the task of art is not to faithfully reproduce reality but to transform it [11]. The question is to determine which transformations are effective and why. In this sense, Ramachandran focuses on determining the mechanisms that artists use to recreate reality and make it pleasing to the viewer. People usually consider that the creations of the artists are the result of their free creativity but what if in fact they are the product of cerebral mechanisms and fruit of the evolution? For Ramachandran, our taste for certain forms responds to evolutionary questions. He thinks that we value those forms positively because they have been useful for us throughout evolution. If the premise is true, it should be possible to establish universal rules of art. These rules, in turn, would explain the pleasant stimulation we find in art and why we value beauty.

In this sense, Ramachandran dares to propose eight universal laws of art: the peak shift principle, the isolating a single module, the contrast extraction, the perceptual grouping, the symmetry, the perceptual problem solving, the visual metaphors and the generic viewpoint. In later works, the order changes and adds some more laws (grouping, peak shift, contrast, isolation, peekaboo or perceptual problem solving, abhorrence of coincidences, orderliness, symmetry and metaphor) [12]. However, the explanation of the laws does not change substantially. A detailed explanation of these principles will enable us to better understand the current approaches to neuroaesthetics.

First, the peak shift principle refers to the exaggerations or intensifications of certain parts of the work of art, made with the purpose of getting our attention. Based on ethology, Ramachandran considers that just as exaggeratedly large peaks attract the attention of birds, artists also exaggerate different parts of their works so that we focus attention on them. Another way artists get our attention is the modular isolation (isolating a single module). Since our brain cannot concentrate on all parts at the same time, isolating an element helps to focus the brain's attention. This would also explain why in art, sometimes, sketches work better than sharply defined images that require too much attention. For example, cartoonists or landscapers highlight particular features of what they see and remove irrelevant ones. The viewers' attention is drawn toward the important information and, as a result, there is an amplification of the limbic system activation and reinforcement. Also related to the attention is the law of contrast (contrast extraction), which refers to a sudden change of one of the elements: light, color, structure, etc. The contrast reinforces attention because the greater the contrast in the parts of the whole work, the greater is the appreciation of the elements. Naturally, this law also has an evolutionary explanation. According to Ramachandran, when we were hominids, we needed to distinguish the fruits at a great distance, and the ones that are best distinguished are those that cause a greater contrast between the trees. Therefore, the persistence of this law is due to a question of survival.

Indeed, the question of survival for the species and thus the evolutionary question is one of the key elements in understanding Ramachandran's theory. In this line, therefore, the law of grouping (perceptual grouping) can be explained. When we are confronted with some fragmented representation, the brain has to regroup the parts and make a single definite figure. The brain finds pleasure every time it performs this operation. The perceptive regrouping, an instinctive brain process that was generated when we were hunters in the jungle, is a method widely used in the different arts.

Clearer still is the case of the law of symmetry. Symmetry, in the first place, would have allowed us, always in an evolutionary key, to distinguish the parts of a person and establish their importance very quickly. Secondly, lack of symmetry is usually due to malformations or illnesses, so it indicates the poor health of the person. This information would have been of great help for the reproduction and survival of the species. Although today is not a necessary condition for pairing, we still find greater pleasure in what is symmetrical.

In respect to the other laws, the question of evolution, although present, is not so explicit. In both the perceptual “problem solving” and in the generic viewpoint, Ramachandran places the emphasis on the aesthetic question of perception. In this sense, the perceptual “problem solving” refers to the fact that we find more attractive what we have to reveal or discover than what is presented to us explicitly. Although it seems paradoxical, we are attracted by that which is hidden because concealment is considered as an enigma and stimulates our brain to solve it, since it finds pleasure in its resolution.

The same is true for the law of metaphors or visual games. As in the previous law, here the brain finds greater pleasure when it finds relationships between different elements and it rewards whatever is useful for our survival. Finally, generic viewpoint alludes to the fact that the human eye has little regard for visual coincidences; it finds repetition irrelevant since it has already stored such information. It explains our aversion to coincidences or, in other words, our preference for the unique point of view.

These are the eight laws that according to Ramachandran and Hirstein are behind the artistic practice and the aesthetic pleasure. Although they themselves affirm that they form only a framework of understanding and recognize that they do not explain the essence of art, they do not have any qualms about affirming that these laws are always present in art:

“We recognize, of course, that much of art is idiosyncratic, ineffable and defies analysis but would argue that whatever component of art is lawful —however small— emerges either from exploiting these principles or from a playful and deliberate violation of them” (34) [11].

Ramachandran has continued to investigate visual perception and brain activity, and his research has been of great interest to neuroaesthetics. However, it must also be noted that some of his reflections have been strongly criticized among his colleagues, since they suppose a reductionism of both aesthetic and artistic consideration. Although he tried to answer to those critiques [13] he has not yet given a good account of all of them.

From the point of view of neuroaesthetics, as well as from aesthetics in general, you may find objections to these approaches. Firstly, I consider that these laws are reductionist from the neuroscientific point of view since they present the artistic task as a simple consequence of the evolutionary process of the species. This interpretation tends to support all its claims on adaptive terms in a way that is not falsifiable since one could always see in each new artistic feature an issue of adaptation. In this way, it runs the risk of nullifying freedom and creativity, insofar as everything would respond to innate traits that we do not control when performing an action or judging it. It should also be noted that it does not take into account the role of culture.

Although the brain has not changed much in its structure since the Upper Paleolithic, we do not know whether the mind is simply the functional translation of the structure of the brain. It could

be that the functioning of the mind is much more versatile, and the technological and cultural development might have influenced in it. In this area, the work of Frederick Turner occupies a prominent place. In spite of sustaining an evolutionary vision, he includes the influence of culture. He understands the evolution of our sense of beauty as a “nonlinear feedback between cultural and biological determinants” (103) [14]. That is, we have an aesthetic sense designed to perceive the beauty of objects that derives meaning from a flow of both biological patrons and cultural systems that deal with forms of order such as poetic meter or visual patterns.

Nonetheless, several neuroscientists have criticized evolutionary adaptation. For example, Stephen Jay Gould criticizes adaptationism for being “panglossian” [15]. Other more recent studies in neurology show the dysfunctionality of some of the starting points of Ramachandran’s investigations, such as the theory “one area one skill” to analyze the brain. Against this, they explain that sight is not in one area and smell in another, but everything is interconnected. Everything influences everything and, therefore, it is not enough to analyze the visual part to account for the whole [16, 17].

Secondly, Ramachandran’s consideration of beauty can be called reductionist, which is illuminating to understand the process of psychologization of beauty mentioned above. Theories like those of Ramachandran consider that the characterization of beauty depends on the internal impact provoked in the subject. That is, beauty has been identified with the mere feeling of pleasure caused in the brain by some objects. In contrast with the approaches of the beginning of modernity, these theories speak no longer of the intellectual powers in general, but they have taken a step further: we now have greater scientific knowledge that allows us to determine the zones in the brain in which the feeling of aesthetic pleasure occurs. It is true that we can now determine which areas of the brain are activated when beauty is perceived and even the pleasure those areas can experience but that does not tell us what beauty is. It explains how our brain works in the face of specific stimuli, but does not even fully explain why we find pleasure in them.

The two previous premises result in a reductionist assimilation of art and beauty. Although Ramachandran understands “pretty” in a positive way, he generally does not take into account the important distinctions between beautiful, pretty or sublime. Nor does he note that “pretty,” in the sense of pleasant, was a term that artists, like Picasso (who he mentions), wanted to get rid of. Precisely, they wanted to get rid of it to show that art is much more than a mere pretext for complacency, an attitude which they considered merely bourgeois. Due to this reduction, he is also unable to explain the beauty of what is ugly or how the existence of art that is not beautiful is possible or how we can like artworks such as Goya’s black paintings. Moreover, since Ramachandran’s analysis focuses on visual perception, his conclusions are only useful for visual arts. From this point of view, it is not possible to justify the fact that we can enjoy the representation of evil and consider good literary works such as *Les Fleurs du mal* by Baudelaire or *On Murder Considered as one of the Fine Arts* of Thomas de Quincey. In the same way, this reductionism can say very little of the pleasure found in sad music [18].

Finally, the enunciation of these eight laws assumes that all art is based on them, which would allow us to speak of conditions to determine what art is as well as objective parameters for artistic beauty, as Hume already tried. Although these objectives are not in the scope of the

Indian teacher, the truth is that from his theses, we can deduct the possibility of distinguishing the characteristics of art and, more specifically, of beautiful art. However, I consider that although neuroscientific discoveries provide important insight into how the brain perceives beauty, the enunciation of the eight laws is reductionist and problematic. The consideration of what art is and its relation with beauty is much more complicated than neuroaesthetics can claim today. Therefore, in the last section of this chapter, I would like to compare Ramachandran's statements with those of one of the most important philosophers of art, Arthur Danto.

4. Beauty beyond artistic beauty

Beauty has always been an important issue for both artists and philosophers but not always in the same way. Beauty for philosophers is especially interesting since it is a particular case that combines the sensitive with the intellectual, and as such it has led to ask how knowledge works. It is not surprising, then, that in the modern age, when the philosophical questioning focuses on the conditions of the possibility of knowledge, aesthetic reflection becomes a foreground. The aesthetic reflection since Hegel's *Aesthetic Lessons* will begin to focus on art and will leave behind the beauty.

Also artists throughout the twentieth century tried to disassociate themselves from beauty as it was understood at that time and established academic laws. Already during impressionism, many artists were beginning to break with the mimetic representation form of the reality. It was especially Marcel Duchamp who represented a key point in this story as he tried to unlink aesthetics with art through the ready-mades. The objects that make up the ready-mades are simple, quotidian, industrial and without notable aesthetic characteristics. They were so far from what had been produced until then that they were considered, if not anti-artistic, at least, anti-aesthetic works. The ready-mades are defunctionalized real objects that went so far as to raise the question of their status as works of art. In fact, the focalization on the object could have given rise to a revalorization of objective beauty. But instead, it gave way to a rejection of beauty because beauty was not anymore understood, like in the ancient times, as a property of the being but as a bourgeoisie and Renaissance imposition on art. In this line of anti-aesthetic rupture, Andy Warhol took a step further the day he proposed his work *Brillo Box*; the boxes looked identical to boxes of Brillo detergent found in the supermarket. This work, as will be seen, is crucial to understanding Danto's philosophy of art.

The philosophy of art of Arthur C. Danto is relevant in this point since he begins confronting the theories that defended that art could be distinguished at the perceptive level. His approach was novel since he opposed the widespread beliefs of Neowittgensteinians such as Morris Weitz, Maurice Mandelbaum or Monroe Beardsley. These authors found in Wittgenstein's theory of "family resemblances" a sufficient method to account for art without having to establish a closed definition of art [19]. Just as in families there are traits that allow us to identify a group of people as members of the same family, it is the same case with art. These authors, therefore, considered visual perception as the absolute criterion of discernment between art and that which is not art.

On the contrary, for Danto, this criterion was not valid enough since it was based on an inductive analysis that offered no more than a generalization about the kinds of works we can call "art" but without providing any comprehension [20]. One of the key reasons why Danto rejects the perceptualist conception is due to his philosophy of the mind. It is a philosophy that shares the principles of the modular theory of the mind. This theory conceives that the mind has several modules independent of each other, whose function is not susceptible of being affected by previous knowledge, beliefs, concepts or desires. From this perspective, it follows the search for a new concept that is not linked to the perceptive and that can dismantle the theory that relates art to "family resemblances." Danto's proposal was based, thus, on affirming that perception is not enough to distinguish between what art is and what it is not, rather it is necessary to take into account the "theory of art" in which a particular work has been done and in which it is interpreted.

From this theory, the American philosopher states that there is nothing at the level of perception that allows us to distinguish between two seemingly equal objects as in the case of his paradigmatic example: the *Brillo Box* (1964). This work of Andy Warhol invalidates the theory of mere perception, as would be Ramachandran's, since these boxes are indiscernible from the daily objects that they imitate. Danto considers that Warhol's work manifests the essence of art by putting us in the position of having to distinguish it from reality. The difference between art and reality is considered by Danto as the essence of art.

The *Brillo Boxes* lead art toward self-consciousness when posing, by purely artistic means, the question of the nature of art. The question raised by the *Brillo Box* is not why this is a work of art but why this is and the one in the supermarket is not. The very way of posing the question seems to suggest that the essence of art lies in being different from reality. In this way, it can be seen how the discovery of the essence causes a change in art. Art has changed and, along with it, our understanding of what art is must also change, accepting that works of art can have any sort of appearance now and yet maintain the same essence.

The definition of art he wants to establish, therefore, has to account for this distinction. This leads Danto to present a non-perceptive criterion that allows explaining the ontological differences between works of art and mere objects. In this line, Danto argues that "to see something as art requires something the eye cannot decry -an atmosphere of artistic theory, a knowledge of the history of art: an artworld"(580) [21]. Later, in *The Transfiguration on the Commonplace*, he seeks to determine the essential criteria of art. This leads to a definition of art in terms of sufficient conditions. The two sufficient conditions that all work must fulfill to be considered art are being about something (aboutness) and embodying a meaning (embodiment) [20]. Such simple statements could be confused with some of the earlier laws; however, especially the second condition refers to the historical condition of each work, which must be taken into account when judging it. Now, what role does beauty play in the philosophy of art of this author?

Both in *Beyond the Brillo Box* and in *The Abuse of Beauty*, Danto develops an analysis on beauty in the artistic field. In this work, he examines his reflection on art and questions why he did not include beauty in his definition of art. The American philosopher replies that beauty was not part of its definition because it is not part of the essence of art. If it were, it could not be

said of so many works that, despite not being beautiful, are, without a doubt, works of art. It must be said that Danto does not distance himself from beauty in itself, but he does disagree with a long-held conception which ultimately leads to the understanding of art as a high and separate form of life. This conception implies that there can only be art when it is said to be beautiful. However, it is a mistake to believe that artistic value is the same as beauty and that the perception of artistic value is the aesthetic perception of beauty [22].

However, the separation between art and beauty is not something that Danto proposes but something already done by the artists themselves, such as not only Duchamp, of course, but also all those he calls "intractable avant-garde," who showed that beauty was not consubstantial to the concept of art. These artists wanted to make clear that something can be good art without being beautiful. This clarification could not have been revealed before Romanticism but rather in our day. This clarification allowed to banish aesthetics from the definition of art, although it took time to be accepted in many areas, including art.

The consideration that beauty is not an essential part of the definition of art does not mean that beauty can no longer be part of art anymore. What we are considering here is that beauty cannot be identified as the essential property of art. In no way art excludes beauty, just as it cannot set aside philosophical reflection. Danto himself affirms that "even if beauty proved far less central to the visual arts than had been taken for granted in the philosophical tradition, that did not entail that it was not central to human life. (...) [The beauty is] one of the values that defines what a fully human life means" (14–15) [23].

However, although Danto could not consider beauty as a necessary condition, he does say that it can become relevant when interpreting some works. Hence, he establishes a distinction between external and internal beauty. Danto says that the former refers to the external appearance of the work, which is commonly required to judge the work as "beautiful" or "pretty." Evidently Danto could not accept this consideration of beauty—a perceptual quality—as a necessary and sufficient condition of art. That is why he turns to internal beauty which, on the other hand, is about that type of beauty which is linked to the content of the work, forming a constituent part of its meaning. Danto also calls this second type "artistic beauty," since he considers that this type of beauty is found exclusively in art. By artistic beauty, he means the coherence between the idea and its sensible expression in the artwork. In his own words:

"What it leads to is an understanding of how aesthetics beauty plays a role in the meaning of the work to which it belongs. One can say that in such a case, the beauty is born of the spirit because the meaning of the work is internally related to its aesthetic qualities. The beauty is part of the experience of the art. But the experience is richer by far than the 'retinal shudder' Duchamp impugned" (97) [23].

In the last book he published, *What is art*, Danto continues to defend the importance of the internal beauty of art, that is, the content that resides in it. Hence, it may say that "much of contemporary art is hardly aesthetic at all, but it has in its stead the power of meaning and the possibility of truth, and depends upon the interpretation that brings these into play" [24]. After these words, we can see a way of conceiving the type of art that demands that the viewer strives to unravel the content and not just to look at it. This is what allows you to understand the work.

Danto's emphasis on this last point made some authors think that it was precisely the aesthetic qualities that could serve to complete his definition of art. He had argued that there were two necessary conditions that every work must fulfill, but he had failed to establish sufficient conditions. Could aesthetic qualities be the answer? I personally consider that if Danto did not explain them, it was because he felt that those conditions were, to a certain extent, included in the necessary conditions. That is, the aesthetic qualities would be framed within the second condition of possibility: the embodiment. This point is important because it leads us out from the subjective aesthetic perception and forces us to take into account the concrete work, in its fullness and united to its historicity. All these do not give us a scientific and purely objective vision of what art or beauty is, but it puts the necessary counterpoint to consider that in order to reach a unified view of reality we must go beyond subjective perception.

Danto's theory of how we perceive art and distinguish it from ordinary objects, as well as his refusal to identify art and beauty, seems to me a perfect counterpoint to maintaining a dialogue with current neuroaesthetic theories. This dialogue can, in turn, illuminate the problematic result of the perception of beauty in the artistic field.

5. Conclusions

After all this, it is worthwhile reviewing the main ideas and conclude this exposition. In the first section, I have developed the psychological conversion of beauty in modernity. Through Hume's philosophy, we have seen how beauty goes from being considered an attribute of real things to be a property of the intellectual faculty of taste. By means of this analysis, we have seen how beauty was considered as an objective attribute before modernity, while in modern times the weight is placed on what beauty causes in the subject. The development of the faculty of taste can thus be seen as an anticipation of neuroaesthetic analysis. In turn, it can also be seen that neuroaesthetics begin from many hypotheses that were initiated in modernity.

The psychological view continues to develop for several centuries until the emergence of neuroscience. Neuroaesthetic research is enormously valuable in understanding more about how we capture something as complex as beauty. However, on more than one occasion neuroscientists draw conclusions about beauty in art that go beyond their field of study by not taking into account issues of historical or philosophical order. This is the case especially of the theses of Ramachandran that fall in several reductionisms. It can be said that his theses are reductionist because of six important reasons: (1) he argues that the fact that beautiful art exists is due to a merely evolutionist question, since it served for human survival; (2) he identifies the power to determine how beauty is perceived with knowing what beauty is; (3) he reduces beauty to what is merely "nice" or pleasurable; (4) he identifies beauty only with art, leaving out the perception of beauty in nature; (5) he reduces art and artistic practice to an issue that can be explained as psychophysiological; and (6) despite not having sufficient evidence to determine what beauty or art is, he risks to enact laws about art that claim to have universal reach.

Just as beauty is not reduced to its expression in the art world, neither must art necessarily be identified with beauty. Although the mechanisms through which we perceive beauty can be

determined, this does not mean that we know what beauty in art is nor what beauty is or what art is. The analysis of Arthur Danto's philosophy of art and the artistic examples of Marcel Duchamp and Andy Warhol have shown how beauty is not an essential property of art. That is to say, there can be art that is not beautiful without invalidating its status of art. In turn, the analysis of the problem of "indiscernibles" reveals how mere visual perception is not enough to distinguish a work of art.

In this sense, we have seen how the perception of beauty is not a matter of examining the external properties of the work but rather we must know how to capture the internal properties, where a much deeper beauty is found. This internal "beauty" has to do with the meaning that the artist wants to express and how he has configured the work in such a way to express that meaning. That is, beauty is in the inside and thus sensible perception is not enough to capture the beauty of art, but the intellectual and emotional parts of the person must be involved too.

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On the Design of a Photo Beauty Measurement Mechanism Based on Image Composition and Machine Learning

Chin-Shyurng Fahn and Meng-Luen Wu

Additional information is available at the end of the chapter

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Abstract

In this chapter, we propose a machine learning scheme on how to measure the beauty of a photo. Different from traditional measurements that focus on the quality of captured signals, the beauty of photos is based on high-level concepts from the knowledge of photo aesthetics. Because the concept of beauty is mostly defined by human being, the measurement must contain some knowledge obtained from them. Therefore, our measurement can be realized by a machine learning mechanism, which is trained by collected data from the human. There are several computational aesthetic manners used for building a photo beauty measurement system, including low-level feature extraction, image composition analysis, photo semantics parsing, and classification rule generation. Because the meaning of beauty may vary from different people, the personal preference is also taken into consideration. In this chapter, the performance of two computational aesthetic manners for the perception of beauty is evaluated, which are based on image composition analysis and low-level features to determine whether a photo meets the criterion of a professional photographing via different classifiers. The experimental results manifest that both decision tree and multilayer perceptron-based classifiers attain high accuracy of more than 90% for evaluation.

Keywords: computational aesthetics, photo beauty measurement, image composition, machine learning, decision tree, multilayer perceptron

1. Introduction

The computational aesthetics is a field of research to measure the beauty of photos. There are many benefits for predicting the aesthetics score of a photo, for example, computers can aid to manage a huge amount of photos according to the perception of beauty, and can assist to predict whether a photo will be favorable when it is made public in advertisements. The perception of

the beauty of a photo does not concentrate on the measurement of signal quality only, but also cares about the meaning of the concept of beauty defined by human being. In other words, a sharp and clear photo is not always more beautiful than those are not, but it depends on the contents in the photo that delights people. Usually, photos taken by professional photographers are better than amateurs. Many works focus on determining whether an input photo is taken by professionals [1]. **Figure 1** illustrates an example of two photos taken by a professional and an amateur, respectively. The photo in **Figure 1(a)** is taken by a professional photographer, which has better contrast, color harmony, and sharpness. Besides, the contents of the photo are rather simple. In **Figure 1(b)**, the photo taken by an amateur has less color harmony apparently, which also possesses motion blur. Because computer algorithms can measure the contrast, color harmony, and sharpness, determining whether a photo is taken by a professional is possible.

However, the meaning of beauty is different from people. Essentially, people in different locations or of different ages have different tastes. The tastes of eastern and western people differ obviously, and the tastes of old and young are not the same usually. It reveals that subjectivity does exist in the perception of beauty. In order to deal with the subjectivity, the photo beauty measurement system should be flexible, which can be updated and constructed for different cases. In brief, the measurement system is a classification model that can be trained with respect to different kinds of scenarios.

Currently, with the evolution of computer vision, the topic of computational aesthetics arises. By analyzing the attributes and extracting the features of a photo, computers are able to classify whether a photo is preferred by professional photographers or not. There are many kinds of attributes that can be retrieved from a photo, such as brightness, color contrast, saturation, existence of human faces, animals, sky, and so on. After collecting a huge amount of photos in accordance with their attributes and features, a classification model called classifier can be built through training. The trained classifier can be used to predict the aesthetics score of a photo to distinguish good and bad photos. However, depending on training methods, some of the classifiers are like a black box, where their decision process is not understandable. For example, a multilayer perception (MLP) works mostly on the weights of its synapses connecting with neurons, whose decision process is not readable by humans. The decision tree model is a better choice in this aspect, because every path in the decision tree is a



Figure 1. Two flower photos for beauty measurement: (a) a photo with high aesthetics score; (b) a photo with low aesthetics score.

readable classification rule. Nevertheless, the accuracy of the decision tree model is sometimes worse than the neural networks or other algorithms that do not produce readable classification rules.

In this chapter, we propose a machine learning scheme to measure the beauty of photos. Two computational aesthetics manners for the perception of beauty are tested; the first is with the aid of low-level features, and the second is resorted to image composition analysis. For such photo beauty measurements, we use two machine learning approaches, which are based on neural networks and decision trees. The neural network model has higher accuracy, while the decision tree produces readable classification rules for humans, which is possible for us to perform photo enhancement according to the rules.

The remainder of this chapter is organized as follows. In Section 2, we list some related works of the perception of beauty for digital photos. In Section 3, we elaborate photo aesthetics with regard to low-level feature extraction. In Section 4, we explain photo semantics that possibly influences the beauty measurement. Section 5 describes image composition analysis used for perceiving the beauty of photos. In Section 6, two machine learning approaches of neural networks and decision trees are presented. In Section 7, we take account of personal preference to solve the subjectivity problem by adjusting the bias of input feature values. Section 8 evaluates two computational aesthetics manners for the perception of beauty according to low-level features and image compositions, respectively. Finally, some conclusions are made in Section 9.

2. Related works

There are some existing systems and methodologies for assessing the beauty of photos. Yeh et al. proposed a personalized photo ranking system to assess the beauty of photos manually with some defined criterions [2]. In the system, users have two options to carry out personalization; one is feature-based, and the other is example-based. The photo ranking system is illustrated in **Figure 2**. In the feature-based option, the system provides a series of feature weights to be adjusted, and the photos will be sorted in the light of their weighted feature



Figure 2. Two kinds of personalized photo ranking options: (a) feature-based; (b) example-based.

scores as **Figure 2(a)** shows. In the example-based option, the user selects a number of interested photos, and the system extracts the features of these selected photos to produce weights for features automatically as shown in **Figure 2(b)**. The authors also proposed some new features for photo ranking.

In 2012, an intelligent photographing interface with on-device aesthetic quality assessment system is proposed [3], which makes use of five aesthetics perspectives of photography, such as saturation, color, composition, contrast, and richness. The aesthetic quality assessment system works on a tablet with a camera and runs in real time. **Figure 3** graphically shows the system, where **Figure 3(a)** is the overall rating of features in a photo, while **Figure 3(b)** is a working screenshot of the system.

In consideration of the subjectivity, a digital photo challenge (DPC) platform is established. The platform allows experts to rate a photo at one of 10 aesthetic quality levels, from good to bad. **Figure 4** illustrates some photos in the database for example. In **Figure 4(a)**, the left photo is focused on the flowers successfully, and its theme is harmonic, which makes a comfortable feeling. The color of the right photo is also harmonic and looks comfortable. However, in **Figure 4(b)**, two photos are out of focus, with messy colors and motion blur. Most people would agree that photos in **Figure 4(a)** are better than those of **Figure 4(b)**.

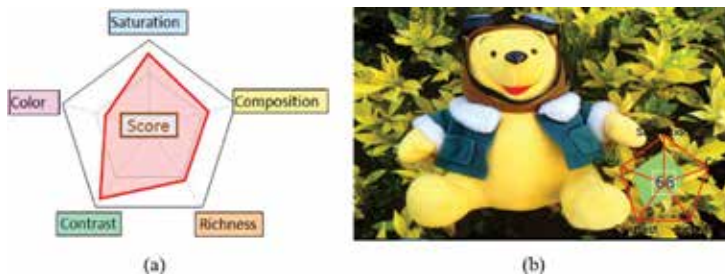


Figure 3. An instant aesthetics quality assessment system: (a) five aesthetics perspectives of photography; (b) an assessment example of the system.

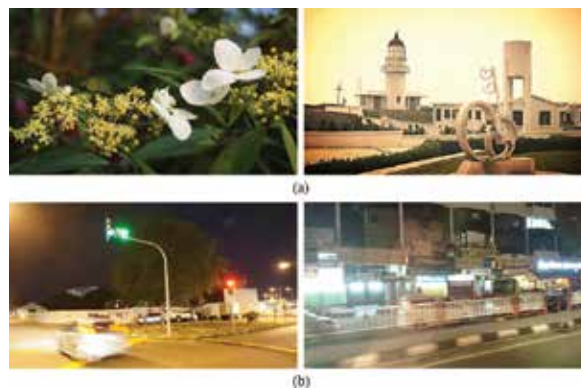


Figure 4. Photos ranked by professionals in a DPC platform: (a) high-score photos; (b) low-score photos.



Figure 5. Photo enhancement by the instruction of a decision tree: (a) before processing; (b) after processing.

In Damon Guy's article [4], he defined photographic aesthetics objectively. He analyzed what elements are used in assessing the beauty of photos, which is governed by the "Principle of photographic art." He found there are 15 important elements including unity, harmony, color, variety, movement, contrast, balance, proportion, pattern, rhythm, geometry, focus, viewpoint, blur, and sharpness. Of these features, the geometry element comprises a photo's shape and composition. The viewpoint element examines whether a person in a photo looks at the camera or not. Some elements are easy to understand and implement; therefore, we will emphasize some photograph features, such as color component, sharpness, brightness, contrast, saturation, color balance, colorfulness, and simplicity in this chapter.

The development of computational aesthetics is also helpful for photo enhancement. In 2016, a photo enhancement method based on computational aesthetics was proposed [5]. In their proposal, a decision tree was produced by virtue of machine learning techniques, and a photo was adjusted to meet the conditions of a favorable contemporary style photo according to the tree, if it is classified as not acceptable. An example of photo enhancement is shown in **Figure 5**, where **Figure 5(a)** is an original photo, and **Figure 5(b)** is an adjusted photo by the proposed method that uses only one instruction to improve the input photo. The example in **Figure 5** just reduced its brightness via their trained decision tree.

3. Low-level feature extraction

Choosing appropriate aesthetic features in photos is essential for distinguishing professional and nonprofessional photos because it helps to predict whether a photo is favorable. Next, we introduce several types of aesthetic features as well as illustrate them. In this section, we focus on low-level feature extraction to measure some elements for the perception of beauty. Such low-level features include color component, sharpness, brightness, contrast, saturation, color balance, colorfulness, and simplicity.

3.1. Color component

The color component feature is acquired from extracting the levels of specific colors in a photo [1]. **Figure 6** shows photos with different major color components.

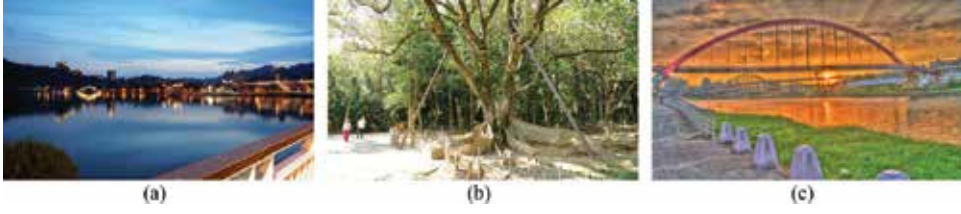


Figure 6. Three photos with different major color components: (a) blue; (b) green; (c) red.

For accuracy, we choose the color component in the CIELab color space to measure. To achieve this, a photo in the RGB color space is necessary to be converted into the CIEXYZ color space first. The conversion matrix is expressed as follows:

$$\begin{bmatrix} X \\ Y \\ Z \end{bmatrix} = \begin{bmatrix} 0.412453 & 0.357580 & 0.180423 \\ 0.212671 & 0.715160 & 0.072169 \\ 0.019334 & 0.119193 & 0.950227 \end{bmatrix} \begin{bmatrix} R \\ G \\ B \end{bmatrix} \quad (1)$$

After the photo is transformed into the CIEXYZ color space, it can be then transformed into the CIELab color space by the relation between these two color spaces depicted below

$$L^* = \begin{cases} 116 \times \left(\frac{Y}{Y_n}\right)^{\frac{1}{3}} - 16, & \frac{Y}{Y_n} > 0.008856 \\ 903.3 \times \frac{Y}{Y_n}, & \text{otherwise} \end{cases} \quad (2)$$

$$a^* = 500 \left[f\left(\frac{X}{X_n}\right) - f\left(\frac{Y}{Y_n}\right) \right]$$

$$b^* = 200 \left[f\left(\frac{Y}{Y_n}\right) - f\left(\frac{Z}{Z_n}\right) \right]$$

The color component is extracted by the following equation:

$$f_{\text{colorcomponent}} = \sum_{x=1}^{\text{width}} \sum_{y=1}^{\text{height}} \frac{D(c_l, c(x, y))}{\text{width} \times \text{height}} \quad (3)$$

where *width* and *height* are the dimensions of the photo, and $D(c_l, c(x, y))$ is the Euclidean distance between two colors in the CIELab color space, c_l is the color component we want to extract in the CIELab color space, and $c(x, y)$ is the color value of coordinate (x, y) in the same color space.

3.2. Sharpness

A blurry photo is almost worse than a sharp photo of the same scene. However, a partially blurred photo is not necessarily unfavorable because the blur may be produced from background defocus using high-end cameras. **Figure 7** shows two photos with different degrees of



Figure 7. Two photos with different degrees of sharpness and blur: (a) a sharp photo; (b) a photo with background defocus.

sharpness and blur in which **Figure 7(a)** has high sharpness whereas **Figure 7(b)** has more blurred regions.

A quality measurement for the sharpness of a photo is stated as follows:

$$f_{\text{sharpness}} = \frac{|\{(u, v) | |F(u, v)| > \xi\}|}{\text{width} \times \text{height}} \propto \frac{1}{\sigma} \quad (4)$$

$$f_{\text{blur}} \propto \frac{1}{f_{\text{sharpness}}} \quad (5)$$

where $I_{\text{blur}} = G_{\sigma} * I$ is the blurred photo derived through convolving the original photo I with a Gaussian filter G_{σ} , σ is its standard deviation, and $F(u, v) = \text{FFT}(I_{\text{blur}}(x, y))$ is the blurred photo transformed into the frequency domain via the fast Fourier transform. Here, ξ is set to 5.

3.3. Brightness

For an input photo, the global brightness can be obtained from various kinds of methods, including software and hardware measurements. In a software method, the global brightness can be calculated by the use of the mean or median of all pixel values. As shown in **Figure 8**, applying two brightness settings to the same scene yields quite different effects for viewers. **Figure 8(a)** is a brighter version, while **Figure 8(b)** is a darker version of the same scene.



Figure 8. Two photos with different degrees of brightness: (a) brighter; (b) darker.

For an input photo, the global brightness can be derived from the following equation:

$$f_{\text{brightness}} = \frac{\sum_{x=1}^{\text{width}} \sum_{y=1}^{\text{height}} I(x, y)}{\text{width} \times \text{height}} \quad (6)$$

where $I(x, y)$ is the intensity of a pixel at (x, y) .

3.4. Contrast

Color contrast is essential for photo quality measurement because better cameras produce better color contrast. The comparison of different degrees of color contrast is shown in **Figure 9**, where **Figure 9(a)** has both bright areas and dark areas with various colors, while **Figure 9(b)** has only dim white colors.

The color contrast feature is defined as

$$f_{\text{contrast}} = \sum_{i=1}^{n-1} \sum_{j=i+1}^n (1 - d(i, j)) \frac{D(i, j)}{A_i A_j} \quad (7)$$

where $d(i, j)$ is the spatial distance between the centroids of two segmentations A_i and A_j ; $D(i, j)$ is the color distance between the two segmentations in the CIELab color space.

3.5. Saturation

Appealing photos usually have a higher saturation degree. **Figure 10** shows an example for comparison in which **Figure 10(a)** has more vivid colors whereas most pixels in **Figure 10(b)** appear pale and white.

The color saturation feature is defined as

$$f_{\text{saturation}} = \sum_{x=1}^{\text{width}} \sum_{y=1}^{\text{height}} \frac{s(x, y)}{\text{width} \times \text{height}} \quad (8)$$

where $s(x, y)$ is the saturation of a pixel in the "hue", "saturation", and "value" (HSV) color space.



Figure 9. Two photos with different degrees of contrast: (a) more contrast; (b) less contrast.



Figure 10. Two photos with different degrees of saturation: (a) more saturated; (b) less saturated.

3.6. Color balance

In the photo aesthetics field, the balance degree of a photo is a good criterion for distinguishing whether a picture is taken by a professional photographer. Professional photographers tend to distribute the color intensity of a photo in a more balanced fashion. A comparison of balanced and unbalanced photos is illustrated in **Figure 11**. In **Figure 11(a)**, the left and right parts of the photo are more balanced, while in **Figure 11(b)**, the photo is less balanced. Usually, a balanced photo has better composition but it is not necessary that unbalanced photos are unfavorable, which is based on the content and the emotion that the photographer wants to express via the combination of varied photo features.

The difference of brightness of the two separated areas can be adopted to obtain this feature. The balance degree of a photo is calculated by

$$f_{\text{balance_horizontal}} = e^{-(I_{\text{left}} - I_{\text{right}})^2} \quad (9)$$

where I_{left} and I_{upper} are the average intensities of the left and right parts of the photo, respectively. For the vertical balance feature, the similar equation can be acquired from simply replacing I_{left} with I_{upper} as well as replacing I_{right} with I_{lower} .

3.7. Colorfulness

The colorfulness of a photo is in proportion to the number of nongrayscale pixels in the photo. An achromatic photo, on the other hand, is a grayscale photo. It is not necessary that less



Figure 11. Two photos with different degrees of balance: (a) more balanced; (b) less balanced.



Figure 12. Two photos with different degrees of colorfulness: (a) more colorful; (b) more achromatic.



Figure 13. Two photos with different degrees of simplicity: (a) simpler; (b) more complex.

colorful photos are low quality because professional photographers sometimes choose eliminating colors to express some feelings. As shown in **Figure 12(a)**, the photo is colorful, while the photo in **Figure 12(b)** is achromatic, and they give different feelings. The degree of colorfulness of a photo is defined as the reciprocal of the achromatic feature that is a special color component feature because it comprises rare hue components and it is perceived as a grayscale photo. The achromatic feature can be obtained from

$$f_{\text{achromatic}} = \sum_{x=1}^{\text{width}} \sum_{y=1}^{\text{height}} \frac{|\{(x, y) | Ch_R(x, y) = Ch_G(x, y) = Ch_B(x, y)\}|}{\text{width} \times \text{height}} \tag{10}$$

Then the degree of colorfulness yields

$$f_{\text{colorfulness}} = 1/f_{\text{achromatic}} \tag{11}$$

3.8. Simplicity

Professional photos are usually possessed of greater simplicity to make the subject appear more attractive. **Figure 13(a)** is simpler in terms of its color distribution whereas the color distribution of **Figure 13(b)** is rather complex.

The simplicity feature is computed from the color distribution of a photo. The formula for the simplicity feature [6] is expressed as

$$f_{\text{simplicity}} = \left(\frac{|\{l|k(c_l) \geq \gamma k_{\max}\}|}{4,096} \right) \times 100\% \quad (12)$$

where $k(c_l)$ is the color count for color c_l , k_{\max} is the maximum color count, and γ is set to 0.001. In this formula, the number of colors in the photo is reduced to 4,096; that is, the numbers of colors for R, G, and B are all reduced to 16, each of which is represented by 4 bits individually.

4. Photo semantics

A photo with some semantic meanings can be popular even if it lacks some aesthetic elements. For example, in a collection of photos captured by travelers, those with animals or human faces are usually more possibly preferred than those without them [9]. **Figure 14** demonstrates the photo with some semantic meanings. In **Figure 14(a)**, there are many human faces detected. Actually, people prefer to keep photos with faces, animals, and so on. Currently, some object detection methods, such as an AdaBoost algorithm, are able to detect photos with face, eyes, vehicles, and animals. However, most of the object detection methods work primarily on rigid objects. For nonrigid objects, in **Figure 14(b)**, both the photo segmentation and visual word techniques [4] are adopted to classify the regions of a photo as certain elements, say sky, water, tree, grass, roads, or buildings.



Figure 14. The semantics of a photo: (a) faces found by object detection methods; (b) the photo layout found by segmentation and visual word techniques.

5. Image composition

A visually pleasing photo usually has a good composition [5]. If a photo has certain composition characteristics, it is usually more popular than a photo without those. **Figure 15** shows some common types of image compositions, which are employed to perceive the beauty of a photo.

Salient regions and prominent lines are two important factors for analyzing the composition of a photo. The salient regions are the perceptually appealing areas, and the prominent lines are



Figure 15. Six types of image compositions: (a) central; (b) rule of thirds; (c) vertical; (d) horizontal; (e) diagonal; (f) perspective.

visually existing edges. In this chapter, we take these two factors as the features fed to an artificial neural network for classifying the possible composition type of an input photo.

5.1. Salient map

Our attention is attracted to salient colors easily, which is a born ability of humans. This ability is important for complex biological systems to rapidly detect potential preys, predators, or mates in a visual world with cluttered objects. Therefore, by finding salient regions, it is possible to find a target object in a cluttered field of view. Locating the salient regions in a photo helps determine the composition of a photo. A salient map can be generated from calculating the salient degree of each color [7] as

$$S(I_k) = S(c_l) = \sum_{j=1}^n f_j D(c_l, c_j) \tag{13}$$

where I_k is the salient degree of pixel k , c_l is the color l in the CIELab color space, c_j is the color j in the CIELab color space, $D(x, y)$ is the color distance between two colors x and y in the CIELab color space, and f_j is the probability that color j appears in photo I . **Figure 16** illustrates an example of finding the salient map of a photo.

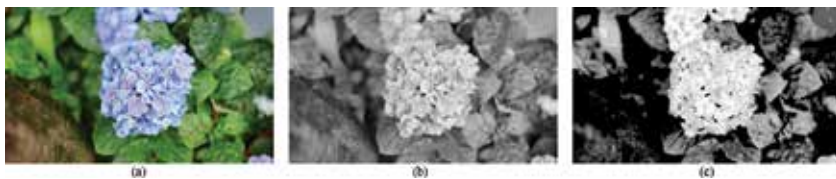


Figure 16. Illustration of finding the saliency map: (a) the original photo; (b) the grayscale photo of (a); (c) the saliency map of (a).

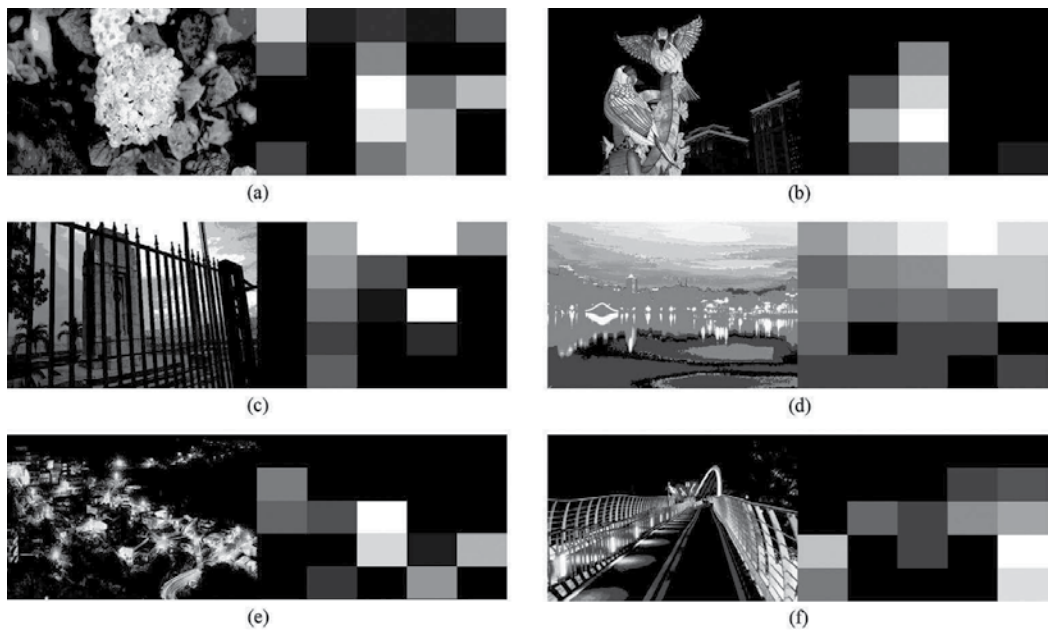


Figure 17. Illustration of a mosaic of 5x5 blocks resulting from the saliency map for each of six image compositions: (a) central; (b) rule of thirds; (c) vertical; (d) horizontal; (e) diagonal; (f) perspective.

The saliency map is further simplified into a mosaic of 5 x 5 blocks. The value of each block is calculated by averaging the salient degrees within the block. An illustration after simplification for each image composition is shown in **Figure 17**.

5.2. Prominent line

The Hough transform is used for finding prominent lines in a photo [8]. The prominent lines are the perceptual straight lines which appear in a photo. To detect the prominent lines, the edge detection must be performed first. The Canny edge detector is chosen in our proposed method. After the edge detection, prominent line detection is executed to detect straight lines in the photo, and the Hough transform is chosen as the detector. The concept of Hough transform is to transform the positions of all edge pixels in rectangular coordinates into polar coordinates, and select the transformed coordinates with more occurrences as the detected lines. What follows is the detailed procedure of prominent line detection.

Given a point $(p, q) = (r \cos \theta, r \sin \theta)$ on a line, let (x, y) be the other points on the line. Then

$$\frac{\Delta y}{\Delta x} = \frac{y - q}{x - p} = \frac{y - r \sin \theta}{x - r \cos \theta} \quad (14)$$

Because the slope of the line perpendicular to a straight line can be represented with $\tan \theta$, the slope of the straight line is:

$$-\frac{1}{\tan\theta} = -\frac{\cos\theta}{\sin\theta} \tag{15}$$

Combining the above two equations yields

$$\frac{y - r \sin\theta}{x - r \cos\theta} = -\frac{\cos\theta}{\sin\theta} \tag{16}$$

And the resulting equation can be rewritten as

$$y \sin\theta - r \sin^2\theta = -x \cos\theta + r \cos^2\theta \tag{17}$$

Through some mathematical manipulations, the equation of the straight line becomes

$$x \cos\theta + y \sin\theta = r \tag{18}$$

By substituting the coordinates x and y of every pixel located in the edges to the above equation, many possible combinations of r and θ are acquired, where the range of r is $0 < r \leq \sqrt{\text{width}^2 + \text{height}^2}$ and the range of θ is $-90^\circ < \theta \leq 90^\circ$. Therefore, we choose the combinations whose occurrences exceed a given threshold. The chosen combinations correspond to the prominent lines.

The results obtained from the prominent line detection performed on the photos of different compositions are demonstrated in **Figure 18** associated with the histograms of detected line orientations, respectively. In each histogram, the scope of 180 angle degrees is uniformly partitioned into 10 bins; that is, each bin contains 18 angle degrees. In the horizontal axis of a

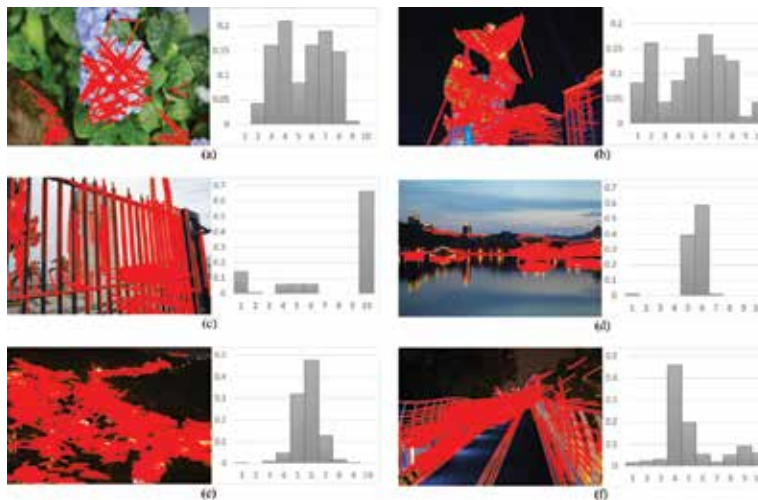


Figure 18. The detection results of the prominent lines appearing in six photos of different image compositions associated with their respective histograms of detected lines: (a) central; (b) rule of thirds; (c) vertical; (d) horizontal; (e) diagonal; (f) perspective.

histogram, bin 1 represents -89° to -72° , bin 2 represents -71° to -54° , ..., and bin 10 represents 73° to 90° . The vertical axis of the histogram means the percentages of the 10 orientations of the prominent lines appearing in a photo.

6. Machine learning

The machine learning method can be used to determine whether a photo is favorable or not. Basically, there are two kinds of machine learning methods grouped into supervised and unsupervised. In supervised machine learning, each sample photo has a label that indicates whether it is beautiful when training, while in unsupervised learning, there is no label. Choosing different machine learning methods leads to distinct functionalities and results.

6.1. Comparison of machine learning methods

In the unsupervised methods, the K-means algorithm is useful for clustering the n -dimensional feature vectors extracted from a photo. After performing the K-means algorithm and examining each cluster, there will be groups divided into three possible types that stand for favorable, unfavorable, and ambiguous classes. Then reserve the former two clusters. When a new photo is inputted, compute the distance between the centers of these two clusters, and an aesthetic score of the photo can be determined. On the other hand, two models can be used in supervised learning, including decision trees and neural networks. The benefit of a decision tree is that the classification rules are readable, which can be used to tell why a photo is favorable according to the machine learning result. An example of the decision tree is shown in **Figure 19**. The nodes in the decision tree can be either all low-level features as shown in **Figure 19(a)** or the nodes can comprise some semantics ones as shown in **Figure 19(b)**.

With the neural network approach, it is possible that the aesthetics score of a photo can be measured. There are two neurons in the output layer. The summation of the two output neurons' values is exactly one. The values of the "high quality" and "low quality" neurons

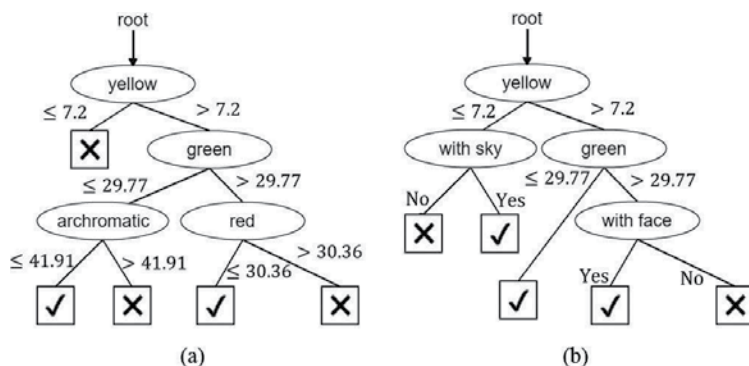


Figure 19. A simplified decision tree for the perception of beauty trained by 100 samples: (a) without semantics nodes; (b) with some semantics nodes.

are their respective probabilities. The structure of such a neural network for perceiving the beauty of a photo is illustrated in **Figure 20**.

6.2. Decision tree

A decision tree [10] is a popular supervised learning approach because the decision process is made from walking through a path of the tree and each path can be written as a readable classification rule. In a decision tree, the internal nodes excluding the leaf nodes represent features and their child edges are predicates for the features, such as “is larger than” and “is less than.” A node without any children is a leaf node. The class labels are placed on the leaf nodes of the decision tree. When a series of feature values is fed to a decision tree, a path can be established through the decision tree from the root, via some internal nodes, and finally arrives at a leaf node. The label of the leaf node in the path is the classification result.

Decision tree algorithms are based on information theory, where the main idea is to calculate the entropy of the classes of data when the data are composed of specified features and branching values. The entropy of the entire data is computed by

$$Info(D) = - \sum_{i=1}^m p_i \log_2(p_i), \tag{19}$$

where D is the input data, p_i is the percentage of class i that appears in all of the data and m is the number of classes. After using feature F to split D into v partitions, the information needed to classify D is computed by

$$Info_F(D) = \sum_{j=1}^v \frac{|D_j|}{|D|} \times Info(D_j) \tag{20}$$

where $|D|$ is the cardinality of data, $|D_j|$ is the cardinality of data for partition j , and $Info(D_j)$ comprises the entropy data for segment partition j .

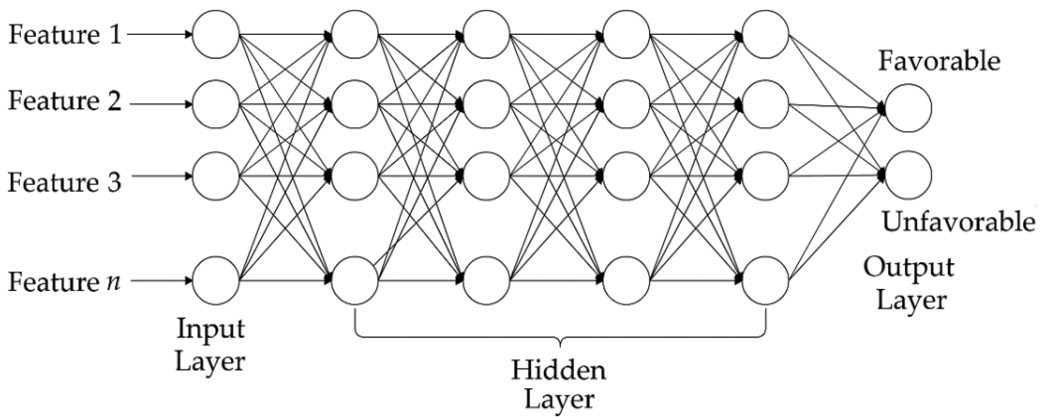


Figure 20. The structure of a neural network for perceiving the beauty of a photo.

The value of v is set to 2 if we want to build a binary decision tree in which the degree of each node is exactly two except leaf nodes. To split the input data into two partitions, a threshold is given initially. To find the optimal threshold, each distinct value in the data of the selected feature F is computed iteratively.

The information gain for feature F is defined as follows

$$\text{Gain}(F) = \text{Info}(D) - \text{Info}_F(D) \tag{21}$$

The feature F with the highest information gain is then selected as the feature for splitting the data. Nevertheless, the information gain tends to be biased toward the features with more levels. For example, if the brightness has 256 levels and the sharpness has 128 levels, then the result is often biased toward the brightness. Therefore, a gain ratio is used to normalize the information gain to eliminate bias, which is expressed below

$$\text{Gain}_{\text{ratio}(F)} = \frac{\text{Gain}(F)}{\text{SplitInfo}_F(D)} \tag{22}$$

where

$$\text{SplitInfo}_F(D) = - \sum_{j=1}^v \frac{|D_j|}{|D|} \times \log_2 \left(\frac{|D_j|}{|D|} \right). \tag{23}$$

The $\text{Gain}_{\text{ratio}(F)}$ is adopted to replace the information gain to prevent bias toward the features with more levels.

A major problem that affects the performance of decision trees is over-fitting. If the depth of the tree is too high, some unnecessary nodes are then produced, which reduce the accuracy of the decision tree. As a result, pruning must be applied to the tree. A postpruning method involves trial and error. If a node is pruned by replacing it with a class leaf and the accuracy of the tree is better after the replacement, then the pruning is accepted; otherwise, keep the original sub-tree. An example is shown in **Figure 21**, where if the accuracy of **Figure 21(b)** is

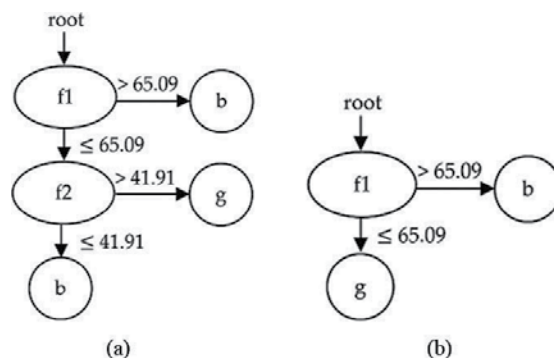


Figure 21. Pruning of a decision tree: (a) the original tree; (b) the tree has been pruned by replacing a sub-tree with a class leaf.

better than **Figure 21(a)**, then replace the original tree with the pruned tree in **Figure 21(b)**; otherwise, keep the unpruned tree in **Figure 21(a)**.

6.3. Artificial neural network

The multilayer perceptron (MLP) is a feed-forward neural network whose architecture is composed of three main substructures, namely the input, hidden, and output layers. **Figure 22** shows the fundamental architecture of an MLP.

The MLP comprises various neurons and synapses associated with connection weights, in which the output of a neuron is derived from an activation function via the weighted sum of its inputs. During the training, the weights are randomly initialized within a range. When the output of a neuron is different from an expected value, the weights are adjusted iteratively until their quantities are almost unchanged.

A neuron in the hidden and output layers is activated by applying inputs $x_1(p)$, $x_2(p)$, ..., $x_n(p)$ at iteration p , which are weighted by $w_1(p)$, $w_2(p)$, ..., $w_n(p)$, respectively. For instance, the sigmoid function serves as the activation function of the neuron, which is expressed as follows

$$y(x) = Y^{\text{sigmoid}} \left[\sum_{i=1}^n x_i(p) \cdot w_i(p) - \theta \right] = 1/1 + \exp \left(- \sum_{i=1}^n x_i(p) \cdot w_i(p) - \theta \right) \quad (24)$$

where θ is a given bias acting as the quantity deviated from the original input of the neuron.

However, the weighted sum can only solve linear problems. To overcome linear inseparability, a hidden layer is added to constitute the MLP. Because such a neural network is trained with supervised learning, a back-propagation algorithm is developed for updating the weights from the output layer to the input layer [11]. Once all the weights have been trained, the MLP can be employed to predict the output immediately when an input is fed.

Figure 23 shows a three-layer perceptron comprising a hidden layer, which requires the back-propagation mechanism (algorithm) to update the weights in the course of training.

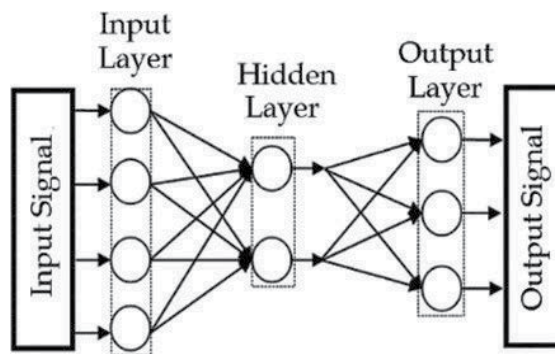


Figure 22. Example of the architecture of a multilayer perceptron.

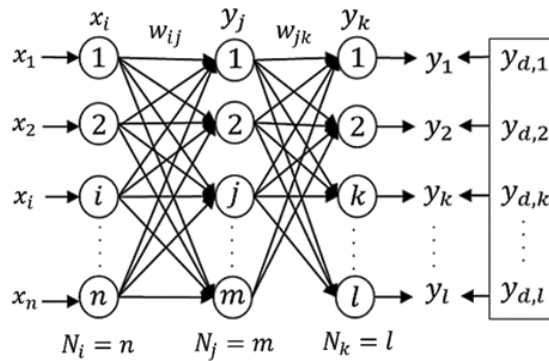


Figure 23. Three-layered back-propagation neural network.

In **Figure 23**, N_i , N_j , and N_k are the numbers of neurons in the input, hidden, and output layers of the network, respectively. The weights w_{ij} and w_{jk} and biases are initialized by taking the random numbers that are uniformly distributed within a small empirical range, say $\left(-\frac{2.4}{N_i}, \frac{2.4}{N_i}\right)$.

Both the weights w_{ij} and w_{jk} are further updated through the delta updating rule depicted below. At iteration p , w_{ij} and w_{jk} are adjusted by $\Delta w_{ij}(p)$ and $\Delta w_{jk}(p)$ according to the following formulas

$$\Delta w_{ij}(p) = \alpha x_i(p) \delta_j(p) \text{ and } \Delta w_{jk}(p) = \alpha x_j(p) \delta_k(p) \tag{25}$$

where α is the learning rate ranged from 0.1 to 0.5, and $\delta_j(p)$ and $\delta_k(p)$ are the error gradients for the hidden and output layers, respectively.

Subsequently, the weights w_{ij} and w_{jk} at iteration $p + 1$ are calculated as follows:

$$w_{ij}(p + 1) = w_{ij}(p) + \Delta w_{ij}(p) \text{ and } w_{jk}(p + 1) = w_{jk}(p) + \Delta w_{jk}(p) \tag{26}$$

Following are the respective inputs y_j and y_k for neuron j and neuron k in the hidden and output layers at iteration p :

$$y_j(p) = Y^{\text{sigmoid}} \left[\sum_{i=1}^n x_i(p) w_{ij}(p) - \theta_j \right], j = 1, 2, \dots, m \tag{27}$$

$$y_k(p) = Y^{\text{sigmoid}} \left[\sum_{j=1}^m y_j(p) w_{jk}(p) - \theta_k \right], k = 1, 2, \dots, l \tag{28}$$

Where θ_j and θ_k stand for the input biases of neurons j and k , respectively.

The error between the desired value and the value predicted by the three-layer perceptron is obtained from

$$e_k(p) = y_{d,k}(p) - y_k(p) \quad (29)$$

where $y_{d,k}(p)$ and $y_k(p)$ are the desired and predicted outputs, respectively.

The error gradient for the output layer is computed as follows

$$\delta_k(p) = y_k(p)[1 - y_k(p)]e_k(p) \quad (30)$$

The weights between the hidden layer and the output layer are adjusted by

$$\Delta w_{jk}(p) = \alpha y_j(p)\delta_k(p) = \alpha y_j(p)e_k(p)y_k(p)[1 - y_k(p)] \quad (31)$$

Thus, the error for the output of the output layer can be propagated back to the hidden layer, and the error for the output of the hidden layer is computed as follows

$$e_j(p) = \sum_{k=1}^1 \delta_k(p)w_{jk}(p) \quad (32)$$

The error gradient for the hidden layer is formulated below

$$\delta_j(p) = y_j(p)[1 - y_j(p)]e_j(p) \quad (33)$$

The weights between the input layer and the hidden layer are computed by

$$\Delta w_{ij}(p) = \alpha y_i(p)\delta_j(p) = \alpha y_i(p)e_j(p)y_j(p)[1 - y_j(p)] \quad (34)$$

Thus, the iteration p is increased by 1, and the procedure is repeated until the sum of squared errors is sufficiently small or the number of iterations reaches a given maximum. The following defines the sum of squared errors

$$E = \frac{1}{2} \sum_{p=1}^{N_T} \sum_{k=1}^l (y_{d,k}(p) - y_k(p))^2 \quad (35)$$

where N_T is the number of training samples and l is the number of neurons in the output layer. In our proposed method, such a three-layer perceptron is applied to classifying the type of image composition for an input photo.

7. Personal preference

Photo aesthetics is subjective to different groups of people. To deal with this problem, we adopt social networks to collect people's preferences; for instance, the attributes of personal information and the features of his/her favorite pictures. The correlation between the attributes of people and photo features is calculated. A bias is used to influence one of the feature values obtained from different people, which is formulated as follows

$$\hat{b}_i = b_i + \sum_{j=1}^n \text{norm}(p_j) \gamma_{ij} \mu_i \quad (36)$$

where I is the index for a photo feature (brightness, color contrast, etc.), j is the index for the personal attribute (gender, age, education, etc.), and n is the number of personal attributes. Besides, b_i is the original bias for each feature value, p_j is a photographer's attribute value, $\text{norm}(p_j)$ is a normalized attribute value (from 0 to 1), γ_{ij} is the correlation for a photo feature value and a photographer's attribute value, which is ranged from -1 to $+1$, and μ_i is the personal influence for a feature value. The bias value can be used for the decision tree described in the previous section.

8. Experimental results

In this chapter, the performance of two computational aesthetics manners for the perception of beauty is evaluated, which are based on image composition analysis and low-level features to determine whether a photo meets the criterion of a professional photographing via different classifiers. The parameters for the classifiers are depicted as follows: for the support vector machine (SVM), the radial basis function (RBF) is chosen as the kernel function, and the cost is set to 1. For the MLP, the number of neurons in the hidden layer is set to half the sum of the numbers of features and classes, which is equal to 8 for the first experiment and 22 for the second experiment. The learning rate is 0.3, and the number of iterations is 500 during the training. For the Radial basis network, the minimum standard deviation is set to 0.1, clustering seed is 1, the number of clusters is 2, and the ridge is 10^{-8} . For the AdaBoost algorithm, the weak classifiers are decision stump and the number of iterations is set to 10, the seed is set to 1, and the weight of threshold is set to 100. For the decision tree J48, the confidence factor is set to 0.25. For the random forest, the number of trees is set to 100.

8.1. Test on low-level features used for perceiving the beauty of photos

In this experiment, we choose multiple low-level features to classify whether a photo is favorable or not automatically. In total, 15,000 photos are collected, and 13 features are extracted from them, which include color components (red, green, blue, cyan, magenta, and yellow), sharpness, brightness, contrast, saturation, color balance, colorfulness, and simplicity. Each of the photos is marked as favorable or unfavorable for training. The testing is performed under 10-fold verification.

Many actual photos are examined in the photo beauty measurement system, including true positive samples (favorable photos classified as favorable; correct result), false negative samples (favorable photos classified as unfavorable; incorrect result), false positive samples (unfavorable photos classified as favorable; incorrect result), true negative samples (unfavorable photos classified as unfavorable; correct result). The classification results of some sample photos are as shown in **Figure 24** where **Figures 24(a)** and **24(d)** are correct results. **Figure 24(b)** shows the photos whose features should be salient enough but they are determined as amateur



Figure 24. Four classification results of some sample photos: (a) true positive; (b) false negative; (c) false positive; (d) true negative.

and unfavorable. **Figure 24(c)** shows that human knowledge about photo contents should also be applied; however, they are still recognized as favorable in spite of ill problems appearing in the contents.

Table 1 shows both the accuracy and the area under a ROC curve (AUC) of classifying whether a photo meets the condition of a beautiful photo. Compared to other classifiers, the MLP and tree-based ones have better performance. The MLP can be used to show the aesthetic score of a photo, while the decision tree J48 is able to generate readable rules of the classifier.

8.2. Test on image composition analysis for perceiving the beauty of photos

In this experiment, the image composition analysis is tested. Thirty five features are used for training an MLP, including a stack vector of 25 salient region values depicted in Section 5.1, and the angle degrees of prominent lines are ranged from -90° to 90° where every 18 angle degrees results in a bin. Therefore, the numbers of prominent lines are counted in 10 bins of the

Classifier	Accuracy (%)	AUC (%)	Classifier	Accuracy (%)	AUC (%)
AdaBoost algorithm	82.3	73.4	Multilayer perceptron	91.5	95.8
Radial basis network	78.0	83.5	Decision tree J48	94.6	94.1
Support vector machine	81.0	73.4	Random forest	95.8	98.9

Table 1. The AUC and accuracy of different classifiers.

angle degrees, which act as the remaining features described in Section 5.2. In consequence, some photo samples are provided to illustrate the performance of image composition analysis. **Figure 25** shows the correctly classified samples whereas **Figure 26** shows the incorrectly classified ones.

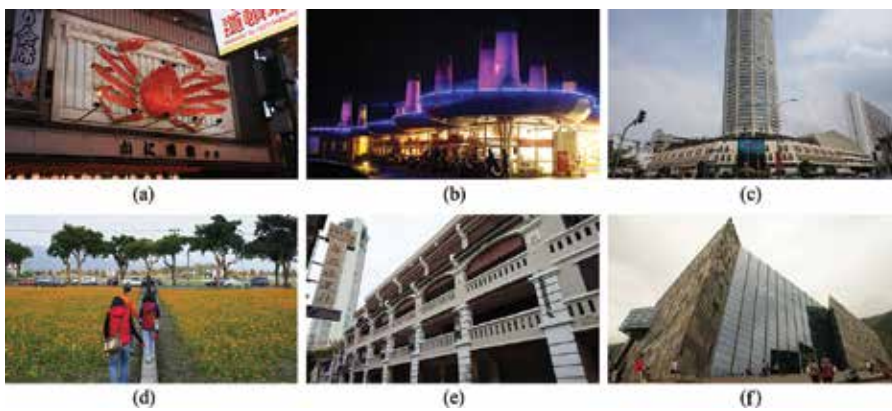


Figure 25. Correctly classified image compositions: (a) central; (b) rule of thirds; (c) vertical; (d) horizontal; (e) diagonal; (f) perspective.

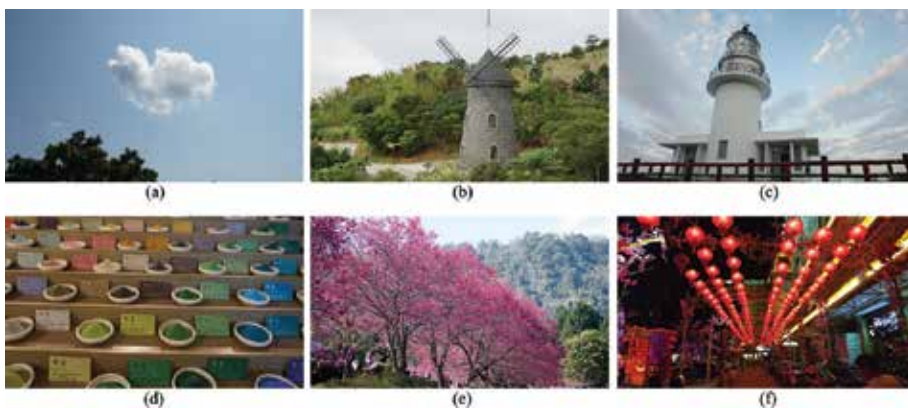


Figure 26. Incorrectly classified image compositions: (a) central misclassified as horizontal; (b) rule of thirds misclassified as horizontal; (c) vertical misclassified as horizontal; (d) horizontal misclassified as rule of thirds; (e) diagonal misclassified as horizontal; (f) perspective misclassified as rule of thirds.

Classifier	Accuracy (%)	Classifier	Accuracy (%)
AdaBoost algorithm	68.7	Multilayer perceptron	96.7
Radial basis network	79.1	Decision tree J48	94.2
Support vector machine	61.7	Random forest	97.2

Table 2. The accuracy of image composition analysis using different classifiers.

Composition	AUC (%)	Composition	AUC (%)
Center	94.5	Rule of thirds	83.9
Diagonal	93.9	Perspective	90.1
Horizontal	92.5	Vertical	98.9

Table 3. The AUC of multiple image compositions.

From the incorrectly classified composition samples, we can see that horizontal and rule of thirds compositions are two commonly mistaken ones, which may be caused by horizontal lines existing in most photos and distractors often existing in one-third of photos. A solution is that the weights of horizontal and rule of thirds compositions can be lowered in the output layer of the MLP.

In **Table 2**, the accuracy of image composition classification is calculated by the percentage of correctly classified instances to all samples. Each of the classifiers is tested using 10-fold verification. Tree-based and MLP classifiers have higher performance than others.

Table 3 lists AUC of six image composition. The AUC is calculated by the percentage of the area under a ROC curve. The rule of thirds composition has the least AUC, because it is often confused with the center composition, while the perspective composition also has lower AUC, because it is frequently confused with the diagonal composition.

9. Conclusion

In this chapter, a measurement method of photo aesthetics is presented. Several factors for measuring the beauty of a photo are discussed, including low-level features, photo semantics, image composition, and personal preference. Image composition plays an important role on the photo beauty measurement and a detection method is presented in this chapter. Object detection and image segmentation algorithms are aided to illustrate the layout of a photo and the social network helps finding the personal preference of a photo. Both the decision tree and MLP have high accuracy that is above 90% for evaluation. The decision tree can generate readable classification rules, while the MLP can give aesthetics scores to stand for the degree of beauty. The photo beauty measurement system can be implemented in real time, which is suitable for the installation of various kinds of equipment.

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Cultural and Gender Expectations in the Perception of Beauty

Differential Trajectories in the Development of Attractiveness Biases Toward Female and Male Targets

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Additional information is available at the end of the chapter

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Abstract

Across the first year, most infants have approximately 2.5 times more social interactions with women than men. There is evidence that because of this differential experience, infants develop a cognitive representation for human faces that is weighted toward female-like and attractive. Subsequently, attractiveness is more salient when infants process female relative to male faces. These early asymmetries in facial experience and the greater saliency of attractiveness for female and male targets persist into early childhood, which contributes to attractiveness influencing children's categorization and judgments of females more strongly than for males. During middle childhood, children's facial representations become more differentiated, which might explain increases in children's attractiveness biases for male targets during this developmental period. By adolescence, mating interests seem to combine with these developing facial representations to influence attractiveness preferences. This chapter reviews asymmetries in the saliency of attractiveness for female and male targets from infancy to adolescence and focuses on how cognitive facial representations likely guide how attractiveness influences children's processing of female and male targets.

Keywords: development, face processing, attractiveness bias, sex differences, stereotyped attitudes

1. Introduction

Socialization and mate selection theories propose that perceivers value attractiveness more when the target is female than male targets [1–5]. Specifically, socialization theories posit that humans learn to value females' attractiveness more than males' attractiveness and this differential valuation is reflected in how individuals judge and treat females and males based on appearance [2, 3, 5]. Mate selection theories posit that attractiveness is more strongly related to

females' health and reproductive value as compared to males' [1, 4], so attractiveness should be a more salient and valued attribute among women than men. In contrast to these theoretical viewpoints and adults and children's beliefs that physical appearance is more important for females than males [6–8], meta-analytic reviews of the attractiveness literature suggested there were no differences in how attractiveness affected individuals' ratings, impressions, and treatment of female and male targets [9–11]. It was noted, however, that studies including both female and male targets or comparisons between reactions to female and male targets were lacking, making it difficult to conclude whether there are truly differences in the importance of attractiveness for the two sexes [11].

In this chapter, we take a different theoretical approach to understanding the importance of attractiveness for female and male targets. Specifically, we discuss how cognitive representations for faces (i.e., how individuals mentally represent human faces) guide preferences for attractiveness. A seminal study demonstrated that adults perceive summary representations of faces (i.e., faces mathematically averaged together) as attractive [12]. Since its publication, empirical studies have supported the notion that facial *averageness* (the average value of the population of faces to which one is exposed) is attractive [13–16] and affectively rewarding [17]. Yet, early in development, infants and children have predominant experience with females [18–22], so the population to which they are exposed is more heavily weighted toward females than males, which impacts their cognitive representation of faces [23]. With changes in social experience and how individuals represent faces between infancy and adolescence, there are also developmental changes in the saliency of attractiveness for female and male targets. This chapter thus proposes a cognitive developmental perspective for understanding differential trajectories in the development of children's attractiveness preferences and biases for female and male targets.

2. Infancy

Survey data provided by parents in the U.S. regarding their 2-, 5-, 8-, and 11-month-olds' experience with people over the course of one week demonstrated that the majority of their infant's time was spent interacting with adult females (2/3 of their time at 2 and 5 months of age and 3/4 of their time at 8 and 11 months of age). Moreover, these infants also attended more to female than male faces during actual social interactions, thus augmenting their already greater experience with female than male faces [18]. Data collected from videos obtained via head-mounted cameras on 1- and 3-month-olds in Canada over the course of two weeks also showed that infants' exposure to faces was with females 70% of the time [19]. See **Figure 1**. This predominant exposure to female faces facilitates infants' ability to mentally represent female face exemplars and form summary representations of female faces, but hinders their ability to do the same with male faces [23–26]

To illustrate, 3-4-month-olds with a female primary caregiver were familiarized to eight different faces and then shown one of the familiarized faces paired with a novel face. They looked longer at the novel than familiar face when the faces were female, but showed no difference in looking when the faces were male, suggesting infants could recognize and discriminate between the female face exemplars, but not the male face exemplars [24]. Similarly,

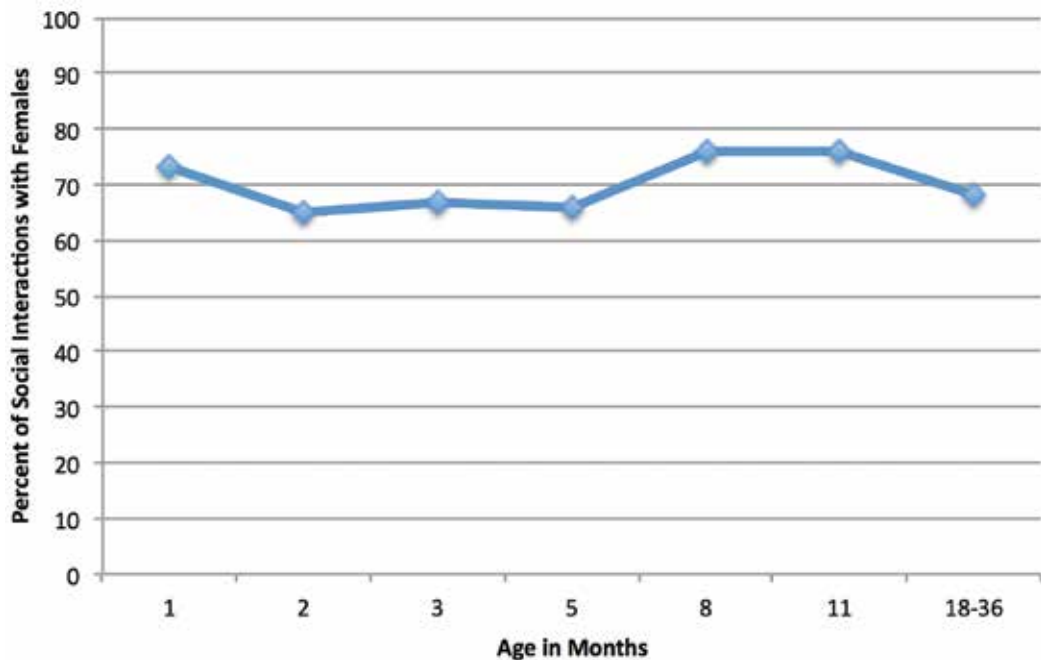


Figure 1. The percentage of social interactions infants and toddlers have with female faces across the first three years. Percentages reflect data from Refs. [18, 19, 21].

10-, 14-, and 16-month-olds with a female primary caregiver who were familiarized to a video of a person speaking and then needed to locate an image of that person among three other distractor faces more easily located female than male faces. Caregiving experience seems to be important because same-aged infants with alternating experience with a female and male primary caregiver were equally successful at locating female and male faces in this task [27]. Results demonstrate predominant experience with female caregivers facilitates infants' ability to more easily represent and recognize female than male adult face exemplars, presumably due to their cognitive representation for human faces being weighted toward female adults.

Similar findings are evident among studies assessing infants' ability to summarily represent female and male faces. Six-month-olds were familiarized to eight different female faces and then saw three different face pairings: (1) an averaged female face (i.e., a face created by mathematically averaging the eight female faces) paired with a novel face; (2) an averaged female face paired with a familiar face; and (3) a familiar face paired with a novel face. If infants form summary representations of female faces, the averaged face should seem more familiar than the novel or familiar face even though they should recognize the familiar face. Indeed, infants looked more at the novel and familiar faces when each was paired with the averaged face, suggesting the averaged face was most familiar. They also looked more at the novel than familiar face when paired together, suggesting they did recognize the familiar face [25]. Infants' ability to summarily represent female faces is evident as early as 3 months of age [26] and might be present even earlier in development [28].

Additional studies using a paradigm similar to the one just described, but with male faces, showed no evidence of 6-month-olds' ability to summarily represent male faces. Manipulations to the paradigm, such as an increase in 6-month-olds' exposure to male faces through additional familiarization or testing of older infants (8-month-olds), still found that infants were unable to summarily represent male faces. Null results are difficult to interpret, but 11 different studies failed to provide evidence of infants' ability to mentally represent an average of the male faces to which they were exposed [23]. Taken together, the findings suggest most infants' initial representation for human faces is female-like (**Figure 2**).

Infants' ability to summarily represent female, but not male, faces is important because adults perceive summary (averaged) representations of faces as attractive [12, 14]. Thus, most infants' representation for human faces is not only female-like, but attractive. Faces most similar to this representation should be fluently processed and preferred [17, 23, 29]. Indeed, 6-month-olds preferred to look more at an averaged female face relative to an unattractive female face when paired together. These results suggest that, like adults, they perceive averaged female faces as attractive [12, 25].



Figure 2. Using data from infants' average experience with faces across the first year [18], we created a simulation of a cognitive representation of faces weighted toward female-like. This morphed face includes 12 female and 7 male faces and was created so that female faces represent 70% of the morph and male faces represent 30% of the morph and thus mirrors most infants' typically greater facial experience with females than males [18, 19].

Although infants perceive averaged female faces as attractive, they do not necessarily prefer faces altered to be *more average* to those altered to be *less average*. To create such faces, researchers morph a face to be 50% closer to the averaged face or 50% further away from the averaged face. Despite these manipulations, 5- to 8-month-olds showed no overall differences in total looking toward the *more* and *less average* faces, although their longest look was toward the face made to be *less average* [30]. In another study with 12- to 24-month-olds, they looked more at the *less average* face than *more average* face [31]. Both sets of researchers suggested the less average faces might be particularly unusual or distinctive looking, thus drawing infant attention due to novelty rather than attractiveness. Even though faces were created to be *more average*, the 50% manipulation toward the averaged face might not have been sufficient to convey averageness (i.e., similarity to an averaged facial representation) and elicit a visual preference. Subsequently, as these researchers proposed, the 50% manipulation away from the average made faces appear atypical and elicited a novelty preference instead.

Taken together, studies suggest most infants' initial representation for human faces is weighted toward adult females and is attractive. Attractiveness should, therefore, be more salient among female than male faces. Attractiveness does seem to guide infants' visual interest in adult female faces, but does not consistently influence their interest in adult male faces. For example, across several studies, infants ranging in age from a few days old to 8 months looked longer at high attractive relative to low attractive female faces [32–35]. In two other studies that included both female and male face pairs, 3- to 6-month-olds showed a preference for the high attractive faces regardless of face pair gender—there were no effects or interactions involving stimulus gender [36, 37]. In another study, however, when the babyfacedness of the high and low attractive faces paired together was held constant, 4- to 6-month-olds showed a preference for high attractive female faces, but not for high attractive male faces [38]. Also, when 6- and 12-month-olds saw pairs of male faces who differed in attractiveness, but were similar in masculinity, 6-month-olds showed no preference for high attractive males. The 12-month-olds, however, did show a visual preference for high attractive males, but only when the face pair was low masculine [39].

To summarize, when cues such as babyfacedness and masculinity are held constant within face pairs, young infants show no visual preference for attractive males [38, 39]. By the end of the first year, however, they visually prefer high attractive males, but within low masculine face pairs only. High attractive, low masculine males should be most similar to an attractive, female-like facial representation, so this similarity might cause infants to overgeneralize their visual preference for high attractive female faces to high attractive, low masculine male faces toward the end of the first year [39].

An attractive, female-like facial representation also seems to guide how infants categorize adult female and male faces. To test infant categorization, infants view several exemplars of faces from a particular category (e.g., low attractive females) and then see a novel exemplar from the familiarized category paired with a novel exemplar from a different category (e.g., a high attractive female). If they have formed a category, the novel exemplar from the familiarized category should seem more familiar than the novel exemplar from the novel category—thus, if infants are able to categorize the faces, they should look more at the novel category face than familiar category face even though both faces are novel to the infant.

Using this paradigm, infants show an ability to categorize adult female faces based on attractiveness by 6 months of age. They show this ability regardless of whether they are familiarized to low attractive or high attractive females. Importantly, 6-month-olds also showed an ability to discriminate between the category exemplars, demonstrating they individuated the female faces, but still grouped faces together based on attractiveness level [40]. In contrast, 12-month-olds attend more to males' facial masculinity than attractiveness when categorizing adult male faces—they group together low masculine males and exclude high masculine males from the category. Low masculine males' perceptual similarity to the infants' female-like facial representation might be what facilitates infants' ability to categorize these faces by 12 months of age [39].

Attractiveness, therefore, seems to be a more salient cue when infants view female relative to male faces and it guides their visual preferences for and categorization of adult females, but not necessarily adult males. This early asymmetry is important to consider because how children functionally group people in their social world serves as a precursor to the development of biases and stereotypes [41]. Also, beyond the first year, toddlers continue to have predominant experience with females. Survey data provided by parents regarding their 18- to 36-month-olds' facial experience over the course of one week showed that approximately 68% of their toddlers' social interactions were with females (**Figure 1**) and they allocated a significantly greater percentage of time attending to female than male faces during these interactions [21]. Given the substantial brain growth that occurs during the first three years of life [42], these experiences likely not only maintain, but strengthen, children's attractive, female-like facial representation and greater attention toward females' than males' attractiveness. Such differential attention should subsequently influence categorization and person perception during early childhood.

3. Early childhood

Parental estimates of their 5- to 6.5-year-olds' experience with others showed that children at this age typically had more interactions with females than males as well [22]. Also, attractiveness continues to be a more salient cue among female than male adult targets. When 4- to 5-year-olds saw faces that varied in attractiveness and sex-stereotypicality (femininity for women; masculinity for men), children more quickly and accurately identified the sex of high attractive than low attractive women. In contrast, attractiveness did not facilitate how quickly or accurately children identified the sex of male faces, whereas masculinity did [43]. These data suggest 4- to 5-year-olds more fluently process high relative to low attractive women as female, but attractiveness does not significantly affect their fluency in classifying men as male. Such processing fluency is important because when adults easily process or classify an object, they briefly experience positive affect [17, 44]. Adults' processing fluency is also linked to positive evaluations of individuals [45]. If children also experience positive affect due to ease in processing, the fluency with which children process attractive female faces should affect their evaluations and information processing more so for attractive females than for attractive males. Indeed, such data are evident in studies looking at their attractiveness biases and recognition memory.

In a study assessing 3- to 11-year-olds' biases based on facial attractiveness, gender, and race, children assigned positive and negative attributes (e.g., "Who do you think is nice/mean?") to one of two unfamiliar peers (forced choice condition) or had the option to choose one of the targets, both targets, or neither target (non-forced choice condition). The target faces paired together were similar in age, sex, and race, but differed in attractiveness. When the targets were girls, children assigned significantly more positive attributes and less negative attributes to high attractive than low attractive girls than would be expected by chance, regardless of whether they were in the forced choice or non-forced choice condition. When the targets were boys, however, this discrepancy in assignment of more positive and less negative attributes to the attractive than unattractive boy was evident in the forced choice condition only. Thus, even when children were not forced to choose only one target for assignment of positive or negative attributes, they still highly favoured attractive girls, but showed similar allocation of positive and negative attributes to attractive and unattractive boys [46]. Interestingly, these same children were also likely to believe that attractive girls would think positively of them (i.e., that attractive girls would reciprocate these positive biases). Such dual beliefs might contribute to strengthening and maintaining attractiveness biases [47].

Additionally, the effect sizes for children's positive attribution biases were substantially higher when directed at female relative to male peers (1.57 vs. 0.80 in the forced choice condition and 1.18 vs. 0.47 in the non-forced choice condition). A similar discrepancy was found in the effect sizes for children's negative attribution biases when directed at female versus male peers (1.69 vs. 1.05 in the forced choice condition and 1.19 vs. 0.35 in the non-forced choice condition) [46]. Thus, attractiveness influenced children's attributions for both female and male peers, which is similar to other research showing attribution scores did not significantly differ based on sex of stimulus [48]. The larger effect sizes based on female attractiveness, however, suggest attractiveness has more practical and social significance for female than male targets.

Indeed, attractiveness significantly influenced how 3- to 7-year-olds processed information about female, but not male, adult and child characters when hearing stories in which two characters' actions and appearance were either consistent or inconsistent with the "beauty is good" stereotype [49]. For example, children heard stories in which one character displayed positive attributes (liked, friendly, smart, or prosocial) and the other character displayed negative attributes (disliked, unfriendly, not smart, or aggressive). In stereotype-consistent versions, an attractive character displayed the positive attributes and an unattractive character displayed the negative attributes. For stereotype-inconsistent versions, it was the reverse. After hearing the story and seeing a picture depicting the characters displaying their attributes, the experimenter showed children facial images of the two characters and asked children to identify the person who displayed the positive attribute. Children made significantly more errors on this question when the story was stereotype-inconsistent than stereotype-consistent, but only when the characters were female. Their performance on this question for stereotype-consistent and stereotype-inconsistent stories was relatively similar when the characters were male. Importantly, children accurately recalled other story details, indicating they were attending to the story. Despite allocating appropriate attention to the story, children made almost twice as many errors identifying female characters when the story

was stereotype-inconsistent vs. stereotype-consistent—they erred in choosing the attractive female character as the one possessing the positive attributes when it was actually the unattractive female character. Thus, young children are more likely to process information to be consistent with the “beauty is good” stereotype when observing females, but not necessarily males [49].

Young children’s schemata for the “beauty is good” stereotype (i.e., cognitive structures that include knowledge of the stereotypes, beliefs, and expectations regarding a given group) might include the belief that attractiveness is more important for females than males. If such a belief is readily accessible, it could explain why attractiveness more significantly influenced their identification of female than male characters [49]. Children do seem to believe that appearance is more important for girls than boys. To learn about gender stereotypes that children spontaneously produced, an experimenter prompted pre-schoolers, kindergartners, first graders, and fourth and fifth graders to, “Tell me what you know about girls/boys. Describe them.” Children’s most frequent first response to this question related to statements regarding appearance (e.g., being pretty) when discussing girls and to traits (e.g., plays rough) when discussing boys. Overall, children made more appearance-based comments about girls compared with comments regarding traits and activities, whereas they made more trait and activity-based comments about boys compared with comments regarding appearance. These results demonstrate that children’s appearance-based stereotypes are more readily accessible when thinking about girls than when thinking about boys [8]. Children’s greater emphasis on the importance of females’ appearance is evident in other studies as well—first graders’ ratings of other children’s cuteness decreased when the targets wore glasses, but the decrease was much greater for girl than boy targets [50].

During early childhood, children show stronger biases based on female peers’ than male peers’ attractiveness. They also are more likely to process information about female than male targets to be consistent with the “beauty is good” stereotype. Finally, they are more likely to naturally produce comments related to appearance when discussing girls relative to boys. It is plausible that having a facial representation that is still predominantly weighted toward female and attractive results in their attending to females’ appearance more so than males’ appearance and subsequently displaying these disparate behaviours in relation to female and male targets. Faces similar to this representation should be most easily processed, and ease in processing is related to experiencing positive affect [17, 44]. In addition to this proposed automatic affective processing of attractive female faces, children also likely learn that females’ attractiveness is valued from peers, parents, television, and fairy tales [51–55]. Both this implicit processing and explicit knowledge could explain the differences found in the studies discussed.

4. Middle childhood

There is evidence to suggest that attractiveness might become a more salient cue for male targets starting around 7–8 years of age. In the study examining 3- to 11-year-olds’ attractiveness biases, children’s biases based on boys’ attractiveness significantly correlated with age—they showed an increase in their assignment of positive attributes to high attractive boys and negative

attributes to low attractive boys with age. Although a similar increase was also seen in their biases based on girls' attractiveness, only the correlations between age and children's biases based on boys' attractiveness were significant [46].

Older children's increase in attention toward boys' attractiveness might be due to children's facial representations becoming more differentiated between 5 and 8 years of age. More specifically, 5-year-olds do not appear to have separate facial representations for female and male adult faces (or child and adult faces, or faces from different racial groups) [56]. By 8 years of age, however, there is evidence to suggest children's facial representations are becoming more differentiated and that they have separate facial representations based on race (and possibly based on sex and age) [57]. In other words, the early emerging attractive, female-like facial representation infants and young children have for human faces gradually becomes more differentiated with development. By 8 years of age, children might have separate rudimentary representations for female and male faces [46, 56] that are presumably attractive [12] and guiding processing of female and male targets' facial attractiveness (**Figure 3**). Such a transition would explain why increases in age correlated with significant increases in children's attractiveness biases for male peers. It could also explain why there were slight, albeit not significant, increases in children's attractiveness biases for female peers—they are now developing an average representation for female faces as opposed to having a female-like facial representation for human faces [46].

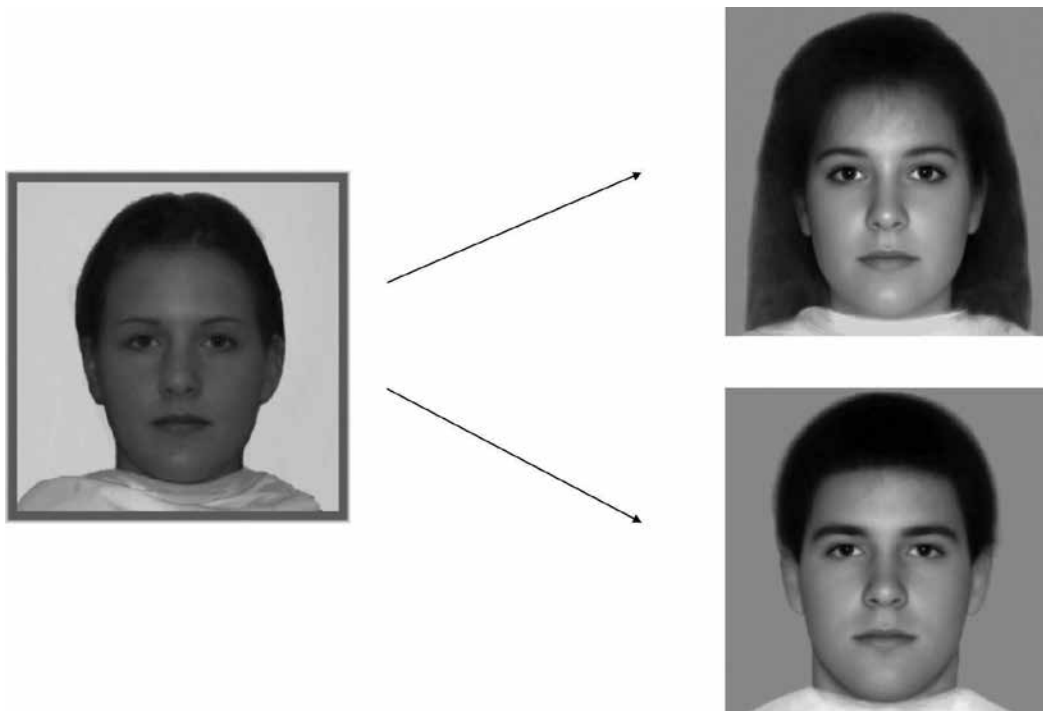


Figure 3. A depiction of the potential transition from a weighted female-like facial representation to separate representations for female and male faces. Note that the literature suggests that although differentiated representations begin to form during early childhood, it takes several years for these representations to fully form and become adult-like.

There is other evidence to suggest that facial representations become more differentiated with age and affect preferences for averageness. Like the infant studies described earlier [30, 31], 5-year-olds, 9-year olds, and adults viewed pairs of faces that included two images of the same person—one image was morphed to be 50% closer to the group average (*more average* face) and the other was morphed to be 50% away from the group average (*less average* face) [58]. Participants indicated which face was more attractive. Unlike the infants, all three age groups showed a significant preference for *more average* faces, with the effect becoming stronger with age—adults more often chose *more average* faces than 9-year-olds and 9-year-olds more often chose *more average* faces than 5-year-olds. These findings support the idea of development and refinement of separate representations for male and female faces with age. Results also revealed that participants more often selected *more average* adult female faces than *more average* adult male faces, but that target sex difference was not consistently observed for 5-year-old and 9-year-old target faces [58]. This discrepancy might have occurred because children are in the process of forming more distinct representations for female and male faces and for adult and child faces [56, 57]. Given early predominant experience with adult females for most children [18–22], the adult female face category average should be more established than the adult male face category average or child categories and thus most greatly influence averageness preferences for adult female faces.

The developmental change in children's facial representations might also explain why only 8-year-olds, and not 5- to 7-year-olds, could accurately judge the physical attractiveness of older aged, post-pubertal males (i.e., 17-year-olds) [59]. It might be necessary for children to develop separate facial representations for pre-pubertal and post-pubertal males for them to more accurately judge older males' attractiveness. Pre-pubertal girls' and boys' faces are relatively similar looking to one another and are more similar looking to adult female faces than adult male faces. Post-pubertal males' faces, however, are quite differentiated from adult females' faces due to males' development of secondary sex characteristics [60]. Subsequently, it is more difficult for both 7- to 10-year-olds and adults to classify the sex of pre-pubertal faces compared with adult faces, especially when only internal facial features are available to make the judgement [61]. Starting around 8 years of age, therefore, children's more differentiated facial representations should start to more strongly impact their attractiveness judgments and biases for male targets. Given the greater saliency of females than males' attractiveness in the years prior, however, and the likelihood that separate representations for female faces are established earlier in development than separate representations for male faces, attractiveness might continue to have a stronger influence on perceptions and processing when observing female relative to male targets. For example, 12-year-olds and undergraduate students rated the musical performance of 6th grade pianists more positively when they also perceived that person as attractive, but this effect was limited to female pianists only [62].

Perhaps not surprisingly, girls seem to understand the concept of attractiveness and its importance for their gender earlier in development than boys. For example, when 3- to 6.5-year-olds were asked what it means to be pretty or cute, the oldest aged girls provided the most detailed descriptions [48]. Similarly, when 3- to 11-year-olds were asked to sort and label pictures of peers based on attractiveness, girls were significantly more accurate at this task than boys [63]. In the study where children spontaneously produced information about girls and boys, the

appearance-based comments about girls increased with age, particularly for girl participants—almost half of the statements 4th and 5th grade girls made about girls related to appearance [8]. It, therefore, appears that the greater saliency and importance of attractiveness for females than males become internalized by girls early in development and this conceptual knowledge increases with development. Such beliefs might get reinforced via television shows aimed at school age children and teenagers by having female characters mention beauty or attractiveness in nearly every episode [64].

5. Adolescence

Adolescence may be a time of significant development in terms of attractiveness judgments. As adolescents reach puberty, males' and females' faces become more divergent as they increase in sexual dimorphism—male faces become more masculine and female faces become more feminine [65]. Puberty leads to heterosexuals' increased interest in opposite-sex interactions and dating [66, 67]. Thus, much of the literature regarding attractiveness preferences in adolescence focuses on mating preferences. The emergence of mating choice motives may lead to increased attention to physical appearance. For example, both male and female 14- to 16-year-olds preferred attractive mates for casual sexual relationships [68].

In addition to these changes, adolescents' facial representations are becoming even more differentiated as reflected in continued improvements in face recognition and perception between early and late adolescence [69]. These changes also affect their attractiveness preferences. In studies examining 11- to 16-year-olds' preferences for certain characteristics of male and female faces, participants viewed face pairs consisting of the same face manipulated to be more or less average, symmetrical, or feminine [70, 71]. Manipulations involved morphing techniques like those used in the infant and child studies [30, 31, 58]. Both male and female adolescents showed a preference for faces that were manipulated to be more average, feminine, or symmetrical. Like the findings from middle childhood, the preference for averageness increased with age. Older aged adolescents (13 + years-old) showed a stronger preference for *more average* faces than the younger aged adolescents [70, 71], likely due to their having developed more differentiated summary representations for female and male faces. Thus, the transition from a singular representation of human faces (i.e., a representation that is weighted toward adult females and attractive) to more differentiated averaged representations of face categories based on gender, age, and other attributes is quite protracted and takes several years to develop. It is currently unclear when it becomes adult-like, but increased interactions with same- and other-sex peers during adolescence [66, 67] should facilitate the transition and cause similarity to a facial category average to become increasingly more important when making attractiveness judgments.

Interestingly, 11- to 16-year-olds also showed a preference for both female and male faces altered to be more feminine [70, 71]. An exception to this finding was that males who had completed pubertal development (as measured via underarm hair growth and voice change) preferred significantly fewer feminized male faces compared with pre-pubertal and mid-pubertal boys [71]. The general preference for feminized faces suggests that perhaps the early emerging positive biases associated with faces similar to a female-like facial representation

continue to influence preferences in adolescence. For the post-pubertal males, experience with their own face and faces of other post-pubertal male peers should shape their representation for this face category and subsequently influences preferences [71].

There are other discrepancies in the literature regarding whether female adolescents prefer facial femininity or masculinity when judging males' attractiveness. For example, pre-pubescent females (11- to 14-year-olds) displayed significantly lower preferences for a masculinized than feminized version of a male face compared with mid- and post-pubescent females (15- to 25-year-olds [72]. It is possible that like the post-pubescent males in the other study [71], the post-pubescent females are developing a more masculine representation for male faces due to their greater experience with post-pubertal males at this age. Yet, discrepancies exist regarding female preferences for male facial masculinity or femininity in other studies as well [65], leading to suggestions that preferences for masculine or feminine male faces may be context-dependent [71, 73, 74]. For example, adolescent and adult females (aged 16–39) preferred masculine faces when they were considering a short-term relationship or were already in a relationship [73]. Females may prefer feminine male faces due to their cuing of prosocial and other desirable traits, such as warmth, honesty, and cooperativeness [75], but prefer masculine male faces for cues related to dominance and genetic quality [76, 77]. In line with this theory, when women saw pairs of male faces and were asked to select which face better represented different traits, they rated masculine male faces as more dominant but less warm and less faithful than feminine male faces [78].

It is possible that discrepancies in preferences for masculine and feminine male faces stem from conflicting developmental processes. Recall that masculinity was a more salient cue than attractiveness when infants and children categorized male faces. If 12-month-olds categorized low masculine male faces due to an overgeneralization of their ability to categorize female faces [39], it might serve as a precursor to linking feminine attributes to low masculine males. Similarly, 4- to 5-year-olds' slower reaction time and higher error rate when classifying the sex of low than high masculine male faces [43] might persist throughout development. Indeed, adults' initial reaction upon viewing a low masculine male and selecting a gender-related attribute was to initially move their computer mouse toward the side of the screen with a feminine attribute (e.g., caring) before moving it toward the side of the screen with a masculine attribute (e.g., aggressive) [79]. Prosocial qualities often associated with women, therefore, seem to be instinctively overgeneralized to low masculine male faces. During adolescence, such qualities should be preferred in certain contexts more than others. More research is needed, however, to understand whether and how early emerging attention to facial masculinity interacts with the developmental issues adolescent females encounter to influence their preference for low or high masculine males.

What is clear during adolescence is that attractiveness continues to more significantly impact female than male targets. Thirteen- to 19-year-old males rated young adult females who were high attractive more positively than low attractive females, whereas 13- to 19-year-old females did not significantly differ in their evaluations of high versus low attractive young adult males [80]. The emergence of mating motives in adolescence, in combination with early experiences that bias preferences toward attractive female faces, might account for males' strong attractiveness biases for female targets [81].

Male and female adolescents' self-appraisals and ideas about attractiveness also support the conclusion that males may place more emphasis on females' attractiveness than females place on males' attractiveness. Adolescents aged 13–15 answered questionnaires relating to their self-perceived attractiveness and indicated their level of agreement with statements suggesting attractive people display positive and prosocial traits (e.g., friendly and sociable) and unattractive people display negative traits (e.g., unreliable). Adolescent males reported higher self-ratings of how good looking and physically appealing they were compared with adolescent females, and showed higher agreement with attractiveness stereotypes than did females [82]. Because female adolescents rated themselves as less attractive and appealing than male adolescents, it suggests they internalized the importance of female attractiveness and were subsequently more critical of themselves. These self-ratings were related to attractiveness biases, suggesting that females may be less inclined to stereotype others based on attractiveness during adolescence compared with earlier in development [46].

In sum, a variety of developmental changes occur during adolescence that motivate and increase teens' attention toward and interactions with other-sex peers. These social experiences likely facilitate further differentiation of their facial representations. Moreover, early emerging preferences for attractive females align with heterosexual males' increased interest in females, which might augment the importance of attractiveness when adolescent males judge females. In contrast, although heterosexual females also prefer attractive partners, their bias for males' attractiveness might not become as strong because it does not align as well with early emerging preferences for attractive females. Male facial masculinity or femininity, however, should indicate similarity to a female face and might subsequently advertise traits that females consider attractive within different contexts. Longitudinal research is needed, however, to understand if and how early categorization of and preferences for certain facial cues in female and male faces contribute to later development of adolescents' attractiveness preferences.

6. Conclusions

Infants with predominant female facial experience develop summary representations for faces that are female-like and attractive, which results in greater saliency of attractiveness cues for female than male targets early in development. With the maintenance of this greater experience with female than male faces beyond infancy, several studies suggest cascading effects of having an attractive, female-like facial representation on children's person perception—attractiveness more strongly influences how they judge and process information about females than males. Despite developing more differentiated facial representations later in development, older children and adolescents still seem to be more influenced by females' than males' attractiveness, perhaps because of the prolonged period of having an attractive, female-like facial representation earlier in development.

More research is needed, however, that examines children with predominant male facial experience or more equally distributed experience with females and males to understand the role early facial experience plays in the development of salient social cues and the resultant impact on person perception. It is also critical to conduct more research directly comparing responses

to female and male targets beyond attribution tasks, so the impact of attractiveness and target gender is understood across various contexts. Work is also needed to understand whether the differences in how female and male targets are judged based on attractiveness are more evident when adults versus peers' faces are used as targets. Whereas all the infant research included adult faces as stimuli, studies with children typically include peers' faces. If the attractive, female-like facial representation is also adult-like and children's faces are more like female adult than male adult faces, the discrepancies in how attractiveness affects judgments of female and male targets might be more evident for adult than child faces. Last, longitudinal research is needed to determine how early emerging face processing abilities predict later biases and processing of females and males based on attractiveness. Developmental researchers have investigated different types of research questions during different developmental periods, making it difficult to provide a complete picture of whether and how attractiveness influences children's responses for female and male targets in a similar or different manner across development.

Despite the need for more research, the data presented in this chapter demonstrate the importance of early facial experience in shaping attention toward faces. Most children's early predominant female facial experience seems to lead to attractiveness becoming a more salient cue for female than male targets. The greater saliency of female than male attractiveness means that it has more practical and social implications for female targets in terms of how others judge and treat them and ultimately how females behave during social interactions. It is critical to better understand the development of attractiveness biases, so as to raise awareness of such biases and create ways to reduce negative outcomes.

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Beauty, Body Image, and the Media

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Abstract

This chapter considers the role of mass media in people's perceptions of beauty. We summarize the research literature on the mass media, both traditional media and online social media, and how they interact with psychological factors to impact appearance concerns and body image. There is a strong support for the idea that traditional forms of media affect perceptions of beauty and appearance concerns by leading women to internalize a very slender body type as ideal or beautiful. Rather than simply being passive recipients of unrealistic beauty ideals communicated to them via the media, many individuals actually seek out idealized images in the media. Finally, we review what is known about the role of social media in impacting society's perception of beauty and notions of idealized physical forms. Social media are more interactive than traditional media and the effects of self-presentation strategies on perceptions of beauty have just begun to be studied. This is an emerging area of research that is of high relevance to researchers and clinicians interested in body image and appearance concerns.

Keywords: body image, media, social media, beauty ideals

1. Introduction

This chapter examines the role of the mass media in the perception of beauty ideals and how those ideals, in turn, affect individuals' behavior and well-being. The mass media play a critical role in people's self-image by informing and reflecting what people consider to be beautiful or attractive. One of the ways in which they do so is through the common use of very thin and attractive models in print and other media. Often termed the 'thin ideal', they communicate the way people believe they should look in order to be attractive and desirable to others. There are different aspects of appearance about which the media can convey beauty ideals, including hair, skin, and facial features. However, we focus this chapter on how the

media convey messages about body weight and shape ideals. For women in Western culture, a very common attitude is that thinness is beauty. We review the literature on the role of mass media—both traditional media and newer, online media—and how they interact with psychological factors to impact appearance concerns and body image.

Body image is a multidimensional construct that refers to one's perception of and attitudes about the size and shape of one's body. It has both a perceptual component that refers to how we see our body size, shape, weight, physical characteristics, performance, and movement, and an evaluative component, which refers to how we feel about these attributes and how those feelings influence our behaviors [1]. Body dissatisfaction is experienced when someone perceives that their body falls short of the societal ideal in terms of size and/or shape, regardless of that person's objective size or shape. In other words, body dissatisfaction is influenced not only by how we interpret societal ideals, but by how we perceive ourselves. Therefore, body dissatisfaction and perceptions of beauty are inextricably linked. Body dissatisfaction is the number one risk factor for a number of unhealthy behaviors, including clinical eating disorders and chronic dieting. Therefore, a delineation of the origins of body dissatisfaction is important not just for theories of perceptions of beauty, but for clinical and practical purposes.

2. Effects of exposure to idealized media images on body image

In modern times, most people living in developed countries encounter some type of mass media (e.g. television, music videos, movies, and magazines) on a daily basis. Thin ideal images often accompany various advertised products, the pairing of which reinforces the idea that if you buy or use a particular product, you, too, can be beautiful. In the past two decades, there has been an abundance of empirical research concerning the impact of exposure to idealized bodies in the media on how people perceive and evaluate their own bodies. Most of this research has been on women, among whom the idea that 'thin is beautiful' is prevalent. Correlational studies typically examine the association between naturalistic media consumption and various body image constructs, such as body perception, ideal body size, and body dissatisfaction. Experimental studies typically expose participants to photographs of very thin and attractive models under varying conditions and measure the participant's subsequent body image. The latter type of studies can advance our understanding of the causal effects of media on body image. Several meta-analytic reviews of such studies have been conducted with regard to these findings. The first meta-analysis of the effects of exposure to thin ideal media was conducted by Groesz et al. [2], who examined 25 experimental studies conducted between 1983 and 1998 involving a total of 2292 participants. They concluded that women's body image was significantly more negative after viewing thin media images, as compared to after viewing control images or images of average-sized or plus-sized models, and that this effect was moderate in size.

Although the previous meta-analysis was limited to experimental studies, Grabe et al. [3] conducted a meta-analysis of both experimental and correlational studies examining the link between media exposure and body dissatisfaction, as well as internalization of the thin ideal—the extent to which someone believes that a very slender body type is beautiful—in

women. They reviewed 90 studies and concluded that media exposure was associated with decreased body satisfaction in women and that this effect was moderate in size. They also concluded that media exposure was associated with increased internalization of the thin ideal across 23 studies and that the effect size was moderate.

There is robust empirical support for the idea that exposure to idealized body images in traditional forms of media (e.g. magazines and television) affects perceptions of beauty and appearance concerns by leading women to internalize a very slender female body type as ideal or beautiful. There is also support for the idea that exposure to the thin ideal is associated with body dissatisfaction in the moment among women. While most of the research on this topic has been conducted with female participants, there is also some research on male participants. Men's and women's body ideals vary considerably in Western cultures, where most of this research has been conducted. While women's body ideal is slim, men's is lean, but well-defined and muscular. Blond [4] conducted a meta-analysis of experimental research concerning the effects of exposure to media featuring the male muscular ideal on men's body image. In her review of 15 studies with a total of 1085 participants, she concluded that exposure to images of idealized male bodies caused men to feel more dissatisfied with their own bodies and that the effect size was small. In sum, we can say that the association between exposure to idealized body images in the media and body dissatisfaction holds true for both men and women, with the effect in women being slightly stronger than in men. There is no established cause for this gender difference to date.

Although it has been established that exposure to idealized bodies in the media has significant effects on how both men and women want to look (and, sometimes, how they think they do look), it is important to emphasize that not all individuals respond to viewing idealized images in the same way. Research has revealed various individual differences that moderate the impact of exposure to idealized images on body image. For example, a person's psychological motives for viewing thin ideal media images can determine whether and how they affect that individual's self-perceptions of beauty.

Social comparison refers to an individual's tendency to compare oneself to other people and has been found to moderate the impact of exposure to idealized media. Tiggemann and McGill [5] found that the effects of thin-ideal advertisements on mood and body dissatisfaction were mediated by social comparison in a sample of 126 female undergraduate students such that women who engaged in more social comparison experienced more negative mood and body dissatisfaction after exposure to magazine advertisements containing images of thin-idealized female beauty. Indeed, social comparison, as either a psychological trait or state, is a reliable moderator of the impact of idealized media exposure on both men and women. For example, Galioto and Crowther [6] found that trait social comparison as measured by a self-report questionnaire predicted increased body dissatisfaction among male undergraduate students who viewed muscular idealized men in advertisements. Moreover, Tiggemann et al. [7] further investigated the role of cognitive processing in the impact of idealized images on mood and body dissatisfaction. They found that instructing women to engage in social comparison processing (e.g. asking the participant to rate how much she would like her body to look like that of a thin model) of thin-ideal images led to greater negative mood and body dissatisfaction

as compared to a control condition. Interestingly, they also found that giving women fantasy instructions to imagine themselves in the place of a thin model led to improved mood as compared to control. In sum, the way that idealized images are cognitively processed is a key determinant in terms of the impact those images have on an individual's self-perceptions of attractiveness or beauty. But little is yet known about why some people are more at risk for comparing themselves to idealized images.

Trait, dietary restraint has been found to moderate individuals' responses to idealized body images found in the media. Mills et al. [8] found that restrained eaters (i.e. chronic dieters) are differentially impacted by exposure to thin ideal media as compared to unrestrained eaters. Restrained eaters frequently attempt to lose weight by restricting what they eat. We concluded that restrained eaters may be susceptible to a 'thin fantasy' when viewing ideal body images. Specifically, restrained eaters, but not unrestrained eaters, rated both their ideal and current body as thinner and felt more attractive as a result of viewing ideal body images in magazine advertisements. This effect was further moderated by thinness attainability beliefs. Specifically, the immediate enhancement of women's feelings of attractiveness following exposure to the thin ideal was stronger when dieters were led to believe that they could lose weight through dieting, as compared to when they were told that losing weight is extremely difficult. In other words, under certain conditions, thin ideal media images can actually make women feel better about their appearance. These effects are presumed to be short-lived, although no research to date has examined how long self-enhancement lasts after exposure to thin ideal images.

Further evidence that the context of the idealized images is important in terms of their psychological impact comes from a recent study by Veldhuis et al. [9]. The authors found that when self-improvement messages accompanied images of idealized bodies, exposure increased body satisfaction in a sample of undergraduate men and women, as compared to self-evaluation messages or control. Knobloch-Westerwick [10] also found that women, who made self-improvement (versus self-evaluation) social comparisons in response to thin-ideal images, had improved body satisfaction as opposed to decreased body satisfaction. In other words, the messages that accompany idealized body images commonly found in the media make a difference in terms of how people feel about their bodies after looking at them.

Lastly, the psychological construct of body appreciation, or the extent to which one allows negative body-related information to be rejected and positive information to be accepted, is an individual difference variable that has been found to be protective against some of the negative psychological impacts that stem from exposure to idealized media images. Andrew et al. [11] found that, in a sample of university women, participants with low body appreciation experienced increased body dissatisfaction after exposure to thin-ideal advertisements whereas individuals with high body appreciation did not. This lends support to the idea that women, who have a positive bias in their perceptions of their body, are less likely to experience a negative shift in body image in response to exposure to thin ideal media images.

Body dissatisfaction is a major predictor of the development of clinically disordered eating. While it oversimplifies the psychopathology of eating disorders to suggest that exposure to thin ideal images causes eating disorders, thin ideal images do have significant health

implications. For both women and men, the development of unhealthy weight control practices can result from body dissatisfaction, such as strict or chronic dieting, excessive exercise, and steroid use. To mitigate the negative effects of thin ideal exposure on the health and well-being of their viewers, it has been suggested that magazines should contain disclaimer labels if a photo has been retouched. In 2009, Australia's National Advisory Group on Body Image endorsed the use of warning labels by the advertising, media, and fashion industries to indicate digitally altered images. Other countries have considered a similar public policy. Retouching of magazine photos can include enhancements of skin tone or texture, hair, or make-up, but most attention has been paid to retouching related to models' weight and shape. Photos are often altered by magazines so that flesh is trimmed off in areas like the stomach and thighs, giving the appearance of a slimmer body. The idea is that if women were aware that media images are not real, they could distance themselves psychologically from unrealistic beauty standards and not be influenced by them. Unfortunately, results from this line of research suggest that disclaimer labels are generally not very effective in terms of minimizing the negative effects of thin ideal images on viewers' body image, mood/confidence, or intention to diet [12, 13]. In addition, a popular media literacy campaign aimed at diminishing the negative effects of exposure to the thin ideal (i.e. a 75-second Dove Evolution video, showing all of the effort that goes into producing a photo of a model who looks flawless) did not improve how women feel about their own appearance [14]. Clearly, cultural beauty standards as communicated by the media are powerful messages. Even knowing that thin ideal images are not real does not stop women from wanting to achieve that standard of beauty.

3. The media and perceived appearance norms

It could be that the mass media affect their audience not only by reinforcing beauty ideals ('thin is beautiful') or by eliciting immediate changes in terms of how people perceive and evaluate their own appearance, but also by influencing perceived norms. Experimental findings demonstrate that perceptions of what is considered to be 'average', influence how individuals feel about their own bodies. In other words, one of the reasons that media-portrayed thin ideal images can be harmful is because they skew what people think of as being 'normal' or typical in a given population. There is no research to date directly testing the question of whether media images change people's perceptions of what is considered average or typical. However, there is indirect evidence to support this idea. Studies show that women generally want their bodies to appear a certain way depending on (1) what they think other people find attractive and (2) what they think the average person looks like.

In a series of experimental studies, Bair et al. [15] examined the influence of normative body ideals (i.e. the body type purported to be preferred by their peers) on body image. University students were told that their peers preferred the look of either relatively thinner or relatively heavier body types. In other words, we varied what participants believed to be 'beautiful' to other people. The gender of the peers whose preferences were being reported was also manipulated. Participants then reported the body size they

most wanted to look like, from a range of hand-drawn silhouettes. Women selected a thinner personal ideal body size in the thin norm condition than in the heavy norm condition. This was true whether they were told what either men or other women found most attractive.

In a related study by Mills et al. [16], we examined the effect of purported body norms on ideal and current body size perception. In study one, female participants were given bogus information about the average body size of women of the same age as participants. Current and ideal body size perceptions were then measured. Women reported a thinner ideal body size in the thinner norm condition than in the heavier norm condition, supporting the idea that ideal body size is malleable. Women had shifted their ideal body size so that it was a bit thinner than what they believed the average woman's body looked like. We interpreted these findings to mean that women may set their ideal as thinner than average so that they can be seen (or see themselves) as special. Study two replicated these results, but in a sample of young men. In this case, body norms were manipulated through purported averages in terms of muscularity rather than thinness. Men had a more muscular ideal body size in the more muscular norm condition than in the less muscular norm condition.

4. The bi-directionality of media exposure and body dissatisfaction

Despite the fact that they can contribute to body dissatisfaction, mass media featuring thin ideal images are popular forms of media. Many women and men choose to expose themselves to idealized body images as featured in the media. This apparent paradox has received little attention to date in the literature. Recently, we examined whether individuals dissatisfied with their bodies are actually more likely to seek out media featuring images of idealized bodies [17]. We hypothesized that the correlation between thin-ideal media exposure and body dissatisfaction is in fact bi-directional, and that people who feel bad about their appearance may actually consume higher levels of such media. It was predicted that young women who were induced to feel dissatisfied with their bodies would gravitate toward media featuring thin-idealized content. In two experimental studies, a negative body image rumination task was used to induce body dissatisfaction. Participants were then asked to select their choice of different media (appearance-related versus non-appearance-related) for an ostensible market research task. We found that young women who had just ruminated about being unhappy with their bodies disproportionately selected magazine or online video media that featured thin, idealized body imagery over non-appearance-related media. Young women who had been instructed to think about not liking their bodies then gravitated toward thinness-related media that focused on dieting, fitness, health, and beauty. These findings warrant further replication, but suggest that people who are unhappy with their appearance may turn to media that feature thin, beautiful models, possibly for advice or information, or to see advertised products aimed at bringing aspects of one's appearance closer to the perceived ideal [17].

5. The new media: social and online media and their influence on body image

More and more people encounter online media on a daily basis. The Internet is commonly used for social networking (i.e. online activities that create and maintain interpersonal relationships with family, friends, and acquaintances). Social media are particularly popular among female young adults, a group in which body dissatisfaction is common [18]. Facebook, the most popular social media platform in the world, boasts over one billion daily users, with three-quarters of online American adults logging on [19]. Instagram, a popular photo-sharing application, has 600 million users, half of whom use it daily, with 35% using it several times a day [19]. The majority of 18–29 year olds use Facebook and more than half of these individuals use Instagram [19]. These social media platforms and others—such as YouTube, Snapchat, and Pinterest—have a visual element and involve users posting photos of themselves for others to see and on which to comment. Contemporary media platforms are changing how people internalize beauty ideals, how they try to control how other people see them, and how they get feedback from others about how they look.

Most households worldwide have home Internet access, and, in some countries, children, adolescents, and young adults identify social media sites as their primary online communication activity [20]. Given that both social media use and body dissatisfaction are pervasive among adolescent and young adult women, it is not surprising that media and body image research is expanding into this new media domain. The tripartite model of influence proposes that peers, parents, and media are the main sources of the development of body image and eating disturbances. Furthermore, research shows that appearance comparison at least partially mediates the relationships between these sociocultural factors and eating and weight-related behaviors [21]. Each of these three sociocultural factors converges on social media.

Until the past 5 years, research on Internet exposure, perceptions of beauty, and body image concerns was virtually non-existent. In line with research on traditional forms of mass media and body image, recent correlational studies reveal that social media use is linked to body image and appearance concerns among both men and women [22]. Also, much like the relationship between the traditional media and body image ideals, the link between social media use and body image is not straightforward; it appears to be affected by various psychological factors, such as individual differences in the tendency to compare one's appearance to that of others. When people compare themselves to others who they consider to be superior to themselves it is known as upward social comparison. Downward social comparison is when people compare themselves to other people who they consider to be inferior to them on some dimension. Exactly which individual and situational factors determine social comparison processes on social media remain to be empirically tested. But because social comparison moderates the effects of traditional media on viewers, as reviewed above, it is likely that these psychological processes also play a role in the effects of social media on users.

Unlike traditional forms of media like television, movies, and magazines, social media sites are designed to actively engage the user. Since there are many ways for users to engage with

online media, such as scrolling through newsfeeds and profiles, commenting on other users' posts, seeing who else has liked/commented/endorsed posts, or creating and uploading their own content, it is difficult to tease apart exactly how online media are related to perceptions of beauty. Researchers have started to use various research methods to study the link between online media exposure and appearance concerns (e.g. qualitative data, correlational studies, and experimental simulated social media use) that may or may not be analogous to how people use social media in the real world. For instance, researchers have begun to bring social media into the laboratory for study. When women passively view mock social media profiles versus models in magazines, there appears to be no difference between the media types in terms of subsequent increases in appearance comparison and body image dissatisfaction [22]. Although some researchers find that adolescent girls' time spent on the Internet is positively correlated with internalization of the thin ideal, body surveillance, and drive for thinness, experimental studies suggest that mere exposure to one's own social media account does not negatively or immediately impact young women's appearance concerns [23–31].

One of the unique aspects of social media, versus traditional media, is that they are made up of communication with peers and/or public figures. It is the elements of interactivity and connectedness that make social media distinct from other media forms and rife with opportunities for users to perceive, compare, and internalize standards of beauty. Traditional media literacy efforts may have helped people think critically about how photos of models and celebrities are frequently edited by advertisers and editors, and how they display completely unrealistic standards of beauty. However, social media platforms expose users to photos of real-world peers, which may dissuade people from critically analyzing the images they see on social media. In truth, users can present their ideal selves through editing, enhancing, and embellishing their online images and appearance. More research is needed to determine whether social media users engage in selective presentation of their own appearance, but overlook the notion that other users have done the same.

People can engage in a variety of behaviors related to perceptions of beauty in online forms of media. Examples include taking multiple selfies and choosing to post only the flattering photos, using camera filters to enhance the appearance of a person's face, and photo-shopping body parts to make them appear thinner. Research is just starting to examine the relations between these types of self-presentation strategies on social media and well-being (body image and appearance self-esteem) among women. A study of online dating website users found that individuals commonly managed their online profile by posting selfies of which they felt especially proud [32]. It is not yet known whether self-presentation strategies like photo enhancement actually improve body image and appearance self-esteem (by allowing users to present an idealized version of themselves to others) or whether they worsen appearance concerns because they perpetuate an evaluation of and focus on physical appearance.

It seems that people who post photos of themselves on social media probably do so when they feel *good* about their appearance. Indeed, research suggests that the use of social media predicts subsequent body dissatisfaction and not the other way round [33]. It could be, however, that social media users post photos of themselves when they feel especially good about their appearance, but that they end up feeling worse about their appearance in the longer term

after frequent use of social media. The longer term adverse effects of social media use could be due to looking at images of idealized, and often retouched, photos of other people, as well as reading online commentary about people's appearance. Replication and clarification of the causal effects of social media usage on body image and appearance self-esteem is an important goal for future research in this field.

Popular social media platforms have begun to acknowledge the risks inherent in exposure to certain types of photos. At this time, Instagram has banned hashtags such as 'thinspiration' and 'proanorexia' because Instagram views them as actively promoting self-harm. These are terms that would be familiar to many social media users (particularly young women) and alert viewers to photos that are meant to glorify very thin bodies. Before content associated with eating disorders is shown, a graphic-images warning and link to the National Eating Disorders website is displayed. Other appearance-related hashtags, such as 'sopretty', 'attractive', 'bikinibody', and 'everybodyisbeautiful' are, at present, no longer searchable on the photo-sharing application [34]. Although it is not clear what the impetus was for Instagram to enact these guidelines, advocacy groups generally applaud these types of content moderation efforts aimed at the prevention of disordered eating and body image disturbances.

In summary, research that addresses the question of whether posting, modifying, and viewing photos on social media hurts or helps women's body image and appearance self-esteem is currently underway. The available evidence and theory point to exposure to thin, idealized photos online, and taking and retouching selfies—which may masquerade as promoting body positivity and esteem—as particularly risky behaviors in terms of body image and self-esteem.

6. Conclusions

One of the ways in which the media affect perceptions of beauty is through the use of very thin and attractive models, known as the thin ideal, which reinforces the idea that 'thin is beautiful'. We summarized the research literature on the mass media, both traditional media and online social media, and how they appear to interact with psychological factors to impact appearance concerns and body image disturbances. While correlational studies show a clear link between exposure to thin ideal media images and body dissatisfaction, the results of experimental studies are more mixed. The most reliable finding in the literature is that exposure to thin media images makes women want to be thinner. In other words, there is strong support for the idea that traditional forms of media (e.g. magazines, music videos) affect perceptions of beauty and appearance concerns by leading women to internalize a very slender body type as ideal or beautiful. We further suggest that the media affect their audiences by influencing perceived beauty norms, thereby skewing perceptions of reality (and not just fantasy or inspiration). Experimental findings demonstrate that perceptions of what is considered to be 'average' influence how individuals feel about their own bodies and appearance. Rather than simply being passive recipients of unrealistic beauty ideals communicated to them via the media, many individuals actually seek out idealized images in the media. In a

recent set of experimental studies, we found that women who were primed to feel unhappy about their bodies were actually more likely to choose to expose themselves to media featuring thin, beautiful models. This idea has received virtually no research attention to date but is important, as it highlights the complexity of people's relationships to beauty ideals. Finally, there is a need for an even better understanding of the role of more modern forms of social media in impacting society's perceptions of beauty and notions of idealized physical forms. These new forms of media are changing the way in which people internalize standards of beauty and the ways in which they try to control others' perceptions of their appearance. Online media involvement is more interactive than traditional media, and the effects of self-presentation strategies on perceptions of beauty have just begun to be studied. Social media represent an emerging area of research that is of high relevance to researchers and clinicians interested in body image and appearance concerns.

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Beauty and the Beast: Perception of Beauty for the Female Athlete

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Additional information is available at the end of the chapter

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Abstract

This chapter is a discussion and reflection of how beauty is perceived through the lens of four different athletes over four different decades. Two basketball players, a gymnast and a skater, reflect on the language of their sport and how beauty is perceived and manipulated through language and coaching techniques. The experiences affect athletes over a lifetime, both positively and negatively.

Keywords: women, athletics, beauty

1. Introduction

When contacted about writing a chapter for the *Perception of Beauty*, I first thought that as a Sport Ethicist I probably had little to offer. But on further consideration, I realized that as a former athlete, there is much that needs to be said about how athletes perceive themselves as women and measure themselves by societal beauty standards in light of athletic participation. I was an athlete, albeit years ago, involved in sports in which “beauty” was sacrosanct. If an athlete was unattractive or did not appear beautiful, the athlete suffered and suffered much and often. I ice skated. I was a big girl—not just larger than most. A big girl as defined by being over 5 feet, 8 inches tall and weighing over 150 pounds. All of my peers were pixies—but I soldiered on because I loved the sport. Almost daily some comment was made about my size—the usual retorts were something like, “Man you are big for an ice skater?” “Aren’t you in the wrong sport, you should be playing ice hockey.” “You’re really pretty, but wow are you big, don’t you feel embarrassed being on the ice?” “Your thighs are huge—aren’t you self-conscious? Maybe you should lose some weight.” “How can you skate and do all the

jumps and turns being so big?" "An excellent skater but your body aesthetics detract from the performance."

The remarks came from various sources: other skaters, children skaters, parents of children skaters, coaches, instructors, and judges. Why did I stay in the sport? I was and continue to be an aggressive personality who is not easily swayed by words. The best reason though in staying with the sport was because I was a strong skater and the power of being a "strong skater" gives one not only physical strength but psychological strength. That to me was the real beauty of the sport. The perception of acceptable body size and physical beauty in my sport, however, overshadows everything that occurs within the sport and apparently lasts a lifetime.

Just last month, I was speaking at a regional sports conference, when a young woman researcher approached me. When I say young, I mean in her early thirties. Understand I am in my early seventies, so we are four decades apart but perhaps not so far apart after all. She had heard that one of the speakers had a former athletic career in skating. She said she knew who I was as soon as she saw me. Her direct quote, "Skaters all have the same look—the hair, the makeup, the nails, the carriage, you know, THE LOOK."

I know exactly what she meant—we do have THE LOOK. Unfortunately, THE LOOK probably is not the healthiest way to be. We, with THE LOOK, have paid dearly for THE LOOK—weekly weigh-ins, constant criticism of makeup, costume, body type, and then the aesthetics of the sporting experience as it is dissected and analyzed by judges. That experience has been with me for a lifetime—it is a memory filled with the tension between two realities: the love of the sport, the beauty of the sport, juxta positioned with the beast of the sport—the constant worry, criticism, and evaluation concerning "THE LOOK." When refined, this problem is greater than what occurs in my sport of figure skating—it is a problem that exists across the realm of women in sport and athletics.

For over 30 years, many academic and feminist writers have written of the perceived importance of female athlete beauty and the hegemonic practices to manipulate women to be beautiful [1–7]. That research is not an enjoyable read because of the oppressive subjugation of female athletes. Other research has argued that perhaps the former lines of research were mistaken or more importantly missed the true mark. Rather, it is argued, athletes are unlike other female populations and are not as affected by the need to be beautiful or see themselves as a "girlie girl." Adams et al. [8] found that high school athletes saw sports as "...the main vehicle by which they ... attained confidence, independence, assertiveness, and joy in the physicality of the body"

I believe that both arguments have validity. I see and hear the first line often. As a college professor who attends female athletic contests, I often hear male derogatory catcalls directed toward women participants. "Hey 18, What a dog, do you eat bones to keep you from being pretty?" "Nice ass, 21". "Number 8, bend over again—I have something to give you?" Interestingly, no security personnel ever reprimand the behavior. And fans are cruel—unbelievably cruel and words do have to mean [9]. I do not recall any of these remarks as positive about how these athletes look. Hegemony does still exist and is alive and well.

Because I teach sports ethics, gender equity is a subject that my classes continually discuss and study. I have spent a lifetime arguing, supporting, and writing about the rights of women to participate in sport [10, 11]. I have also studied the negative effect of competition in the sport on moral development and moral reasoning of both men and women [12–15]. Many times I have wondered if the day to day struggles concerning beauty, weight control, and participation of women involved in athletics are worth it. It seems to me that the strange tension between the beauty of the sport and the beast would affect athletes daily. With that being said, I wondered what other women athletes would say on this subject. Thus, I have asked three athletes of different age groups and different sports to share their stories.

Four former athletes from many different levels of competition, age groups, and sports experiences wanted their voices heard concerning the struggle of the female athlete and the beauty and the beast. However, as we moved forward on the project, I offered each of them authorship of this chapter. They agreed to authorship; they wanted their stories told, and they wanted to share their experience with the beauty and the beast. Hopefully, our captured perceptions give a vivid picture of “beauty” as an athlete sees herself as well as her depiction of the struggle with the beast within her sport. I knew that each of these women had a story to share, but did not realize the magnitude of the “beast’s” effect on them as people and women. Because of the nature of my and their reflections, they are co-authors for this chapter—they wanted their stories told.

2. Athlete of the current times

Nicole is a graduate student working as support staff with a women’s Division I basketball program. A 4-year collegiate athlete, she began playing basketball at the age of seven in the second grade and soon joined several AAU competitive leagues. She is a vibrant 24-year old who loves the game.

2.1. Nicole

When I played at USD, there was always an unspoken understanding that we as players were supposed to look a certain way. I remember hearing stories from the seniors my freshman year about how one of them stuck a weight down her pants during a weigh in because she knew she was not going to weigh enough. One of the seniors talked about how she had gained and lost so much weight she didn’t know what was normal for her body anymore. As basketball players, we needed to be muscular and “strong” so that we did not get shoved around, but we also couldn’t be too big because we needed to be able to get up and down the court. I never thought I would fall into this cycle but my sophomore year I fell into a weight obsession.

After an unsuccessful freshman year, I decided in my sophomore year to do whatever “it took” to play on the team. I was immediately told that to be considered as a viable player,

I would need to lose weight. I was put on a diet and specific workout regimen; I stuck to it because I wanted to play. After about 4 months of unhealthy eating patterns (skipping meals, drinking only weight loss shakes) combined with working out 3–4 times a day, I reached my goal. I was praised for all the hard work I had done and told how good I looked by my coaches, teammates, and even family. I associated the weight loss with beauty and success because that is the feedback I received from those around me. I also received more attention from men because of my new form and I thought this was the only way that I was going to receive this attention again. Unfortunately, my “hard work” did not translate into playing time. The criticism I received for being “overweight”, however, has stuck with me. I now only associate beauty with being fit and “in shape”- the supposed ideal I acquired during my sophomore year of college. My coaches instilled that in me because they were the ones to point out to me, the only way to be successful was to lose weight.

I have worked hard since those 2 years to change my perception of beauty and to see that starving myself and pushing my body past those limits, is not true beauty. However, it has been a long process and I still find myself comparing my current self to the way I was then.

3. Athlete of three decades ago

The second athlete is credentialed as a high school principal and participated in athletics during the 1980s. Her sport was both gymnastics and track and field. These two sports are at polar ends of the aesthetic perception of competition. Gymnastics, like ice skating, is a sport highly affected by the perceived beauty of the athlete and the aesthetic experience. The track, however, is based in being fleet of foot. Less weight is important because it is assumed one will run faster, but an athlete is not subjectively measured in track and field for beauty, but she is in gymnastics. In this case, Lisa is a petite woman and a very beautiful woman as measured by general beauty standards. However, apparently, she too suffered from the struggles with the perception of beauty.

3.1. Lisa

As a young girl, growing up and having an athletic build was a blessing and a challenge. I began taking gymnastics lessons at the age of 8 years old. I ran into trouble in high school when it became painfully clear that my appearance was very different than the majority of my female classmates. I had strong, muscular legs which, to my peers, appeared not to be feminine. I remember going clothes shopping as a freshman in high school and finding it difficult to find jeans that fit my small 5' 2" athletic frame- small waist and muscular thighs and strong powerful bottom. This trouble of finding flattering clothes was only one of several social snags as a female athlete.

The other girls in high school gave me grief for not looking feminine. When I wore a dress my muscular calves stuck out below the hem and the calves, to them, were reminiscent of an adolescent boy. I overheard girls whispering in class about how big my thighs were and how “gross” they were to look at. Being in high school in the 80’s did not lend itself to embracing

my type of body profile. Julia Roberts was one of Hollywood's "it" girls and my body was a far cry from her tall, slender frame.

A short time later, I recall being asked by a relative if the coaches gave gymnasts special pills to keep us small for competition. I had to explain to this grown man that, "No, we were not given special pills" and that the girls who reach the higher echelon of competition in gymnastics were there based on their skill, not their body size.

My gymnastics "career" came to an end around that time. At the former gym, I was considered small, however, when I moved to a bigger gym to train, I was told that I had grown too tall and did not have the right look. My hair was layered and hard to pull into the preferred ponytail. I did not wear the most up-to-date gymnastic attire, my 34 B chest was too big, and at 5'2" I was taller than most of the gymnasts there. I decided to try a different sport and became a successful sprinter in track and field.

I always enjoyed the movement and strength that the sport of gymnastics brought to my life. It quickly became a large part of an identity that I happily embraced. It brought me years of enjoyment and satisfaction. While the negative sides of the sport were present, they did not dampen my enthusiasm for the sport.

Lisa left the sport because of "her size" and went on to be successful in track and field. Today, she still runs and is a healthy fit woman.

4. An athlete of two decades ago

Heather is an academic and department chair at a NAIA college. She played both high school and college sport and coached for several years. She teaches cultural aspects of sports and is versed in gender inequity scholarship. Heather's story is very different and more poignant about the struggles that women endure in a hyper-sexualized world of athletics.

4.1. Heather

"Nice legs," the point guard said as I waited for him to check the ball. "Excuse me?" I replied. I stood up out of my defensive stance and looked at him with a puzzled look on my face. I glanced at my bruised thighs and shins, discolored by diving on the floor after loose balls, running into the knees of opponents when fighting through screens, or bumping into free weights while negotiating a crowded weight room. I was dumbfounded by his comment. My legs were not "nice looking" legs. They were certainly colorful, sweaty, and muscular, but not "nice looking". "Who is this idiot?" was all I could think. I thought we were here to play basketball, not pick up a date.

"Are you going to play ball, or not?" I spat out.

"I'll make you a deal," he replied. With a stupid grin on his face, he continued, "I'll check the ball if you'll go out with me." I could hear the guys behind me snickering, waiting for me to say or do something.

Completely embarrassed by this awkward conversation and just wanting it to end, I let out a sigh, shrugged my shoulders, and said, "Fine ... now check the damn ball."

Being the object of someone's gaze, whether a man's or a woman's, was a part of my experience as a competitive athlete. The competitive athlete relies on her body to excel, much like a construction worker relies on his/her tools to build quality materials. For me, as a basketball player, I needed to be strong, lean, and quick. In order to perform, I needed the right combination of tools at the right time. This required careful attention to nutrition and physical fitness. Hours lifting in the weight room, seemingly endless sprints on the track, bounding up flights and flights of stairs, engaging in dribbling drills repetitively until my fingers ached, and putting up hundreds of shots a day were essential to being well prepared for successful competition. This devotion to effective preparation resulted in me being connected with my body—with how it moved, how it felt, and knowing what it was capable of. I was proud of the effort and the result.

Though I viewed my body as an instrument capable of hitting jump shots, breaking a press, and pulling down rebounds, there were others who viewed it much differently. Some men seemingly felt free to comment on the curve of my ass or my muscular calf muscles while I struggled to squat, clean, and snatch weights next to them on the platform. I was wearing baggy shorts just like the guy next to me, but I was too busy trying to push the weight and too focused on completing a successful lift to notice his "form." My motivation was stronger muscles, but his catcalls revealed his motivation was sex.

The gaze of others wasn't limited to men. My female coaches and teammates referred to me jokingly as "Butch." I had short hair, wore sweats daily, and spent more time with a basketball than I did with male companions. These choices were purposeful. Short hair was easier to take care of. Sweats were more comfortable and easy to take on and off in preparation for practice. As a college athlete, my motivation was to excel on the court and in the classroom. I wasn't there to land a mate. I was there to become a better shooting guard and to prepare for successful entry into graduate school. Not everyone shared my vision.

Name calling ("butch" or "dyke") was common and served a purpose. It reinforced traditional ideologies about how women should look and act. Women were expected to appear feminine. Long hair, painted nails, makeup, and dressing in feminine clothing reinforced traditional gender norms. Such behavior was expected and reinforced. When women didn't fit this heterosexual norm, their behavior and sexuality were called into question. Name calling served to remind us all of what was expected and acceptable. Those names carried meaning and fear of backlash because they challenged traditional gender ideology and the accepted heterosexual norm. As a result, my teammates and I, whether gay or straight, felt pressure to fit into these norms. Hair length is an important marker. It was often a joke that female athletes must have a "ponytail gene" because ponytails are so prevalent in women's athletics. It was also a common occurrence for my teammates and me to discuss dating men and wanting children, whether they were actually dating men or had any interest in having kids.

An example of how these expectations can impact experience occurred during one-holiday break. All students who resided in the dorms had to move out while the campus was closed for the holiday break. I was displaced from the dorms with no place to stay but had to remain on campus for practice and games. One teammate invited me to stay at her apartment since

her roommate was headed home for the break. Thankful for the offer, I took her up on the opportunity. Not until I arrived did I learn that she was gay and had invited her girlfriend to stay as well. One night, after they both had too much alcohol to drink, they applied considerable pressure on me to join them sexually. After I turned them down, my teammate's girlfriend said, "But I thought you said she was butch."

The next day at practice I shared with a male assistant coach that I thought I might need to find a new place to stay. He responded with surprise and questioned how I didn't know my teammate was gay. He then with consternation asked why I hadn't taken greater care and made a stronger effort to make it clear that although I looked "butch," I was heterosexual.

The pressure to navigate these challenges was significant and ever-present. A competitive athlete will do just about anything to be involved in her sport. We are trained not to question, but to do as we're expected and as we're told. To challenge this expected norm would mean to threaten our opportunity to play. The play is key and an athlete's most valuable commodity. Athletes' bodies are powerful, yet we don't have power. To participate we are required to concede our power to those who coach and administrate us. If we are blessed to play for people who create a safe and positive participatory environment, this concession can be empowering. However, if we play for people who abuse their power and choose actions based on immoral motivations, the results can be scarring.

An athlete wants to please. If she pleases those who evaluate, she earns the opportunity to play. She can please by working harder, pushing herself to the point of physical exhaustion. She can please by working longer hours, opening the gym in the morning and turning the lights off at night. She can please by tapping into the unknown source of physical, psychological, and emotional reserves only the subjective can explain. An athlete begins to accept these sacrifices as the norm. Soon they are not sacrifices, just another day in the pursuit of excellence. The bar continues to move and always in the direction navigated by those in power.

Powerful bodies command a presence. Powerful bodies take up space. What happens when the power inherent in an athlete's body, one finely tuned through hours of physical exertion, is diminished by the person in power who chooses to take away such space?

How I saw and experienced my body was different than how others did. I, the athlete, viewed my body as a tool for physical proficiency. While it could be manipulated through drills and physical activity, others viewed it as an object for their gaze, and as something that could be manipulated for their pleasure.

5. Suggestions for change

As I read the above vignettes, to me it is painfully obviously that women athletes appear to have much in common with the perception of beauty and the beast of application. Each of these women tells a tale of manipulation by peers, coaches, and even other participants. Their comments also reflect what has been written on the subject of hegemony and misogamy [1, 2, 5, 8]. Most researchers argue for a re-education of society to address the issues. I reached out to each of these former athletes and asked her to offer her perspective.

5.1. Nicole

Even when I played basketball in Denmark I was around athletes who were professionals and they were worried about their physical appearance and body type. When I was walking around in the town that I lived in I was constantly told that I looked like a basketball player. How do I look like a basketball player when I am walking around town while wearing jeans, boots, and a winter coat? I always wondered what made people label me as a basketball player? Similarly, in high school walking around in airports as a team, we were constantly asked if we were a volleyball team or a swim team. Why never a cheer team or a dance team? I can only assume that it was because of the “the look” that we had.

As a coach at both the NAIA level and the NCAA D-1 level I have seen first-hand how women’s basketball players have a perception of beauty that is shaped by numerous factors. They want to be strong and seen as a threat within the sport but don’t want to be “too big” when it comes to lifting weights and having muscles. They are affected by each other, and peer feedback is a huge factor in how they see beauty. They do not necessarily have a sense of modesty when it comes to being in the locker room, but they are constantly critiquing their own bodies as if they are begging for a compliment from their teammates. They compare themselves to other girls who are not athletes, who are “skinny” and don’t have to worry about being able to lift a certain amount or being stronger than an opponent. I have heard so many times “well I’m self-conscious” or “if I didn’t have these basketball legs” while girls talk in the locker room. Their distorted views of their bodies come from society, the sport itself, spectators, and unspoken pressure from coaches. The sad reality is that so many young women their age would love to have the bodies these athletes do.

Both my experiences and seeing how the athletes I coach are affected by outside factors have affected my view of beauty. Because of the sport, I played and the criticism I received as a player I see a certain body type as the “perfect body” and this view is only solidified by validation from others. I will coach much differently than how I was coached—I will see and support women to be powerful and beautiful as they are.

Upon further reflection of the experience I had at USD, I was even more concerned with my experience as a player in regard to how I was treated with my weight because I had a female coach. It struck me as so insensitive and concerning that a female in a position of power and leadership would be comfortable treating an athlete that they are coaching and supposedly mentoring in this manner. She had no concern for my overall well-being or how her comments about my weight would affect me mentally, either in the long or short term. The other concerning thing is that I was only one of many players that were treated like this. My teammates who were seniors had been treated like this and had their weight yo-yo anywhere between 150 and 180 lbs. for some of them. The way that we were treated was not right by any means, and even worse was the way that we were somehow rewarded for this behavior with praise, compliments, and in some cases, more playing time.

Comparing this situation to the situation, I am witnessing now as a graduate assistant coach is drastically different. The male coach that I work under now does not ever mention the girls’ weight or physical appearance. He had never talked about putting them on a diet, nor has he

put any restrictions on what they eat when we are on road trips. The girls are not monitored as closely as I was when I played, however, the team is aware of what they should and should not be eating. While meal preference differs from player to player, it is interesting to see how some of the freshmen have changed their eating habits since arriving in August. Have they changed their habits based on necessity and the new physical demands their bodies are going through? Or are they just modeling their eating habits after the upper classman because that is what they feel is expected? These questions always cross my mind and I often compare the situation I am witnessing now to the experience that I had as a player.

With these two extreme approaches in mind, I feel that there must be some sort of middle ground that can be reached when it comes to how female athletes should be treated and approached when it comes to weight, which is already a sensitive issue within itself. The first suggestion that I would make is that a head coach should not be the one to have a conversation with a player in regards to any weight issues. A head coach is already in a position of power that can be seen as intimidating for players, and players are already under enough stress to perform. The head coach should not be responsible for weight management or discussing these issues with a player. If at all possible, a certified nutritionist should be available to consult. This nutritionist can serve as a liaison between coach and player to discuss any matters that are concerning to a coach as far as health, weight, and diet is concerned.

Another way to prevent negative experiences for players as far as weight is concerned is to educate the players and take more preventative measures, instead of being strictly reactive. The team nutritionist could have weekly meetings with players and team meetings to educate players on how to properly fuel their bodies based on the amount of energy they are expending. This would give players a safe outlet outside of their coaching staff to talk about nutrition concerns or body image issues. Furthermore, the players would have at least some knowledge as to what food they should be consuming so they do not resort to habits or diets that could lead to eating disorders or further body image issues.

As a former player and current coach, I see now more than ever the importance of building healthy habits and a positive body image for female athletes. The media and other outlets already do a poor enough job at educating women in this field, and this problem does not need to be compounded by more negativity from coaches or other influencing parties within each athlete's athletic circle.

5.2. Lisa

The problems of beauty I experienced were based on clothing styles and comments people made about me or those in the sport of gymnastics. For me, I was not that concerned with the latest styles because I was the most comfortable in my athletic clothing. I did not see the point in getting too wrapped up in the fashion world when I had bigger goals to meet in my sport.

I did not concern myself too much with what others said about me or about my body and the sport of gymnastics. I was so connected to gymnastics. It brought me such a feeling of accomplishment and through the years it had become a big part of my identity. If others thought my body looked unfeminine then they did not understand the satisfaction, through strength and

power that I had with my body. And I successfully demonstrated that for years. Also, whether I was too big or small, I had a great deal of success in other sports I played because of my gymnastics background whether it was medaling at state track or playing on a championship softball team. When the time came to leave gymnastics, I knew I would be able to pick up another sport as a strong competitor.

Gymnastics made me feel beautiful, confident, strong, and successful. Even when the time came to let it go and move on, I knew I would always carry it with me. To this day, it still contributes to my feelings of self-worth and my desire to push through difficult challenges in life.

5.3. Heather

Athletes have powerful bodies, but do we, as beings, have power? How one comes to understand her own beauty is heavily influenced by perceptions of others. Those whose opinions matter are often people who are in a position of power. If the opportunity to play exists in a safe and positive space, the benefits to engagement in sport are numerous and well documented. But if the play experience exists in a negative and harmful environment, the impact of the experience can be devastating. If a person in a position of power (e.g., a coach, an athletic director, a judge, etc.) believes that perceived beauty is a reflection of personal worth, this message can be detrimental and damaging to a young woman still seeking to find herself. The need to please in the pursuit of playing time can mean athletes may adopt unhealthy behaviors to reach an imposed end goal related to weight or appearance.

Athletes must be change agents in creating, supporting, and facilitating safe and positive participatory spaces. The culture of athletics has long been argued as a heteronormative, hyper-masculine environment. The truth is athletes are athletes, regardless of their sex or gender. Athletes, male and female, must demand change. No longer can it be acceptable for the use of language that demeans, belittles, and strips power. No longer can it be acceptable for people to take space that isn't theirs to claim. Athletes must hold themselves, each other, and their coaches and administrators responsible for their choices.

They do this through solidarity in numbers. For example, it is common practice for teams to set goals at the beginning of every season. Goals should include intentional efforts to create safe and healthy playing environments where athletes and coaches agree to support, rather than belittle, one another. Additionally, team members must commit to holding each other accountable to safe and healthy interactions. If teammates begin to police one another's word choices and actions, the participatory culture will change to be supportive.

An additional consideration is utilizing the services of a sport psychologist. Doing so will allow players and coaches access to a trained professional whose focus is on building a cohesive and supportive competitive unit. Additionally, a sport psychologist can work with individual team members on strategies to improve self-concept and self-esteem. If an athlete finds herself struggling with issues related to image or weight, a trained professional can help an athlete get the help she needs to make healthy decisions.

Being excellent requires preparation with others also seeking to be excellent. To become the best, you must give your best. To become the best, you must train with those who can push you to excel. However, people can only give their best when the environment allows it. An environment which demeans, belittles and strips power will never allow for one's best efforts to be practiced and supported. To truly become the best, we have to allow others the opportunity to become better.

6. Final thoughts

I am not sure that the beast of the sport—the ugliness of how people treat each other—is limited to sport. Lisa's story is more about other girls in school rather than experiences within the sport. I was always a big girl and even had a relative or two say hurtful things like, you are so pretty, too bad you are so fat. I even had an uncle call me the little fat girl from Marshallville. Society is hurtful, people are hurtful, and words have to mean [9].

The first step in making change is to inform and to share stories with others. This chapter is one of those first beginnings to an audience outside of the sport academic community. Title IX has brought sports participation to women in the United States, and more women today participate in athletics and sport than at any other time in the past [16].

Unfortunately, participation in sport is one of the few places in education and life where moral rules of society appear to be on hold. Stoll and colleagues have shown over a 25 span that moral reasoning and moral development of athletes, coaches, and fans appears to be masked when participating [10–13, 17, 18]. Rudd [19] asked 108 athletes of how often they were insulted or harassed by spectators; 47.2% said they had been insulted. Interestingly when pressed as to how hurtful the harassment was, the athletes appeared to say it had little to no affect on their playing though 17.6% felt the comments were hurtful. As Heather said and Lisa and Nicole supported, beauty lies in the strength of the athlete and the power of the athletic endeavor—and that's where we should all perceive the importance of beauty. Our comments about beauty are supported by Krane [4] who argued athletes know how to be "pretty" in a societal sense, but do athletes really want to deal with societal perception? Women today in athletics have more opportunity than in the past to participate and excel both in and out of sport. However, the beauty and the beast still exist in. We should take their suggestions to heart and make a difference so that the beast is laid to rest.

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A Plastic Surgeon's Perspective on Stereotyping and the Perception of Beauty

Johanna D'Agostino and Marek Dobke

Additional information is available at the end of the chapter

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Abstract

In the world of plastic surgery, misconceptions may lead to irrational requests or outcomes not appreciated by patients. Those who manage aesthetics should always listen and recognize the variability of cultural identities, desires, attitudes, anxieties and uncertainties of the patient. Emerging from a diversity of cultures and its transforming trends, the scope of cosmetic surgery and its practice reflect not only the individual's personality, but also the culture as a whole. When counseling an individual, one has to recognize that even in groups of seemingly identical social or cultural standards; there are subtle differences in expectations. To illustrate the potential for inaccuracy of ethnic profiling in the field of plastic surgery authors quote their own work on Asian subjects and facial beauty and resort to experience of others. To reaffirm their opinion and to exemplify how sometimes "fine" differences in the perception of beauty exist, an original study that evaluates the preferences among selected groups of Latina women in respect to buttock aesthetics has been included. This dissertation will focus on how cultural factors influence beauty perception; strengthen the fact that beauty is in the eye of the beholder and how variable differences exist even between small subgroups.

Keywords: perception, beauty, stereotyping, profiling, culture, diversity

1. Introduction

It is another typically busy day in the operating suite; bright lights and cold temperature invade the space. The staff is focused on their assigned, routine tasks. I watch as new patients head into the operating rooms naturally anxious about their surgery, while others have already completed their surgeries and are being transferred to the recovery unit. The schedule is on time; there are no delays so far. I am in the lounge using the computer, trying to finish some work, while waiting for the next case to start. I noticed one of the surgeons ordering a variety

of large breast implants to be available for an upcoming augmentation case. Nothing unusual, but it definitely caught my attention for a few minutes. The sales-representative inquired if the surgeon would need any smaller size implants for the case; his response, while it may hold some truth, was shocking to me, “Only the bigger ones, she is Latina... they all want big breasts.” Unfortunately, he as many other surgeons implement ethnic profiling and stereotypes to erroneously define their patient’s preferences. This “template” type of approach to cosmetic surgery is a misconception, and may erroneously lead to imposition of surgeon’s predilection and a surgical approach. Unlike society’s submission to fashion trends, any surgical intervention for beautification is, by far, more than consequential. Anatomical alterations may be irreversible and therefore listening and acknowledging each patient’s wishes as well as understanding their expectations is an integral part of the management of each case. We all have different tastes, likes and dislikes, which affect our definition and perception of beauty. This is one of the reasons why exploration of cultural profiling and its role in plastic surgery today is addressed in this chapter.

2. Body

For some, statements such as “beauty is in the eye of the beholder” and “perception of beauty that is in the eye of the beholder” are clichés. However, in plastic surgery, central to patient management, procedure planning, and execution is the recognition that everyone has a different perception of beauty. Implications of this perception and related research range from practical everyday activities (e.g., ability to get a job) to the artistic, political, and philosophical realms. For plastic surgeons, trends and perceptions of beauty characteristics (especially extreme) that become favored and those that tend to fade away provide challenging practice templates for daily work. The exact neural mechanisms of beauty perception are unclear; it is known that surroundings and one’s mood (including professional) may have a direct effect on visual processing (**Figure 1**).



Figure 1. Behavioral studies indicate that emotion can have an effect on perception of surroundings, including visual processing. A positive mood enhances peripheral vision and increases the extent to which the brain encodes information encouraging positive, novel thoughts and actions (Commercially available plaque in author’s collection).

Beauty? What is really beautiful? How do we determine beauty? Who decides if a specific feature is beautiful? These age-old questions in reality do not have an absolute answer. "Beauty is in the eye of the beholder" —it seems very precise. Beauty is an evolving term that is influenced by culture, geography, ethnicity, age, and art among others. What we today consider beautiful, would perhaps not be accepted somewhere else in the world or at a different time in history. In addition to opinion, different cultural stimuli further shape these judgments. The concept of beauty has never been definitive and will never reach an absolute. Beauty will continue to transform in similarity to fashion trends. Over the centuries, as the concept of beauty continues to evolve, the only fact that remains true is that society will continue to strive to conform to what their environment considers attractive.

Attractiveness affects our social perception and interactions in various ways. The fascination with beauty penetrates society worldwide. The desire to look and feel beautiful involves all races, ages, genders, and nationalities. It is believed that good-looking individuals are more fortunate and given more opportunities. Some say that less effort is required from them compared to their less attractive counterparts to achieve the same goals (e.g., job promotions, salary increase, better schedules, etc.) This perception drives individuals of all backgrounds and ethnicities to try and fit into what society accepts as beautiful with the goal to merit more opportunities, be accepted and respected.

"Ugly Betty" exemplifies this concept. This television show takes place in the "superficial" world of fashion, where image is everything. An outcast, Betty, a smart mind but unattractive girl, reveals her struggles trying to fit in. This soap opera, which originated in Colombia, has been successfully adapted into many countries and languages around the world. International versions of the show have maintained the appearance of Betty with mild changes to local perceptions of attractiveness of each region (Colombia, Mexico, USA, Croatia, Dubai and Egypt). This show has inspired many people to deal with body imaging and raise awareness about the impact of discrimination that women face based on their looks.

As different cultures and ethnicities relocate to other parts of the world, plastic surgeons are encountering very diverse patients who have been exposed to different ideal standards of beauty with unique motivations for accentuation or elimination of features considered non-attractive (e.g., prominent ears). Clearly, each patient's definition of beauty is the result of individual's specific life experiences.

Even subtle details can interfere with patient interactions. Stereotyping is a mistake that we are all guilty of. Anyone involved in patient's care can make such mistakes. One of the nurses told a new patient "Where in Russia are you from?" The patient surprisingly to her responded, "I'm not Russian, I'm Polish." Well, she had assumed from her last name that the Russian connection was the case. No negative consequences resulted from that action; however, like painting a canvas, start with a blank background. Eliminate all judgments and ask specific questions that will guide you into the creation of an individual piece of art. Plastic and cosmetic surgery allows you to transform and to an extent, recreate in the best possible manner the patient's wishes. As mentioned earlier, ethnicity plays an important role in defining concepts of beauty; however, it is reckless to assume that belonging to a certain ethnic background is a definite indication for specific beauty ideals. "When a patient comes in from a certain background and of a certain age, we know what they're going to be looking for" [1].

Assuming this type of attitude as a plastic surgeon will lead to unhappy patients. However, the surgeon has to be capable to describe to a patient elements to consider and be sensitive and sophisticated enough to at least enlist suggestions and the rationale behind them. Without awareness of different demographic and culture that characterize specific patients, guidance will be crippled.

Knowing your patient well and establishing a relationship in which the patient feels comfortable enough to express his or her wishes is the main key to success. I have been guilty of failing to recognize the broad diversity of beauty preferences. I remember a few years back meeting a young patient who had traveled from a different country to undergo breast reduction surgery. The size of her breasts had been affecting her social life and caused her to feel uncomfortable when interacting with other college kids. Meeting her provided me with new insights of a culture that I had not been familiar with before. This particular patient was beautiful with big black eyes, striking lashes, and gorgeous long black hair. She, however, did not feel comfortable and would camouflage her chest with oversized clothes. Her posture was also affected and she was constantly trying to cover her breast with her arms. Her body habitus was curvy with very large breasts that did not harmonize with the rest of her body. As I continued chatting with her, she mentioned that she wanted to be more active but felt restricted and embarrassed about her chest, which is a usual complaint of women with macromastia. I assumed that by decreasing her breast size, she would be able to participate in various exercise activities that so far she had not been able to enjoy. When I asked her what sports she was interested in practicing, she stated that she did not want to do any sports because that could cause her to lose weight. I was curious to learn the reasoning of her statement. She then described that in her culture, being larger in size was a sign of wealth and that she would never want to look skinnier. Those words and the insight into her perception of beauty helped me become more aware of the role of socioeconomics and its influence on standards of beauty.

3. Attractiveness then and now

Beauty has evolved through history and has been delineated by different eras. Starting with the Renaissance period (14th to 17th century), where standards of female beauty seemed to be associated with the more voluptuous bodies. Iconic artists as Leonardo Da Vinci, Michelangelo Buonarrotti, and Raffaello Sanzio da Urbino gave us insight into the characteristics of perceived beauty from this time. Not only the unique “Mona Lisa” but also the nude forms of Michelangelo’s Venus and Raffaello’s “The Three Graces” clearly depict the Renaissance’ sense of beauty. Baroque and neoclassic times were followed by the Victorian era (18th to early 19th century) in which art demonstrates a change in perception with the female body emphasized with a smaller waist. Charles-Edouard Boutibonne’s work such as the painting for Queen Margherita of Savoy reflects this new perception. The roaring twenties (Post-WW1) brought new awareness of beauty. Music, industrial growth, and the focus on movie stars transformed, yet again, what had previously seemed attractive. Beauty was now centered in less voluptuous bodies and a leaner boy look. Hollywood actresses and artist like Louise Brooks became an iconic symbol that influenced different aspects of beauty. In

the Golden Age (1930s–1950s with the end of WW2) beauty standards transformed back to a more feminine look. Actresses Jean Harlow, Rita Hayworth, and Marlene Dietrich epitomize this trend. The mid-twentieth century (1950s), brought in a new look with the hourglass figure. Movie stars such as Marilyn Monroe and Grace Kelly completely depict this new take on beauty. In the 1960s, thin bodies became fashionable, and the first supermodels were revered. Model Jean Shrimpton characterized and led this new look. The 1970s perpetuated the very thin look with Farah Fawcett being a strong example of this trend. Undoubtedly, Madonna characterizes the views of the 1980s followed by stars like Kate Moss in the 1990s. This brings us to today with the new millennium, where it seems more than ever that the emergence and influence from the major beauty trends combined with athletic influences are captivating the world, women like Shakira, Beyoncé, and Jennifer Aniston, among others.

The perception of beauty has transformed through time and across the globe during specific events in history. In the late 1400s and early 1500s, after Christopher Columbus made landfall in the New World, Indians who had not been exposed to any eastern culture were found to have a completely different perception of beauty. For instance, The Mayan concept of beauty was influenced by many of their religious beliefs. “Yum Kaxx,” the maize God, persuaded the Mayan’s attraction for an elongated head and the implementation of primitive procedures to modify physical aspects of their newborns (**Figure 2**). Trepanning, for example, was a process used by parents to flatten their newborn babies’ soft skull, facilitating their cranial transformation into elongated heads. Interestingly, cross-eyed deformities have never been thought of as a particularly desirable trait in European culture but in ancient Mayan culture, being cross-eyed was admired. In fact, like cranial shape modification, Mayans would also



Figure 2. Yum Kaxx, God of Maize. (Public domain; unknown Maya artist—Francis Robicsek: *The Maya Book of the Dead. The Ceramic Codex*, University of Virginia Art Museum (1981)).

go to great lengths to make their children cross-eyed during infancy. This was accomplished by dangling objects in front of a baby's eyes until they were permanently crossed. Moreover, based on different sculptures and artifacts, it seems as if some of their ideal features included large noses, pointed teeth, and multiple piercings that completely contrasted from other influences of the time.

Time-related changes are yet another example that clearly reflects the strong influence that specific trends have toward the perception of beauty, even in heavily "regulated" environments. Changes that occurred through time with the iconography of Joan d'Arc, who was supposed to be beautiful, exemplify, and support this opinion. With her canonization in 1920, religion-dominated stereotypes of thinking build her image to be rather ascetic and far from attractive by today's standards, yet fitting the principles of Catholic propagated image of beauty. However, numerous movies, known paintings and posters from as early as 1851, confirm her changing appearance and exemplifies how symbols and characteristics of beauty followed the public perceptions of magnificence and femininity, even while being "censored" by the church. Early images made in her lifetime were destroyed upon her being condemned as a witch, rendering them dangerous devil's currency. However, two written sources on the life of Joan d'Arc remain. The first, "Process de Condemnation", was a record of her trial during her conviction that consisted of the events that took place during her interrogation. The second, "Process de Rehabilitation," was a record of her retrial that compiled testimonies of eyewitnesses who all had personally known Joan d'Arc. Interestingly, in these documents, she was described as a short, robust woman with black short hair who only wore men clothes. Contemporary portraits of her seem to contradict the written sources. In a few images, Joan d'Arc is portrayed as an average size woman with long red-brown hair wearing armor. We may speculate that these images were created from the artist's imagination influenced by the perception of beauty of the time. Contemporary films similarly expose different takes on her appearance. The 1999 American movie "The Messenger: The Story of Joan of Arc" greatly differs from the popular TV miniseries "Joan of Arc" where beautiful yet completely different looking females Milla Jovovich and Leelee Sobieski portray this 15th century legendary warrior and saint (**Figure 3**).

In the current world, the fascination with the media and the capacity for globalization of culture and fashion trends has allowed an evolving international concept of beauty between continents. However, based on current experience from the practice of cosmetic surgery, it is clear that local preferences still remain strong. Is media powerful enough to influence perception of others? Can the use of specific products or brands make you feel and project a higher level of attractiveness? Well, hearing a 12-year old girl in a Victoria's Secret store telling her mother that she wanted to carry the bag because it would make her look prettier was shocking. The comment initially made me laugh but then, I wondered if this statement could hold any truth. A recent study revealed that consumers often prefer and choose specific brands in an effort to affirm and enhance their sense of self and as a result to create a more positive self-image [2]. Indisputably, we all recognize the effect that branding and media have in our minds. For example, hearing "Victoria's Secret" will most likely make you think about an attractive, thin, blond woman wearing sexy clothes. "Hugo Boss" will make us think about a tall, good-looking elegant male. All over the world, a brand's goal is to build an appealing personality to attract



Figure 3. Joan d'Arc: The only contemporaneous image created by a clerk of the Paris Court (Public domain; illustration credit National Archives, Paris, France).

consumers and enhance the way they view themselves. But not everyone gains the same things from a product. Two types of self-theories were identified and described: the incremental and the entity theory [3]. Incremental theorists believe that their personal qualities can be improved or enhanced by their own efforts. Conversely, entity theorists do not believe they can improve their personal qualities on their own and adopt signals to project improved qualities to others. The former study concluded that implicit self-theories carry a big influence on consumer self-perceptions, specifically the entity theorists. So can these same self-theories apply to the world of plastic and cosmetic surgery? It all seems familiar and recognition of these clues may open insight into the individual goals', self-perception and surgery expectations.

Many aesthetic research studies focus on finding characteristics that are considered attractive, but do they hold true? As we noted earlier, these same characteristics may eventually evolve into complete opposites. Other studies have focused on determining differences among "similar groups". Answering the question—What does the patient find attractive?—can clearly provide the plastic surgeon with information to minimize a generalization of their patients and improve surgeon-patient interactions and outcomes. The question arises whether surgeons and

patients are on the same page with what they consider “attractive”. Do surgeons from different areas of the world have similar perceptions when it comes to different body parts? A study, which explored this matter, confirmed that the perception of beauty has multiple influences and revealed interdependence between variables such as country of residence, sex, age, occupation, and aesthetic perception [4]. In this study, an online survey was distributed to both plastic surgeons and laypersons worldwide in an effort to assess lip attractiveness. The study gathered over 1000 responses from 35 different countries and concluded that surgeon’s preferences on lip attractiveness varied depending on their practice location. Additionally, it revealed that laypersons living in the same area as surgeons did not share the same aesthetic preferences.

In order to explore profiling of patients, our group conducted a study to test the hypothesis that there are meaningful differences in perception of beauty even between seemingly similar generations with the same ethnicity and culture. In this study, preferences for facial cosmetic surgery among Asian women were investigated [5]. It may have seemed based on geographical location that women of similar background would share the same views on beauty. However, significant differences in preferred beauty features were identified specifically for the periorbital region.

To further survey these geographical influences, a similar study involving yet a different ethnic group was undertaken. It was created to test the common stereotype that Latina women have similar opinions when it comes to buttock shape and its alteration or enhancement with cosmetic surgery. The interest in the topic evolved because it was noted that a growing number of patients from all ethnic groups continue to request this type of cosmetic surgery in the United States. Specifically, increased interest in the ideal buttocks has led to higher demand and inquiry for these aesthetic procedures. Between 2002 and 2003, a reported increase of 533% of gluteal augmentation procedures was reported by the American Society for Aesthetic Plastic Surgery [6]. Latinas are the leading consumers of aesthetic surgery among US minority groups [7]. Media has a strong influence in creating a consistent prototype when it comes to Latina women and their aesthetic preferences.

Although beauty ideals are subjective among individuals and continue to change between cultures and ethnic backgrounds, different ways to evaluate the gluteal region have emerged. Examination of the current literature identified specific features that describe the ideal buttocks. The hourglass female figure appears to be the preferred and ideal shape. A waist-to-hip ratio (WHR) of 0.7 was established and described to support this idea [8]. Other defining features that stood out as consistent features of beauty include the anteroposterior projection, the length of infra-gluteal fold, the presence of supra-gluteal fossettes and the upper inner-gluteal sacral junction “V-zone” [9]. Similarly, it was recognized that there are two relationships formed by the infra-gluteal to inner thigh and the sacral height to gluteal crease length as important contouring zones [6]. Furthermore, four different body frame types have been widely described as critical features that dictate specific interventions when planning buttock aesthetic surgery. An extensive search for gluteal aesthetic improvements has occurred since 1960 and led to the evolution of more advanced techniques and products with improved aesthetic results.

Our study was created to test the hypothesis that generalizing all Latinas in the same category of aesthetic preferences is inappropriate [10]. The target group was Latinas born

and raised in Central or South America but who were residing in the USA for at least 5 years at the time of survey. Three different countries were selected in a geographical manner to represent our study group. Three different zones were established: Central America, Eastern South America, and Western South America, which were represented by Mexico, Colombia, and Brazil, respectively. The investigation used a photomorph-based survey, which included 12 questions. Three of the questions were pertinent to age, nationality, and interest in plastic enhancement surgery. The remaining nine questions were composed of multiple photographs contrasting different features of the ideal buttocks. The anonymized photographs were obtained from public files on the Internet and were edited to reveal a specific feature (**Figure 4**). None of these pictures resembled the original. The area of interest was isolated on each photograph to eliminate any bias from the overall appearance of the models. The nine features were identified in the literature to define anatomical details that contribute to attractive buttocks. These features are listed in **Table 1** and were found to be essential during evaluation and planning an approach to enhancement surgery.

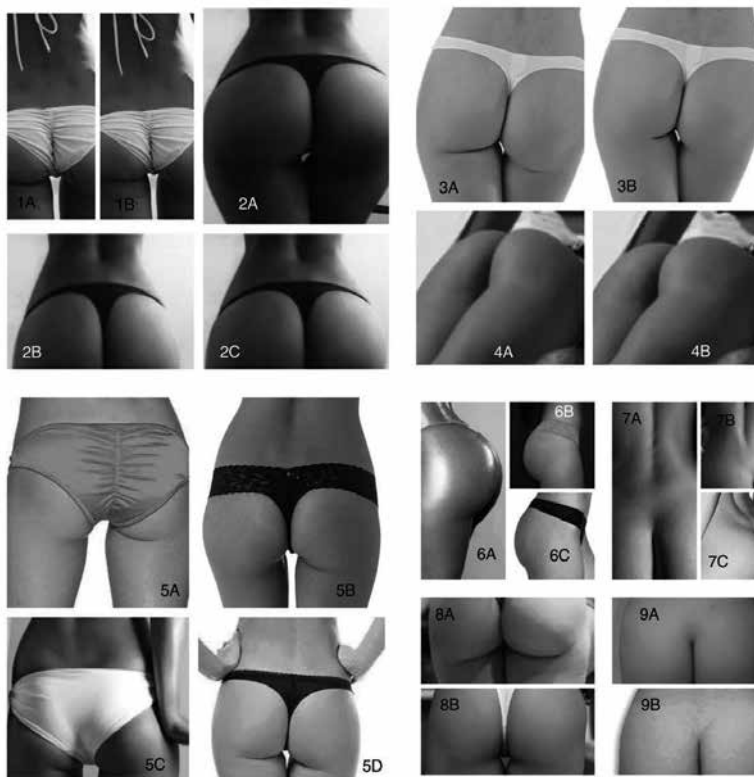


Figure 4. 1(A–B): Presence of supra gluteal fosses; 2(A–C): Waist to hip ratio; 3(A–B): Length of infra gluteal crease; 4(A–B): Prone projection; 5(A–D): Square, A-shaped, V-shaped, Round; 6(A–C): Profile projection; 7(A–C): Sacral height to gluteal crease length; 8(A–B): Presence of diamond zone 9(A–B): Presence of V-zone (Public domain).

Features	
1	Supra-gluteal fossettes (SGF)
2	Waist-to-hip ratio (WTHR)
3	Infra-gluteal fold (IGF)
4	Antero-posterior projection (prone) (APP-p)
5	Frame shape (A: A-shaped; S: square shaped; V: V-shaped; R: round)
6	Antero-posterior projection (profile) (APP-pr)
7	Upper-inner gluteal sacral junction (V-zone)
8	Infra-gluteal fold inner thigh relationship (diamond zone)
9	Sacral height to gluteal crease ratio (SH-GCR)

Table 1. Features.

The survey was written in Spanish and Portuguese; it was distributed via social network and available for 5 days to female participants only. At the end of the 5 days, no additional surveys submitted were accepted. The identity of each participant was verified with the records from each personal profile in the social network. The study concluded that despite having similar backgrounds and influences, their buttock aesthetic preferences were not consistent. Even among women from the same country, differences were encountered. Regardless of nationality, each patient is an individual with unique predilections that have been influenced from specific life experiences, cultures, education, economics, and social surroundings. This is what contributes in shaping their perception of beauty. Consequently, plastic surgeons should be sensitive to different ethnic concepts of beauty and appreciate a range of values rather than assume what a specific culture or ethnicity prefers.

Not only Latina but also black women are believed to prefer large buttocks. I erroneously at one point believed that statement. During a regular clinic day, a real example was in front of my eyes. This memorable patient had suffered from erroneous stereotyping based on her race. She had previously undergone an enhancement procedure for her buttocks. Specifically, she had fat injections to improve her shape. Soon after talking to her, she started crying from frustration with the results obtained from the procedure. She explained that she just wanted a slight increase of the projection of her buttocks. However, communication and discussion of expectations were not successful. The surgeon who performed the procedure assumed that because of her dark skin, she wanted large and voluptuous buttocks and performed what he “thought” the patient wanted. A thorough discussion prior to signing informed consents for cosmetic procedures should emphasize expected outcomes and ambitiously approximate the patient’s goals for his or her appearance.

As one can imagine, buttock reshaping is not performed in the same manner for everyone. All surgical techniques are used in combination to achieve the desired results. Baseline

exam of the patient and analysis of their buttocks are crucial prior to undertaking any intervention. Identification of physical features and the input from the patient will guide the plastic surgeon to the proper approach. It is important to recognize that physical features not only vary among females but also across gender and ages. For example, it has been demonstrated that male buttocks show fewer signs of atrophy and transformation with aging in comparison to females. The aging process is based on fat distribution, skin and tissue changes, volume and the effects of gravity [11]. Proper analysis applies to every part of the body (**Figure 5**).

Our studies on facial and gluteal features are random examples on how profiling and stereotyping can lead to inaccurate assumptions in cosmetic surgery. They denote that scientific analysis can assist the surgeon in preoperative counseling. It also influences in learning and managing patient expectations and helps to optimize the choice in tools for beautification. The use of evidence-based medicine to approach the design and execution of cosmetic surgery is practical and helpful in codification of technical guidelines (**Figure 6**).



Figure 5. Fernando Botero's sculpture with exaggeration of curvy buttocks. Emphasis on the female buttocks as a sexual characteristic has recently increased, upper female torso (breast, shoulders) give way to the lower, perhaps perceived as more erotic, area of the body, specifically buttocks. The question arises whether the fashion (tight, accentuating hips, jeans) plays a role in this change (Old Town Cartagena, Colombia. Photograph by the Author).

Dear colleagues and friends,

Goal of this study is to analyze aesthetic preferences regarding the most attractive "ear axis", to determine any existing socio-demographic differences.

The link below contains 5 questions (it should take less than 1 minute):

<http://ears.plastic-surgery-survey.com>

We would greatly appreciate your opinion!

Sincerely,

Figure 6. Surveys help to establish objective and sharable information for aesthetic surgeons and the public. Colleagues from Munich pursued also other beauty codifying projects (Photograph by the Author).

4. Beauty, plastic surgeons: Are we unsettled?

Plastic surgery symposiums offer learning opportunities in the form of oral and poster presentations, as well as by interactions with other plastic surgeons. Some of these interactions have provided eye-opening experiences during my training. Recently, while attending one of these events, the highlight of the night was listening to the introduction and speech given by the physician who had the honor of receiving the night's "Lifetime Achievement Award." It was fascinating to learn his story of success and multiple accomplishments, but undoubtedly, what I found outstanding was the fact that he was able to use his cultural and ethnic background and apply his surgical knowledge to the analysis of his patients. His career path and his own race inspired him to study hundreds of black noses from different cultures and create a classification system to aid other surgeons to understand the differences on this type of patient. His interest was motivated by the erroneous assessments he witnessed during his career when other plastic surgeons continued to apply the same general techniques to every patient regardless of their different features and incompatibility of the procedures [12].

Assessments and technical approaches to aesthetic body changes, not necessarily for pure beautification, but in a broader sense for the transformation of the patient's image, should include patient age, ethnicity, characteristics, and flavor of desired type of attractiveness, fashion, etc. The assessment may require an isolated and comprehensive evaluation of "aesthetic units." For example, the analysis of anatomically defined parts of the face (subunits) helps to isolate different components of beauty (or loss of it) and provides the surgeon data which can be utilized for the development of software to image and morph imaginary outcomes to determine how the patient perceives his or her beauty features and propose changes [13].

If one considers that cosmetic medicine and surgery are scientifically based, then consequently, an evidence-based approach to cosmetic surgery requires objective data based on which recommendations are formulated from the assessment. On the other hand, if beauty is defined as a subjective notion; perceptions of the patient and experience of a surgeon, less hard-core scientific evidence is needed at for the decision-making process. The reality is that both subjective and objective factors are needed for successful cosmetic interventions. Intermingling subjectivism with objectivism, in different proportions, depending on both patient's and surgeon's preferences are fundamental for the connection between both parties and a successful surgery. Unexpectedly, to a degree, differences in the perception of beauty (subjective) between seemingly similar ethnic groups may be rooted in variable approaches based on how they celebrate bodies, personal wellness, and achievements (objective). For instance, in China, the new-style *qipao* (body hugging one-piece dress) represented the symbol of changing attitudes and perceptions of beauty. The trend that started to dominate China in 1930s coincided with the abolition of foot binding and breast binding. These events marked a new era with displays of healthy and natural beauty and are an extreme historical example of diametrical change of the perception of beauty within the same ethnic population [14].

The need to mix subjectivism with objectivism brings relativism (the doctrine that knowledge, truth, and morality exist in relation to culture, society, or historical context, and are not absolute and constant) to cosmetic medicine and surgery. Standards of reasoning and justification, translated into guidelines of practice, will depend on time and place. Good or bad (it is relative and subject to changes with time), these are products of differing conventions, i.e., plastic surgery and dermatology publications, fashion, and frameworks of assessment. Therefore, the authority of the norm is confined to the context giving rise to it (e.g., beautiful, morally good, epistemically justified). Debates about relativism permeate the whole spectrum of philosophical sub-disciplines: from ethics to epistemology, science to religion, political theory to ontology, theories of meaning and even logic, and now to the dilemma whether aesthetic surgery is a part of medical science. In the opening paragraph of this chapter an anecdotal example of inappropriate but unfortunately frequent subjectivism was brought up. The question whether cosmetic values and assessments are or are not part of medical science is of paramount importance and goes beyond the surgical locker room and certainly belongs in this chapter. For example, paradigm for body image stands behind "increasingly scientific" approaches to body dysmorphic disorder. Social perception and stereotyping have been important issues in social and cross-cultural psychology over the centuries but plastic surgery pushed boundaries of concerns to an unprecedented level. Certainly, a plastic surgeon's perspective on stereotyping and perception of beauty goes well beyond the componential approach to interpersonal social perceptions. Therefore, standards of reasoning should be

studied, codified, and continuously adjusted. It is the author's opinion that aesthetic surgery is a science, however with continuously changing paradigms. Our focused studies appear to affirm this notion [15].

Coco Chanel remarked that fashion is always of the time in which we live and "is not something that exists in dresses only". Social media technology has changed the world; consumers of both fashion and cosmetic surgery are savvier than ever before and more comfortable with exploring the range of fashion, aesthetic medicine, and surgical options available. Emerging from our diverse culture, the fashion industry projects a symbolic system of society preferences that speak about current society's personality. Beauty criteria and preferences—although related to fashion—appear to be more timeless where the impact of local microcosm and beliefs are stronger and entrenched with local traditions. The future of plastic surgery will continue to build bridges between art, ethnography, and science.

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The Islamic Veil, the Domestic Environment, and Femininity

Fatma Zehra Fidan

Additional information is available at the end of the chapter

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Abstract

This study aims to determine the way that the women who define themselves as religious Muslims dress and act in a manner that evokes femininity at home. During the study, focus group interviews were held with 10 religious women (9 veiled, 1 non-veiled), and in-depth interviews were held with two women who were members of the İsmailağa community. The participants of the focus group interview were highly educated, employed, and married with children. The women who were members of the community had completed primary school, were unemployed, and married with children. The data were analyzed using the discourse analysis method. The study results showed that home was a space of liberation for all the women. It was found that the highly educated employed women and the housewives who had graduated from high school have different ways of dressing and acting femininely at home. Religious Muslim women considered their home as a space of liberation for feminine actions; however, having children limited their life at home. The notion of raising an ideal generation legitimizes restrictions of religious women's private space.

Keywords: women's religiousness, life at home, feminine actuality, discourse analysis

1. Introduction

Religious Muslim women's identities have become the subject of a wide range of research from struggling for existence in the public arena to the sharing of housework. Veiled dressing styles are directly associated with the beliefs of religious Muslim women. Veils have been at the core of many of these studies with attempts to understand female religiosity from this perspective. The ways veiled women dress in their homes and display feminine behaviors are not detailed sufficiently. This study focused on the dress and behavior in the private indoor lives of women who consider themselves to be religious Muslims.

Women's bodies play a central role in the construction of a Muslim religious identity since they have a place in social norms, practices, and values. Determining what is *natural* for bodies according to social and cultural codes resulted in the evaluation of women's bodies under social pressures [1–3, 5]. Veiling is one of the most important indicators of female religiosity. A woman who is veiled to carry out the orders of the religion is thought to bring her religious beliefs into action. This is based on the Muslim identity's desire to establish a deep connection between thought and action [6, 7]. The root cause of the legitimization of veiling is consensus on women' being living creatures who leads to *fitna*,¹ which is identified with bodies and bodily desire. Thus, veiling was considered as a way of dressing that would minimize or eliminate the sexual desire of men. *Fitna* is the most basic foundation of the Islamic social order, which depends on gender duality since it is the justification for supervising women in Islam [8].² In this sense, dressing style has a moral function, the function of saving the honor of women. According to Islam, dress is a means of modesty and decency that should not reveal women's bodies and their shapes. On the contrary, it should hide them [24].³

Although the appearance of Muslim religious women is identified in this way, the limitations of women's veiled dressing and the behavior that evokes femininity in their private indoor lives are not known. Here, behavior that evokes femininity means how a woman reveals her sexual identity to the person she feels romantic about or sexually attracted to, in this research context, her husband.

2. Aim

This study is intended to understand the indoor dressing styles of women who define themselves as religious Muslims and their behavior that evokes femininity.

3. Method

To answer our basic research question, a focus group discussion was conducted with 10 highly educated, working women, nine veiled and one non-veiled, who defined themselves as religious

¹Derived from "trouble or going astray," the other meaning of the term, *fitna* [9], is a beautiful woman. It indicates the degree of beauty that prevents men from non-indulgence or a *femme fatale*. *Fitna*, by the definition of a Muslim feminist, Kasim Amin, can be interpreted as the chaos that results from sexual disorder caused by women [10].

²In the traditional Islamic social system, women's education [11–13] and taking part in social life as professionals were not considered appropriate [8, 14, 15]. Their inclusion in other social and political activities was not supported. It has been argued that women are not competent in these fields [16]. The human roles of women who were completely integrated with their domestic roles [17, 18] were limited to bodily tasks based on only the reproduction of the bloodline, and their social acceptance was attributed to being obedient to their husbands [16, 19, 20]. This female identity constructed by male interpretations of the religion has encountered modern objections in recent decades [21]. Islamist women who argue that the limitation in question is not appropriate for Islam have struggled for existence in the visible areas of social life and contributed considerably to the reconstruction of female religiosity [22, 23].

³Veiling is based on the *Koran*, which supports the social separation of women and men [27, 28]. It means "curtain" or "a barrier in the spatial dimension" [29, 30]. Veiling is considered to be a form of cruelty that restricts women's freedom [31], but it is not always the result of coercion. It is known that Muslim women in some non-Muslim countries are veiled by their own preference [28, 32]. Muslim women consider traditional veiled dress as a reminder of a life that obeys the orders of the *Koran* and conforms with Muslim beliefs and values [33].

Muslims. Focus group discussions are “series of discussion that are carefully planned to obtain ideas about a predetermined subject in a moderate and non-threatening environment” [25]. During the focus group discussion, participants affect each other’s feelings and ideas as a result of the mutual interactions and associations, thus allowing for a sufficient information flow. Using this method, researchers overcome various obstacles such as peer pressure, social approval, and likability, and they aim to learn about the real perceptions, feelings, and ideas of the participants [26].

The women who participated in the group discussion did not veil in the same way. Although it is possible to categorize participants’ clothes such as topcoats, long skirts, jackets, trousers, and tunics, these clothes differ in tightness, wideness, length, shortness, fanciness, and simplicity. An unveiled woman who calls herself religious was considered to balance the program. It was realized during the group discussion that we were right about our predictions. This woman offered questions and points from different perspectives and contributed to the group discussion. Of the participants, one was divorced, and the others were married. Of them, five defined themselves as “students of Nur,”⁴ three defined themselves as “sect members,” and two did not define themselves as belonging to any religious group.

The women with whom we conducted in-depth interviews defined themselves as religious Muslims and defined as members of the İsmailağa Jamia.⁵ We met with these women while preparing the book, *Çarşafılı Dindarlık (Veiled Piety)*. Other meetings were conducted as part of this study, and participant observation supported the claims of the women. Participants veil themselves with a uniform black cloth that reaches from head to the feet and is called *jilbab*. The women were married. They had completed primary school and had children (one was pregnant).

In-depth interviewing, one of the most widely used research methods in sociology [25], is an effective method for obtaining information about individuals’ experiences, attitudes, feelings, complaints, views, and beliefs [34]. The key purpose of in-depth interviewing is to enter the inner world of the individual about whom the researcher wants to obtain information and to understand their point of view on that issue [25, 35]. Defined as “a carefully planned series of discussions to obtain the perceptions of a predetermined issue in a moderate and non-threatening environment,” focus group discussions can contribute to obtaining information on the matter at hand [25] (Tables 1 and 2).

3.1. What is discourse analysis

Discourse analysis has three analytical focuses of interest: interpretative repertoires, subject positions, and ideological dilemmas [36–38]. Interpretative repertoires are composed of themes, metaphors, images, and patterns in speech, which are constructed by people and have descriptive functions [39]. Subject positions are determined after the social actor providing the explanatory repertoires is found [38]. Determining the subjects within discourse enables us

⁴Nur students are the Muslims who study and live by the book, *Risale-i Nur*, by Said Nursi.

⁵İsmailağa Jamia is a branch of Nakşibendi tariqah. Women veil themselves with a uniform black cloth that reaches from head to the feet and is called *jilbab*. Many women in the Jamia completely veil their body except for their eyes. Men in this Jamia wear sirwal and thawb, and cover their heads with taqiyah or imamah. One of the most important rules in the Jamia is to comply with the dressing rules determined for the genders and spatial separation between the genders. Another permanent rule of the Jamia is that women cannot study or work in public schools. Women’s experiences in this Jamia have been detailed in our book, *Çarşafılı Dindarlık*. This book is being published.

Participant	Age	Education	Veiled	Marital status	Number of child
G-1	38	University	Yes	Married	1 B/1 G
G-2	37	University	Yes	Married	2 G
G-3	36	University	Yes	Married	2 B
G-4	31	University	Yes	Married	1 G/1 B
G-5	36	University	Yes	Married	2 B/1 G
G-6	31	University	Yes	Divorced	1 B/1 G
G-7	39	University	Yes	Married	2 B
G-8	36	University	Yes	Married	1 B
G-9	37	University	No	Married	2 B
G-10	37	University	Yes	Married	2 K

Table 1. Participants of focus group.

G-11	27	Primary educ.	Yes	Married	(Pregnant)
G-12	30	Primary educ.	Yes	Married	1B

Table 2. In-depth interview group.

to describe the discursive world and develop criticism of the discourse [40]. As a discursive practice, positioning is a skill through which the people in question can move to new positions. Positioning practices occur in different ways, and they vary [38]. This study examines the interpretative repertoires and subject positions and will not emphasize ideological dilemmas [3].

4. Discourse analysis

4.1. Home is the place where women can live their sexual identities freely

All of the participating women defined home as a legal place where religious women can display their sexual identities. Although their ideas about limits of this legality differ, home is identified as the most private space in religious Muslim women's lives.

The participants presented religion-based facts regarding the holiness of marital life and maintaining their health, and agreed that the private relationship between partners has no limits other than those determined by religion, namely not to have sexual intercourse during their menstrual periods⁶ and *livata*.⁷

⁶The provision for women during menstruation (*hayız*) period and puerperant (*nifas*) women is like for a *junub* person, and it is *haram* for such women to have sexual intercourse [41].

⁷*Livata*, which is forbidden in Islam, is sexual intercourse between men or anal intercourse. This is forbidden by Islam's prophet with these *hadiths*: "He who has intercourse with his wife through her anus is accursed," "On the day of resurrection, Allah will not look at a man who has had intercourse with a man or woman's anus" (see EbûDâvûd, *Nikah*, 45; *Müsned*, I, 86, 444; *Tirmizi*, *Taharet*, 201; *Mişkâtü'l-Mesabih*, II, 184).

"I think there is no limitation between wife and husband. It is also acceptable for women... Men should satisfy their wives. They should do whatever their wives like. I mean, it is mutual" (G-11).

The statements of G-11, who is veiled in her social life outside the home, defend the spatial segregation principle based on Islam and satisfying pleasures that religious people need is supported as a religious task. The participant defined marriage as a legal and beneficial place for partners to achieve satisfaction, and identified mutual emotional satisfaction as a task that is necessary for a healthy marriage. According to the social actor (G-11), while unveiled women display their femininities in their social lives, those who are religious display femininity and are only sexual in their homes.

The homes of people who prefer to live according to Islamic rules are seen as being free of religion-based barriers in social life at a certain extent. G-12 enthusiastically spoke of her relationship with her husband and emphasized that her femininity in private has only religious limitations. G-12 specified the romance level in her marriage saying, "In the first year of our marriage, we were always having candlelit dinners,"⁸ and claimed that feminine attraction should be very strong in religious women's homes. G-12 states that women can unveil themselves and wear attractive clothes only in front of their husbands, which suits the principles of the Jamia.

"Even if you are with other women, you cannot wear trousers or skirts. It is not approved. In society, you should wear a loosely fitting, long dress. You can wear whatever you want at home. Hair coloring, wearing fancy clothing are women's duties towards their husband, are *ibadah*. It is required for women to protect their husbands from sin. For example, I dye my hair blonde. At home, I put on makeup for my husband. When my hair color fades a little, he says, 'Let's dye your hair blonde again.' (The participant was laughing continuously while saying this.) When my son was little, I wore strap dresses. My husband said, 'Someone who sees you outside cannot imagine you in those dresses.' Now, our son has grown up, I cannot dress like that now. It is necessary to be careful" (G-12).

The speech text that can singly set an example for the research question is a common emotion and statement of women who belong to the İsmailağa Jamia. Personal pronouns used in the participants' statements, which have different introduction sections, are important to the analysis of this issue. The sentence about how religious women should dress while they were with other women indicates a rule. This rule is generally based on Islam and specifically on the principles of the Jamia. The personal pronoun, you, used in sentences such as "You can wear whatever you want in the home. Hair coloring, wearing fancy clothing are women's duties towards their husband, are *ibadah*."⁹ It is required for women to protect their husbands from sin." is an extension of the social actor's (G-12) identity as an instructor for the Jamia. As a hodja in Jamia courses,¹⁰ she produces discourse or conveys

⁸According to the participants' statements, in their interaction with their husbands, the romance level was high, and emotional expressions such as "my love" were commonly used.

⁹Ibadah: "Executing the orders of Allah, avoiding from what is banned. Any benevolence that is performed with good faith" [42].

¹⁰According to the principles of İsmailağa Jamia, female and male children should not go to public schools because the education in public schools is considered to be noncompliant with Islam. The Jamia opened courses to raise a religious generation in accordance to its principles. Quran, sunnah (statements and behaviors of the Prophet), Arabic lessons, and the teachings of Sheikh Mahmut Ustaosmanoğlu are provided in these courses for at least 3 years. There are further stages of education in the Jamia, but they are optional. Followers who wish to advance in any religious subject continue with the further stages. Women and men who successfully complete the 3-year education in this course are called masters. They teach their knowledge to other people. This mission can be performed within the course as well as during *religious meetings (sohbet)* [43]. More details can be found in our book, *Çarşafılı Dindarlık*.

discourses by positioning herself as an instructor in her congregation's hierarchy to her interlocutors.¹¹ The last sentences, where she uses the first-person singular pronoun, include personal experiences. Her gestures and facial expressions while expressing how femininity is experienced in her domestic space indicate her pleasure and happiness in her private life and mutual satisfaction between wife and husband. G-12's husband said, "Someone who sees you outside cannot imagine you in those dresses." This is remarkable because it implies that people outside the Islamic life style misperceive both religious men and women. Displaying feminine attraction, which is limited to older children, creates a conflicting situation for the participant, since children should be kept away from the symbols that evoke sexual desire in order to achieve the planned level of *taqwa*¹² and complete the moral education.¹³ According to the principles of the Jamia, if female and male children see their mothers without hijab, even at home, after the age of 4, it will be against the *taqwa*. On one side, there is an obligation for parents to educate their children as religious Muslims, and on the other side, there are gender-based actions that are desirable and seen as proper. After the last examination, the obligation to raise the children in the *proper manner* dominated, and the social actor (G-12) limited these actions by dressing in a more moderate way around the children. The indispensability of Islamic principles ("It is necessary to be careful") prevailed over dissatisfaction ("I cannot dress like that now").

Among the group of highly educated women, wearing revealing clothing was not based on religious responsibility toward their husband. It was as a personal desire.

"I do not veil myself in the house, I mean, in summer. A short, knee-length dress, I mean, I wear revealing clothes" (G-5).

"I do not dress at Home as I do at work... I prefer to be relaxed. But whatever I wear, I prefer good quality clothing. For example, I wear tracksuits, but they are stylish, not sloppy" (G-3).

The highly educated working participants emphasize comfort in their clothing styles at home. Sentences using the first-person singular pronoun indicate different criteria, which are independent from religious discourses, for indoor clothing styles.

This differs from the religious approach to daily life. The fact that the participants are highly educated and have jobs affects this situation; however, the religious limitations on the domestic reality of another participant (G-7) with the same qualifications show that an absolute conclusion cannot be reached.

At this step of the discourse analysis, it is possible to say that home is a liberation area, at a certain extent, for religious Muslim women. It is obvious that the Jamia¹⁴-based religious attitude

¹¹The researcher is the respondent of the participant in this interview. Students and the group of women are the respondents when a master is present and performs his/her duties.

¹²The Jamia considers *taqwa* as avoiding what is absolutely banned by Islam as well as behaviors that are not banned, but should be avoided. According to Islam, a mother can be around her male children without a hijab, but Jamia considers this against *taqwa*.

¹³In addition, TV had been banned by the Jamia until recent years. However, to protect the followers from the *modern attacks*, the Jamia opened its own TV channel (Lalegül TV), giving followers access to TV. The sheikh gave permission for opening a TV channel. This is a method to protect the religious generation from the harm of other TV channels, which is considered *ehven-i şer* or the lesser evil. For more details, please see *Çarşafı Dindarlık*.

¹⁴This congregational approach belongs to the İsmailağa Jamia. A study, *Çarşafı Dindarlık (Veiled Piety)*, which examines female members of the İsmailağa Jamia, thoroughly analyzes this issue. This book is in progress.

about women's dressing styles among other women is multilaterally¹⁵ limited. Therefore, how different perceptions differentiate religious orientations and daily practices [43] are recognized once again. The difference between the religious perceptions and ideas regarding the religious manners of women, and the religious practices performed with these perceptions and ideas are enormous. The behaviors of religious women with liberal religious beliefs are elaborated in the book, *Modernlik ve Dindarlık Arasında Kadın (Women Between Modernity and Religiousness)*,¹⁶ and the behaviors of dependent religious women are detailed in the book, *Çarşafılı Dindarlık*. This once more indicates that Islam should be reinterpreted being released from the pressure of masculine or traditional points of view [43–47]. The masculine approach that limits women's daily lives with religion-based arguments is a subject of another study.

4.2. Women's most important duty is satisfying their husbands/getting dressed up for their husbands: *ibadah*

Rather than a personal sense of satisfaction, there is a religious justification for the fact that women display their feminine attractions at home.¹⁷ Displaying feminine attraction to her husband is a religious command and *ibadah*.

"According to Islam, a woman's most important duty is satisfying her husband, looking beautiful to him... Getting dressed up for husbands is an *ibadah* as long as she does not show this to other men... I frankly think that this is very important for both men and women. There is something mutual. Women want to be admired, and men want to see beauty. If he protects himself outside, he tries not to look..." (G-11).

¹⁵Women's indoor clothing styles are not independent from the Jamia mission. In a television program broadcast by İsmailağa Jamia members, a female audience member asked, "Can a woman stay at home bareheaded?" and the answer was: "Indeed, a woman can wear revealing clothes in the home, but this can pose an obstacle for angels of mercy to enter houses and for the spirits of prophets, martyrs and good people. Of course, uncovering the hair a little is acceptable, but a woman should cover her hair as far as possible. It will not be appropriate." <https://www.youtube.com>. (Accessed: January 7, 2017) [48].

¹⁶*Women between Modernity and Religiousness* is a study conducted with women who define themselves as Nur students, but do not belong to any of the Nur communities in Turkey. The women improved their religious thinking and practices by reinterpreting the religious texts named *Risale-i Nur* using a hermeneutic method. They also carried out economic events articulated to modern life as a result of the activities carried out in the meetings for religious conversation named *Sohbet*. Two of these events were a fireproof gloves factory and Kırççeği kindergarten. The ideas of these women about women having a profession, receiving higher education and working are close to Islamic feminism. The women have no knowledge of any kind of feminism. Nevertheless, it is remarkable in terms of religious sociology that they reached the level of Islamic feminist thought by reinterpreting the *Risale-i Nur* texts. Each of the characteristics specific to this group is a separate research subject. The most important characteristics include love, the preacher-student relationship, theodicy, the specific language they created in a state of consciousness that reminds one of Kristeva, and shaping daily life within the context of *Esmâ-ülHüsna* (the beautiful names of Allah).

¹⁷The indispensability of this principle has been emphasized in many religious conversations we participated in for *Çarşafılı Dindarlık*. Some women who are not happy with their marriages and do not like sexual intercourse stated that they performed sexual intercourse since they were afraid of "being cursed by the angels," although they did not want intercourse or feel any satisfaction. However, forcing women to do so does not always lead them to dress in an "attractive or pleasing" way. Although many women in the Jamia accept the rightness of the principle, being or looking beautiful at home, they do not enact this principle. The reasons for this are unhappiness, old couples, or men's wish to see their women in *taqwa*. "I would do it if my husband wanted, but my husband does not make any *perverted demands* like that. However, I can do it if he says so" (a woman from İsmailağa Jamia).

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This quote shows a change in different themes that reflect the participant's (G-11) identity as a *hodja*. The fact that her interlocutor is a student and a talker is an instructor is in question. At the beginning of the quote, the issue was holiness,¹⁸ and no opportunity for criticism was admitted. A woman should display her feminine attractions to only her husband. Looking beautiful and attractive, as long as other men do not see her, is *ibadah*. It is clear that the social actor's personal approach developed within the dogmatic frame of religious rules. The hypothesis was reinforced with the use of first-person singular pronoun describing the appropriateness of men and women's natures to this rule. Satisfying women's need to be admired and men's desire to see beauty in private appears as a mechanism that is encouraged by religiousness. A man who protects himself from sin by not looking at women who are not *halal* outside in social life, where feminine attraction is all around, already deserves his wife's sexual duty.

4.2.1. Women should protect their husbands from other women's attraction

The first argument that religious Muslim women developed to overcome the conflict between looking beautiful and veiling is the notion of serving for religion, and the second is the duty to protect their husbands from *haram* Ref [4]. In both cases, protecting religious man from *haram* is required because of the feminine attractions of bareheaded women in society.

"Now, this is not only valid in the current business world. The moment you go out, it is hard because now women compete with each other, am I clear? Lots of things are cheap now. It's easier to get lots of things... Women will not wear again what they wore once. They are always made up and always well-groomed. Sometimes, they catch your eye even if you are a woman. You look at her! She makes her clothing and makeup go with each other (emphasis). Okay, it is a sin. She should not do it, but she does. It suits her. She gets out of bed flamingly, and she goes to bed flamingly... Then, you think that your husband is with these women in business life or outside... I don't think that there is a limit for this" (G-11).

This quote describes the feminine danger that religious men encounter outside the home and indicates a wide divergence between different femininities. G-11's language and approach toward bareheaded women position herself against a life style she has disowned. She thinks bareheaded women have the power to offer pleasure, and that men have a weakness for this power. This requires religious Muslim women to display and use their feminine attractions at home. Bareheaded women who think wrongly (non-religiously) and do wrong (sin) are considered a threat to Muslim families, and this lays the burden of being beautiful, attractive, and charming at home on religious Muslim women.

Another speech text which different femininities are perceived as a threat is largely in agreement with this study's finding.

"I think no man...Therefore, I am jealous of my husband because other women show everything. I want them to close everything a little... Not only for my husband, for everyone else, too, because I cannot do their actions to my husband outside... A bareheaded woman takes

¹⁸A great majority of Islamic law and interpretative works (Gazali is an exception because he attributed importance to women's sexual satisfaction) state that women should be ready for their husbands, not that men should be ready for their wives. This biased attitude is obvious even in contemporary discussions that attempt to discuss sexual rights of men and women in an egalitarian way. Kecia Ali says that, in this case, an important duty falls to those who redefine sexual life in marriage as a mutual and egalitarian effort [44].

care of her hair and clothing... Why... But, we do not take care of ourselves as much as they do. Maybe I am not a well-groomed woman but, even my well-groomed friends do not take care of themselves as much as they do. For example, there are more bareheaded women... Their skirts and socks... I enviably looked at her. She was very beautiful. They dress carefully" (G-7).

The use of the first-person personal pronoun, I, in this quote shows emotions and thoughts rather than a religious rule. The participant, who said that she is jealous of her husband due to bareheaded women's beauty and attractions, feels weak and defenseless as a woman. The social actor, who complains¹⁹ that she cannot achieve the expected body shape because of her excess weight, feels that she cannot be as attractive as other women. In this sense, her desire to limit the visibility of bareheaded women is based on personal emotions rather than a religious rule.

The idea of protecting the husband from *haram*, which is deemed a duty by Muslim religious women, was detailed explicitly in interviews about the research question. This idea, which has turned into an ideal especially among the women of Ismailağa Jamia, has become a religious basis for legalizing their own femininities. Among female members of the Jamia, femininity in private life is not an expression of their own desires, but protecting their husbands from *haram*. Although there are women, such as G-11, who care about mutual satisfaction and openly express this, the fact that femininity is generally based on religion arises from the idea that feminine tendencies, which are independent from the husband, are not appropriate for *taqwa*.

4.3. The effect of children on displaying feminine attraction

While some of the participating women said that their clothing styles and behaviors at home were restricted because of their children, others said that they did not experience this.

4.3.1. *It is wrong for women to display their feminine attraction to their children*

"My children are male. I'm telling the truth. I really like wearing revealing clothes, but Allah commanded. I have to do... My children have grown up, and I absolutely cannot wear tight skirts, trousers, even short-sleeved t-shirts... I do not dress like that anymore. I am not free anywhere" (G-7).

This highly educated participant's statement caused indignation in the group. Her use of the first-person singular pronoun reveals an identity that is torn between religious limitations and personal emotions. As a religious command, the participant sees veiling as an obligation and experiences it as being unfree. The idea that religion makes women unfree is the main argument of irreligious feminist approaches [49, 50]. However, the expression of this unfreedom by a religious woman means that the negative effect of religion on women is not restricted to feminists. This participant is a person who willingly covers herself and is an absolute believer in religious ideology. Thus, her conflict is emotional, and not derived from ideas or faith. Her emotions want to display feminine attraction in all the dimensions of life, but her beliefs do not allow her to do so.

¹⁹During the meeting in which religious women's perceptions toward beauty were discussed, a participant mentioned her displeasure with her weight.

The approach of a bareheaded woman who calls herself religious to the subject is based on the fact that she prioritizes her own wills and desires. G-9 accepts the necessity of wearing hijab although she does not wear it,²⁰ but she also states that a woman should have the freedom to shape her life, including the way she executes the orders of the religion.

“(This) is quite related to loving ourselves... A person should accept herself before loving herself” (G-9-).

G-9’s statement, also a response to the claims of G-7, is a psychological proof. G-9, a psychologist, mentioned that G-7’s dependence-related ideas are based on her displeasure with herself instead of the perceptions related to religious feelings and ideas.

G-7’s statements have conflicting themes about restrictions on indoor clothing styles that caused indignation in the group because she wants to do as she pleases, but cannot do so.

“In books I read, there is something that affects me. But I have never been such a veiled woman. Her children have never seen their mother without socks... But, I am not so strict. I can stay at home bareheaded. That is all I can do” (G-7).²¹

It is clear that the participant’s voluntary obedience to religious rules makes her feel unfree. However, her clear attitude that the religion should be experienced in the *taqwa*²² dimension shows her perception and experience of the authenticity of religion.

The common opinion among the participating female members of İsmailağa Jamia is like that of G7. Like G-12, G-11 limited her indoor sexual actualities in the presence of her children.

“Children are born. They turns 3 or 4... Modern-day children are very clever. There can be a rule not to do this in front of children... Children should not see their mother with makeup or in a short skirt... I think the only limitation can be this. This should be only between wife and husband. Such an image should not be formed in the eyes of children” (G-11).

The restriction in the statements of G-11 is not related to performing sexual activities in front of children. It is related to keeping children away from the appearances evoking sexual desire. The emphasis on the intelligence of the modern-day children indicates that sexual appearances may trigger the child at the early ages.

Women’s space of relative freedom, home, is limited by the presence of the children. This is accepted on the basis of raising religious children. The contradiction in religious arguments claiming that religion does not limit women’s lives and that family life satisfies all needed pleasure mechanisms is obvious. The maximum amount of time that a woman can display her femininity, even at home, is 4 years. After having a child (3–4 years), women’s freedom to express

²⁰G-9 started to wear hijab approximately 6 months after she participated in the group conversation.

²¹The participant quotes a reference from a book she read and talks about how a religious Muslim woman should dress and behave around her son. According to this book, the Muslim mother of a significant Islam scholar paid great importance to wearing hijab around her son and even wore socks when she was around him. It is emphasized in this book that the mother’s good behavior played a significant role in raising her son as a significant Muslim scholar. She is a model for women to raise a religious generation. G-7 mentions her sorrow for failing to be that careful around her sons. G-7 only removes her hijab around her sons, but veils other parts of her body.

²²This means protecting yourself from all sins and abstaining from things suspected of being *haram* [42].

their sexual identities even at the level of clothing is restricted to a single room, the bedroom. However, this limitation is legalized and normalized for the sake of raising religious children.

4.3.2. It is not wrong for women to display their feminine attraction to their children

In the focus group interview with highly educated women, only one participant (G-7) presented arguments like the comments of the Ismailağa Jamia women. The group responded negatively to the idea of limiting indoor dress and behavior because of children and G-7 was left alone in her argument. G-1 thought that limits for women in the home make religious life difficult.²³

“What can be as natural as being like that in front of children? For example, I have a son, but I can wear shorts in the home. But maybe when my son turns a certain age²⁴ I can wear long shorts... Maybe the length of my shorts will be longer” (G-1).

The question this participant asked her interlocutor (G-7) is answered in the quote with the argument that religion does not conflict with nature. The personal pronoun, you, used in the question not only shows an arm’s length relationship but also has tendencies of not accepting the interlocutor’s opinion, even of criticizing. In the next sentences, the personal pronoun, I, marks the individualism of religious types and an advocacy for comments that does not restrict women’s freedom. G-1’s response to the religious comment that limits religious women’s indoor wearing styles has become clear in her statements (Maybe the length of my shorts will be longer...).

The highly educated participants found G-7’s arguments extreme and objected to them. However, they also claimed that it is necessary for women to pay attention to their clothes and femininity in front of their children to some extent. “At home, I rarely wear skirts above the knee” (G-10).

At this stage of the discourse analysis, it is possible to say that the presence of children widely limited religious Muslim women’s indoor femininity and clothing styles. Although the effect of the presence of children on the way women dress and act femininely at home vary among women, the ideal of raising a religious generation predominated over the women’s tendency to liberty at home.

4.4. Subject positions

While discourses as informative repertoires build subject positions, they also build the opposite of subject positions. These are not independent of each other. The subject position is strengthened by its own opposite [51].

²³G-1 is a teacher who wears trousers outside, ties her hijab behind her head in a way that does not cover her neck. Like all women who participated in the focus group interview, G-1 worked in her workplace by taking off the hijab when the hijab was forbidden. However, the Ismailağa Jamia women argue that, according to the religion, it is not appropriate for a woman to go to school and work. These two approaches to the religion reveal deep differences in the interpretation and practice of the religion.

²⁴The son of the participant is 9 years old.

4.4.1. *Women protect their husband from sins outside the home*

Religious Muslim women prefer to cover their feminine attractions on the basis of their religious beliefs. However, this tendency is not independent from male religiosity. Veiling not only protects women but also protects religious men at risk of seduction by the female body. This means that women sin and cause men to sin by ignoring religious rules and wearing revealing clothes. The subject position of a *woman who protects her husband from sins outside the home by displaying her sexual attractions in the halal home* is the opposite of the subject position of a *woman who causes men to sin by wearing revealing clothes*.

4.4.2. *A woman is a model for her children with her well-behaved attitudes*

Some participants say that Islam does not limit women's domestic life and prefer veiling in the domestic space because of the ideal of raising a religious generation. This preference uses historical religious characters as an example for the subject position of a *woman who is a model for her children with her well-behaved attitudes*. This construction is completed on the basis of two opposite positions. The first is a religious Muslim female (G-7) subject position *who is impressed by the modern world thus, becomes distant from herself*, and the second is the subject position of a *woman who ignores her children's growth for her convenience*.

4.4.3. *Religious women become dependent due to their religious ideas and feeling*

Daily lives that include religious practices formed with references to Islam make some followers feel dependent. One of the reasons for this is veiling to execute the commands of the religion instead of displaying the bodily beauty. Another reason is the restriction on dressing at home and femininity related raising a religious generation. "Therefore, the subjective position of *religious women who become dependent due to their religious feelings and ideas* formed within this context stands against the subjective position of *those who become independent with their religious feelings and ideas*." The majority of the women with whom we spoke in this study did not regard the difficulties they have due to wearing hijab as dependence. This is based on two factors: some women believe that Islam does not limit women at home and around their children in terms of dress and behavior and thus feel themselves independent; others believe that the Islamic restrictions for raising religious generations cannot be defined as dependence because voluntariness is foremost in Islam.

5. Conclusion

A daily life of religion and piety is an understandable issue in the context of the relationship of the actors' opinions, practices, and faith. Women's domestic experiences, the most impenetrable area of daily religious life, can only be understood by researchers understanding and interpreting their intentions. Religious Muslim women's domestic dress and femininity remain as unresolved questions in the social sciences. Although data collected from interviews conducted with a limited number of women cannot present completely clear results about female piety, they yielded a considerable amount of information about the issue.

This study determined the home as the main space of freedom for religious Muslim women. Home is a place where religious women can display their femininity and sexual identities freely and take pleasure in them. Human nature, the reference point for domestic practices, was identified as the legalizing resource for different interpretations of the religion. Arguments suggested that religion is not against human nature. In this study, it even improves the religion to have conflicting themes. However, this contradiction is solved by means of obedience and voluntary affiliation to religion. The religion-based liberating notion of daily life is being legalized.

After presenting domestic life to partners, especially to women, as a space of freedom, the religious limitation introduced by the presence of children takes place is the focus of this conflict. The ideal of raising a religious generation also limits religious Muslim women's domestic practices. Not developing children's sensibility about sexual issues and allowing them to have a good command of private issues as late as possible are seen as indispensable rules of moral development. Therefore, especially for religious women, clothes and femininity that can be regarded as pleasure-based or comfortable are permitted only in the bedroom or postponed to times when children are absent.

One of the most important bases for women's domestic femininity and their active sexual identities is their duty to protect their husbands from *haram*. This threat, posed by women who are not veiled, in social life outside the home, is the basis for this duty due to emotional and religious reasons.

The participants' opinions and approaches about the research question differ. The way highly educated, working religious women dress and display feminine behaviors is independent from the religious idea that "looking beautiful for the husband is also an *ibadah*." The way the much less educated (primary school graduate) women of İsmailağa Jamia dress and display their feminine behaviors focuses on pleasing husbands based on the religious idea that "looking beautiful for the husband is also an *ibadah*." The husband-related approaches of Jamia women are not independent from individual satisfaction. However, the responsibility toward the husband that emerges with religiosity stands at the basis of feminine behaviors.

In conclusion, religious rules for daily life considerably restrict women's domestic lives. Different interpretations of religious texts lead to different religious practices regarding this issue. Reading and reassessing religious texts is without a doubt difficult for all societies. In particular, revising religious rules related to women without paying importance to traditional and patriarchal effects causes thorny issues [42, 45]. However, without doing so, it is clear that traditional religious interpretations and daily life practices restrict women's freedom.

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Mindful Meditation and the Perception of Beauty

Mindfulness Meditation and the Perception of Beauty: Implications for an Ecological Well-Being

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Additional information is available at the end of the chapter

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Abstract

Meditation is a first-person method for contemplating ourselves and the world, with more than 2500 years of history, rooted in the philosophical and contemplative traditions of the east. The present chapter aims to explore this worldview in order to demonstrate its relevance to our capacity for the appreciation of beauty. To this end, the aesthetic experience, the contemplative experience and their relationship with the practice of mindfulness are analysed. We suggest that the contemplative meditative experience bestows a state of consciousness and acceptance of life which places the practitioner in a progressive encounter with a self-concept that begins to detach from a static sense of the self and from the categories that define it, so that it may be experienced as an ongoing mental event, removed from cultural ideals of beauty or positivity. The result of this de-identification from the static self is a greater degree of psychological flexibility and a more genuine way of seeing the world, leading to a new perception of the self that is connected to an experience of freedom, and contributes to one's own well-being, as well as to that of others and of the environment.

Keywords: aesthetic experience, contemplative experience, mindfulness meditation, self

1. Introduction

In order to understand the link between meditative practice and the perception of beauty, one must explore the worldview that can be achieved through mindfulness. Meditation is a first-person method for contemplating ourselves and the world, with more than 2500 years of history, rooted in the philosophical and contemplative traditions of the east. The present chapter aims to explore this worldview in order to demonstrate its relevance to our capacity for the appreciation of beauty.

The concept of mindfulness has become the focus of increasing scientific and clinical attention over the last few decades. This appears to stem from the fact that until now, 'psychological science has conventionally focused in one way or another on the contents of consciousness (cognitions, emotions, and their somatic and behavioural consequences), mindfulness fundamentally concerns consciousness itself' [1]. The central theme, as per Kabat-Zinn's definition [2], is 'paying attention in a particular way: on purpose, in the present moment, and non-judgementally'. The capacity to sustain awareness of the observed process in the present moment is central to the psychological state associated with mindfulness. In other words, mindfulness is the active component of the mind within a meditative state [3]. It is common within meditative practice to focus on breathing as the principle medium and point of entry to the psychological state associated with mindfulness.

Mindfulness is rooted within oriental contemplative traditions, especially Buddhism. According to Davis [4], 'Buddhist meditation practices encourage concentration, clarity, and the cultivation of calm and positive ways of being as a way of life'. The long contemplative tradition that began with Siddhartha Gautama, who would eventually be known as the Buddha, the founder of Buddhism, facilitates a profound and sophisticated understanding of the mind and of human existence. Upon reaching enlightenment, the Buddha spoke of Four Noble Truths: the first is that life is suffering (*dukkha*), the second Noble Truth is that the origin and cause of this suffering is desire or yearning (*taṇhā*), the third Truth claims that this suffering may end and the fourth Noble Truth claims that a path exists to achieve the end of suffering. That path, known in the Buddhist tradition as the Noble Eightfold Path, involves eight attitudinal and behavioural practices, which, if followed, lead to freedom from human suffering. One of them, known as *sāmmā sati* in Pali (the language spoken by the Buddha), and which is usually translated as *right mindfulness*, is the practice of mindfulness meditation.

The earliest scriptures on Buddhism, specifically the Mahāsatipaṭṭhāna Sutta, describe the concept, its characteristics and practice in detail [5]. Davis [4] points out that 'in accordance with the Buddhist philosophy, taking responsibility of our state of mind is the most important thing we can do to free ourselves of human suffering'. The great achievement of the Buddha lies in the fact that he identified the central cause of human suffering, which is the fact that we are permanently yearning to achieve a different state to the one that we are currently in or, on the other hand, that we reject the states of discomfort in which we may find ourselves.

Research has shown how this inherent state of human nature is at the root of many psychopathological conditions, especially depression [6]. The aim of mindfulness meditation is for us to develop the capacity to use our senses to pay attention non-judgementally, both directly and immediately, to what is happening in our body, mind and surroundings, in the present moment. This serves to counteract the ruminative and phobic attitudes that underlie many mental health conditions. Despite being rooted in Buddhist practices, mindfulness may be practised by anyone, regardless of their religious or spiritual background. It is possible to go so far as to claim that mindfulness develops the capacity to leave states of automatic mental functioning, in order to examine systematically the way in which we are and the way we live, as well as reviewing our place within the world [2].

2. Idea of the aesthetic experience

The idea of beauty has enjoyed a privileged status amongst humanity. Philosophy and the arts have concerned themselves with the idea of beauty for millennia. Ethics and aesthetics are grouped into one of the four great branches of pure philosophy. It is beyond the reach of this chapter to provide an in-depth discussion on the relationship between beauty, aesthetics and art; however, we may note, along with Danto, that it is not possible to reduce the idea of beauty purely to the aesthetic, nor to say that aesthetics do not form a part of art, or that art does not need to be understood necessarily as beautiful [7].

Neither do we intend to carry out an exhaustive tour of all the thinkers who have considered the theme of beauty and its perception. Nonetheless, for the purpose of this chapter, it is relevant to look at some of their ideas in order to understand the place of mindfulness and how this relates to the perception of the aesthetic qualities of the world. Our goal—more than pointing out or exploring the definitions of beauty, aesthetics or art—is to give an account of what has become known as the aesthetic experience and how this is intertwined with the contemplative experience.

Simone Weil's statement that, beauty is that which can be contemplated. What is beautiful is something to which attention may be paid [8], appears to anticipate that a universe exists to be explored within the process of paying attention, as occurs in mindfulness and the aesthetic experience. She goes on to claim that, 'whoever does not possess that degree of attention will one day receive that capacity if they persist with humility, perseverance and patience, and if they are driven by an unalterable and violent desire' [8], an asseveration which is strikingly descriptive of the meditative process of mindfulness.

In the following section, we will focus on the three moments of universal philosophy to give an account of the evolution of the idea of beauty and the way in which it is perceived.

2.1. Plato and elements of the aesthetic experience

The legacy of platonic thought on beauty and its perception is of incommensurable value. Plato never developed an aesthetic, as such [9], but the ideas that he developed in *Hippias Major*, *Phaedrus* and *Symposium* focus explicitly on aesthetic themes. In the literature, it is common to find the caricature that the platonic idea of beauty is the good and the truthful. According to Beyer [9], Plato distinguishes three levels of beauty: (a) beauty of the body (physical beauty, health, wealth, etc.), as described in *Hippias Major*; (b) beauty of the soul, such as virtue, as described in *Phaedrus* and (c) beauty of 'wisdom', as synthesised in *Symposium*.

In short, we can argue that for Plato, supreme beauty is housed within the idea of good and truth, incorporating within it beauties of lesser worth, such as those of the senses and the soul. It is needless to point out how this notion of beauty has permeated western culture from its very roots onwards. In fact, Aristotle, the stoics, Epicureans, Seneca and, later on, Plotinus, to differing extents correlate beauty with good, truth and usefulness.

To our judgement, a distinction between the beautiful and the good—as determined by subjective experience at the moment of experiencing a phenomenon—does appear to exist: that is

the fact that the beautiful appears beautiful, even though it does not belong to me, whereas the good is something that I desire; I want it. For example, if we were to imagine a thirsty person who comes across a beautiful stream with water in it, that person is highly unlikely to stop to observe the beauty of that water but will simply drink from it to quench his thirst. Nonetheless, the water running in the stream will continue to appear beautiful to the eyes of that person, even if nobody drinks from it. Thus, the feeling of beauty is independent from the feeling of desire. This notion brings us to the philosophy of Kant and his idea of beauty and the sublime.

2.2. Kant and the aesthetic experience

The great contribution of Kant to aesthetic contemplation can be found in his *Critique of Judgement* [10] and lies in the notion that it is selfless. For Kant, the observation of something that is beautiful does not bestow any benefit; pleasure arises only from the act of observing something that is beautiful. He states that the contemplation of beauty is a source of pleasure, but it is a pleasure that does not lie in the idea of possessing the object of our contemplation, which is also universally recognised as being beautiful.

Bayer [9] describes this notion as follows: beauty is that which produces a universally shared pleasure. Kant in his *Critique of Judgement* proposes that, alongside the faculties for knowing and desiring, there is a third faculty, which is that of judging. He claims that an aesthetic experience is an encounter that happens within the subject. The faculty of aesthetic judgement, or of perceiving and analysing beauty, does not know or desire; its dimension is purely subjective and is expressed as a feeling of pleasure or disgust, and it is not a cognitive experience. Only through the aforementioned feelings does it perceive the nature of phenomena. For Kant, such a feeling is universal. An object that is judged to be beautiful will be perceived as such by all observers and will be universally communicable.

Two aspects of mindfulness are of particular relevance to the contributions that mindfulness can bring to the aesthetic experience. The first is that beauty has nothing to do with that which is good or pleasing, due to the fact that these belong to the realm of desire. Mindfulness, on the other hand, is opposed to desire. Furthermore, beauty is also unrelated to that which is 'useful and perfect' [9], in the sense that beauty does not pursue a transcendental goal. Beauty is immanent to the beautiful being and lacking in metaphysics. Kantian thought, in many ways, is far removed from the traditional contemplative vision that we attempt to explore in this chapter; however, we can argue that, for Kant, the aesthetic experience does not desire or yearn to arrive anywhere other than where it already is, as is also the case in mindfulness.

The second strand of Kant's thought that appears to be especially relevant to the ideas that we aim to explore in this chapter is that beauty, as an experience, does not transcend beyond the immediate. It cannot occur outside of, or beyond, the pleasure that is experienced in the moment [11]. Furthermore, the bodily sensations that he relates to pleasure, health and well-being have 'no purpose whatsoever' [11]. This shares similarities with the Buddhist notion that mental events are lacking in inherent meaning and that to practise the capacity for focussing attention on the present moment or, as Gunaratana [12] puts it, of being an observer who disappears, leaving in his absence the pure act of observation, represents the quintessence of how the contemplative traditions regard the emergence of aesthetic experiences.

2.3. Heidegger and elements of aesthetic experience

A third author who cannot be ignored in the relationship between modern philosophy and the contemplative experience is Martin Heidegger (1889–1976). Needless to say, we cannot explore his entire body of work nor all of his philosophical propositions, but we will consider the part of his philosophy that has become known as the ‘second Heidegger’ [13] and, more specifically, two texts that consider the aesthetic experience: *The Origin of the Work of Art* (1935–1936) and *Hölderlin and the Essence of Poetry* (1937).

In the second Heidegger, a new metaphysics arises, a turning point to which Heidegger would return again and again to discuss the issue of forgetfulness of being, the human tendency to think from the entity, instead of the being. In later texts, starting from the idea of the being, Heidegger explores concepts that share a deep similarity with oriental ideas such as emptiness, serenity and silence. It is beyond the reach of this chapter to provide an in-depth exploration of these ideas. Nonetheless, starting from this concept of the self, we can review his idea of the aesthetic experience, as it unfolds in *The Origin of the Work of Art* and *Hölderlin and the Essence of Poetry*. The central argument in both texts is that art and beauty are spaces where truth is manifested, or, in other words, beauty is the ‘instauration of the being and of the truth’ [14]. But what does Heidegger mean with this idea? For him, truth is nothing less than the discovery of the being; truth manifested in beauty is not a property of logical judgement, as argued by Kant, but it is the primary manifestation of the being. Heidegger names this process, in which beauty is capable of revealing the being, *alétheia*, which can be understood as revelation or disclosure. De la Vega describes the process as follows: ‘Truth, then, is given first in a separate dimension from understanding. And, according to Heidegger’s aesthetic theory, the essence of the work of art is to place in truth a being, to disclose its truth’ [15]. In our interpretation, for Heidegger, the αἴσθησις (aisthesis) is direct perception, such as it is understood in classical Greek philosophy, and, in that sense, the aisthesis, or direct perception, ‘discovers’ something, revealing the ontological nature of beings. This is not an intellectual process (noesis), but more accurately one that is opposed to it. That is why De la Vega claims that aisthesis is inseparable from the truth [15]. Heidegger himself succinctly argues: ‘Beauty is one of the ways of presenting the truth as disclosure’ [16]. He also states that in the process of *alétheia*, something is illuminated, the being of the entities can be observed thanks to the capacity to perceive beings directly.

It is worth pointing out that numerous authors from the past and present centuries who have made enormous contributions to the development of the idea of an aesthetic experience rooted in philosophy, art and artistic production remain overlooked in this chapter, for example, Dewey (1859–1952), Beardsley (1915–1985), Danto (1924–2013) and Shusterman (1949).

3. Idea of the contemplative experience

What do we mean when we talk about the contemplative experience? Just as the name suggests, the contemplative experience is an experience. Therefore, it is something that is lived and experienced. It is something that we undertake, and that simultaneously happens to us.

It is something that emanates from us and that returns to us. As the central psychological state of the contemplative experience, mindfulness is a vehicle through which this experience occurs. Lira refers to a central aspect of the contemplative attitude and the capacity to grasp beauty. He states that 'beauty is not seen when one is asleep, identified with pleasure or pain, when one is not paying attention and not concentrating, when the mind passes mechanically from one object to another without stopping, when it looks without seeing' [5].

From the Buddhist contemplative tradition, and especially Zen Buddhism, aesthetic observation arises from central philosophical ideas, such as dhyāna (contemplation), śūnyatā (emptiness), anattā (non-self) and nirvāna (illumination).

3.1. Dhyāna

Contemplation (dhyāna) is central to Buddhism. To stop, calm the mind and observe in silence the flow of mental and bodily states and those of the world around us, is the most distinctive act of mindfulness. Aesthetic and artistic contemplation, especially of nature, in the process of seeking illumination is relevant to Buddhism. Lomas [17] states that 'in Zen, art is regarded as a particularly potent way of communicating spiritual truths, indeed, far more so than discursive prose. Zen constantly seeks to eschew and overcome the limitations of conceptual thought, and to "point directly" into the "suchness" (i.e. nature) of reality'.

3.2. Śūnyatā

The idea of the void is central in Buddhism, especially in Zen. Śūnyatā (in Sanskrit) or kuu' (Japanese) has been translated as emptiness or voidness. It is a concept which is not related to being empty in the sense of not having any contents. In Buddhism, the nature of the human mind and of all phenomena is emptiness, meaning that its nature is empty. It is the notion that nature is beyond our ability to perceive with our senses and our ability to conceptualise. It conveys a sense of possibility that all can be overcome or everything can happen. Nothing exists, except in interrelationship with everything else. Stated differently, when we speak of emptiness, we do not mean nothingness but, to the contrary, an unlimited potential to appear, change, relate or disappear. Given that the nature of our mind is emptiness, we possess the capacity to experience an unlimited variety of thoughts, emotions and sensations. The Korean philosopher Byung-Chul Han describes the idea of substance as a central concept in Western thought. He states that it is constitutive of the unity and selfness of the being. For Byung-Chul Han [18], substance 'rests in separation and distinction... thus, substance is not oriented towards openness, but to closure'.

He points out that this notion of emptiness 'does not constitute an originary principle, a first cause from which another being arises' [18]. He adds that the emptiness in Zen Buddhism is not situated at a higher ontological level than that of the forms that appear (the entities, as Heidegger would call them), but that they are placed in the same level of the self.

From this notion of emptiness that develops through the practice of mindfulness meditation, we may learn that the contemplative experience is a sort of substrate for acquiring a mind that is 'empty', available and full of all of the possibilities that emerge from reality and the aesthetic experience.

3.3. Anattā

The concept of anattā, or non-self, of Buddhism is also an inherent concept within contemplative practice and specifically within mindfulness. Anattā is the notion that the self is an illusion. This idea is profoundly linked to another Buddhist concept, the anicca, which represents the impermanence of things. Existence is in a permanent state of transformation; everything is always on its way to becoming something else. Starting from the idea that things are in a constant state of flux, the assumption of an immutable state for things, for existence, and even for oneself, becomes an impossibility. Meditative practice, in its fluctuation, allows for the meditator to come to terms with the certainty that the 'me' is relative. It is a natural consequence of mindfulness practice for the 'me' to become ever smaller and situated in ever greater and less egocentric contexts. Intertwining these reflections with the idea of an aesthetic experience allows us to consider how mindfulness contributes to the dissolution of the 'me/object' duality or, in other words, of the illusion that the observer of something beautiful is located on the other side, in relation to what is observed. From this perspective, regarding the aesthetic experience, we can argue that, as the 'me' becomes diluted to make way for contemplation, the phenomena that we are observing can be expressed in all their beauty and intensity. If the self is removed from its role as protagonist, beauty can become manifested in an absolute and sublime form and can be perceived in all its dimensions. This change in the relationship with oneself and the world is conducive to a greater degree of psychological flexibility, brought about by a diminishing self-referential process, which allows us to merge completely with the observed object, relaxing the borders of the self in order to perceive completely the object that arises before our senses. In this way, we do not identify with an aesthetic experience, but we contemplate the experience from a non-judgemental platform, with openness and curiosity, allowing for the nature of things to be grasped by being more sensitive to the aesthetic experience, situated in the present moment, open to the new and free from prior conditioning and the habits of prejudice.

3.4. Nirvāna

Finally, we arrive at one of the most profound concepts associated with the meditative practice of mindfulness, and with contemplative traditions as a whole, which is the concept of nirvāna. We can argue that all of Buddhism centres on the idea of nirvāna. This is usually translated as illumination. In Japanese, within the Zen tradition, the word that is used to describe the concept is satori. Illumination represents clarity about the nature of existence. It is the state in which the suffering nature of our existence gives way to tranquillity and equanimity, brought about by a deep understanding of the futility of the existence of all things. To approach and achieve nirvāna is the ultimate goal of contemplative practices. This is where we may observe the beautiful congruence between the concepts of contemplative experience and aesthetic experience.

The role that aesthetic contemplation plays in reaching nirvana is undisputed. For example, in Zen Buddhism, the contemplation of iconographic art along with the nembutsu (described further along) is one of the essential practices on the path to illumination [19]. These practices seek to sooth the mind from emotional injury and direct it towards a state of concentration

and attention. The continuous practice of these exercises enables the practitioner to let go of intellectualised methods of processing perceptual stimuli and to reduce the tendency to grasp reality in a preconceived fashion, stained by our prejudices and previous experience, allowing one to pay attention to internal and external phenomena precisely in the way that they are presented. Thus, we avoid our mind's inclination to see the world as the mental projection that we have of it. For Siegel [20], mindfulness brings with it the dissolution of the influence of prior learning from the sensation of the present.

Relevance is worth highlighting that nembutsu brings to beauty and aesthetic contemplation, especially to the beauty that can be found within the natural world. Examples of this include the first visualisations described in these exercises: the contemplation of the sun descending towards sunset, the contemplation of running water and the observation of the earth or of trees. Another example, used by Vargas to clarify the role of the aesthetic experience on the path to nirvāna is that of the monk Hui-yūan (334–416), who considered the contemplation of the natural world and its beauty to have a central place in the search for nirvāna. Han [18], himself, in *Philosophy of Zen Buddhism*, argues that, 'contemplating the landscape exhaustively does not mean to capture it completely. To grasp an object completely means to take total power over it. To the contrary, contemplating the landscape exhaustively means to sink oneself in it, separating one's view from oneself. He who contemplates does not have the landscape as an object that is outside of him. It would be more correct to say that he merges with the landscape'.

4. Contemplation of the self

We have seen how contemplative experience through mindfulness meditation allows one to have an aesthetic experience of things in this world as a direct perception, grounded in the immediate and free of prejudice and of conceptual thought. Therefore, the mindful state brings us closer to an aesthetic experience by contemplating things just as they are, without staining them with our past experience or future expectations. However, this process is not simple, due to the changing nature of our minds and our tendency to evaluate and label everything around us as an adaptive function of making the world more predictable and manageable.

Mindfulness meditation is a form of mental training, in which practitioners learn to centre their attention on external and internal sensory stimuli, with a non-critical awareness that is centred on the present, with an attitude of compassion, interest, openness and kindness [21]. It can be divided into two essential methods: focused attention meditation and open monitoring meditation of the experience of the present moment [22]. The first requires mental training to focus on a particular object and thus achieve a state of relaxation and mental calm. The second involves first-person observation of the working of the mind itself. In open monitoring meditation, the meditator examines carefully the different aspects of his or her own existence and trains him or herself in gaining awareness of the immediate experience.

In this way, Buddhist practice is considered an ongoing investigation into reality, and specifically meditation teaches us to contemplate our perceptual processes with great precision,

allowing us to avoid observing through our preconceived ideas of reality. The aim is to transcend the conceptual mind, which is understood as the tendency of the mind to focus with anticipation on any object, imposing a vision of reality that ends up getting confused with the experience itself. In contrast, the contemplative perception of reality allows us to access a real perception of ourselves and to abandon any preconceived notion about what we think we are [23].

Let us try, then, to explain how mindfulness meditation works, as regards contemplation of oneself. By observing ourselves internally, we generate the perception of a self that appears constant and static in time, creating the illusion of permanence. However, through meditative practice it is possible to observe with clarity the contents of our awareness and realise that such contents are constantly appearing and disappearing. In this way, little by little, the practitioner becomes unattached from a static sense of the self, experiencing it, instead as a series of mental events [24]. This process involves metacognitive awareness [25], that is, a form of subjective experience and executive monitoring, in which a nonconceptual perspective is assumed as a form of attention distributed to the contents of the conscious experience and the processes that this involves [26, 27], which allows the contents of the experience to be observable for the mediator. This allows one to assume a detached perspective on the contents of awareness, known as decentering [28]—a psychological capacity that allows us to realise the transitory nature and the impermanent character of the things that we perceive.

4.1. Change in relation to our experience

Upon beginning the practice of meditation, we realise how disconnected we are from our experience. We could be eating, but our mind is busy with what we have to do later on at work. This disassociation between awareness and experience is a regular habit amongst us and is what meditation attempts to change by facilitating a specific type of awareness, which consists in being aware of that which happens in the present moment [29]. This type of awareness also involves bodily awareness, one of the starting points of Buddhist teaching, which includes paying attention to breathing and bodily sensations. Thus, practitioners of mindfulness claim that the practice of paying attention to the present moment gives way to a greater awareness of bodily states and greater interoceptive perceptual clarity [30], which translates into a greater awareness of the organism's response to an emotional stimulus, leading to enhanced awareness of emotionality itself [31].

This process involves a change in the relationship that we establish with our bodily selves, learning to be aware of the process of perceiving and of the sensations associated with each experience. This implies that 'there is not an abstract knower of an experience that is separated from the experience itself' but instead one 'is at one with the experience' [31]. This form of being in the present brings with it a number of benefits, such as improving certain cognitive capacities [32, 33], including the memory of work [34, 35] and attentional processes [36, 37], as well as increasing the cognitive and emotional flexibility of individuals [38]. It also results in a strategy of emotional regulation [30], which demonstrates effectiveness in the reduction of symptomatology [39], and an increase in positive mood states [40] and in psychological well-being [41].

5. Towards a new perception of the self: the contribution of mindfulness to the well-being of oneself, others and the environment

Thus far, we have reviewed various concepts in order to explore the links between meditative practice and the perception of beauty. Specifically, we have considered the aesthetic experience, the contemplative experience and their relationship with the practice of mindfulness. Now, we would like to summarise all these elements into the following questions: how can we understand the relationship between meditative practice and the perception of beauty? And what are the implications of this for the person, his or her relationships and the environment?

We live in a culture that bombards us with endless stimuli and external demands to which we are compelled to respond with urgency. This maelstrom makes it difficult to find moments of silence in which to be with oneself and to be aware of one's surroundings. Specifically, this lifestyle has made us more likely to favour responding to external stimuli over our own internal processes. In general, westerners do not receive any kind of formal learning about practices that allow us to be with ourselves or that explicitly develop socioemotional abilities from childhood [42]. This impacts our perception of the things that happen to us, to others and to our environment.

As has already been pointed out, perception is intimately related to attention (for a review, see Ref. [43]). Previously in this text, we have stated that beauty is something to which attention can be paid, that is to say that it requires the development of a certain degree of attention and one of the central elements within mindfulness is attentional control. This is the first element to be considered; in order to perceive beauty, we must train our capacity for attention, which is something that mindfulness does. By strengthening our attention, the practice of mindfulness allows us to stop in the middle of our daily business, to focus our attention and to leave aside other emerging stimuli.

Another element that has been considered in this chapter is the question of beauty; that is to say, how do we understand beauty? In this sense, we identify with the Kantian idea that beauty is not related to goodness or pleasantness nor with that which is good or perfect, as Plato suggested. To this end, Kant separates from the dominion of beauty the idea of goodness as something that is desired. This element is central from two perspectives. From mindfulness, there is the goal that the person should develop greater psychological flexibility by de-identifying with their own mental events as absolute experiential realities, thus empowering an equanimous posture in the face of what is observed [18]. Following this line, the essence of Buddhist psychology lies in the teaching that there is no such thing as an immutable and permanent self but that the perception of the self is a product of an ongoing mental process [44]. Understanding this allows us to transcend the 'psychological materialism' that is dominant in the west and which pushes us to attempt to improve ourselves by enhancing our self-esteem, self-confidence and self-control [25], in exchange for a new form of being with ourselves and others, releasing control and gaining awareness of what we feel from one moment to another, which requires that we become able to tolerate emptiness. On the other hand, Heidegger's view of Aesthetics tells us that through the process of observing beauty from a nonintellectual

perspective—known as *alétheia*—it is possible to gain access to the very essence of things. This shares a central idea with mindfulness that its practice favours the capacity for seeing things as they are, to perceive their essence without the ornaments of fantasy, desire or rejection; it allows access to the very centre of reality.

From the subjective point of view, the psychological experience of avoiding those mental contents that we do not wish to have, and for which we actively develop strategies to help us avoid contact with, is what has become known in Acceptance and Commitment Therapy (ACT) as experiential avoidance disorder [45], a pattern that becomes pathological in the measure that it distances people from the things that they consider to be valuable in their lives. Nonetheless, the presence of mental events that are considered either positive or negative, desirable or not desirable or, in broader terms, beautiful or not beautiful is to a great extent what we consider in order to define or evaluate ourselves. Thus, the invitation is to avoid becoming trapped in an idea of the self as an immutable entity, to let go of the habit of constantly evaluating whether or not our wishes or yearnings are being fulfilled and to understand that no experience or idea of oneself provides an absolute definition of who I am or how the world is.

Amongst the various contributions that the Buddhist tradition has given to the perception of beauty, the vision of the impermanence of things and the transitory nature of that which we perceive from moment to moment are worth highlighting. We have already discussed how Buddhist practice teaches us to accept change, to adapt and to learn to feel comfortable with transience, along with ceasing to hold on to an illusory solidity of things. This truth of the transience of things brings us to the perception that beauty is not sustainable nor entirely perdurable in time, and, therefore, if we insist in holding onto that which pleases us or causes pleasure, we end up frustrated by the disappearance of the pleasing experience. Accepting this condition, according to Olendzki [44], 'is achieved by cultivating equanimity, which is a way of being present without attachment when there is pleasure, and without resistance when there is pain'.

In this sense, both models argue—albeit with different terminologies—for a specific manner or attitude with which to approach what is perceived. From Kant, perception must be selfless, and, in mindfulness terms, the observation of mental events brings with it a beginner's mental attitude as a curious and non-judgemental observer of what is observed. In other words, it is to be equanimous in the face of what is perceived.

The process of the practice of mindfulness brings us to a broader vision of the self and thus to encounter a beauty that is not defined by cultural patterns or canons that dictate how it should be or that reject anything that does not fit within the pattern. It is an intimate encounter with a particular beauty that is not copied or imposed from outside, but that surges from a personal experience, and is thus unique, advancing from a critical position towards one that is kinder with oneself.

This is why we say that mindfulness permits an encounter with a beauty of the self that becomes revealed in different ways with practice. And what is revealed? A self that is able to change the relationship with its emotions, thoughts or sensations. This fact gives a greater

degree of control back to the person—not control over other things, as such—but the control to respond to things that happen. In other words, one is able to achieve personal empowerment and stability in life. It is interesting to note that this quality has been observed in people both with and without mental illness, which emphasises that mindfulness is a skill that can be trained in all individuals [46].

This beauty is not limited to a new relationship with thoughts, emotions and feelings. To the contrary, the body is constituted as the source of knowledge of the mental and physical state but also as a mechanism to modify that state, for example, through breathing. This is of great relevance to the well-being of people where, on the one hand, there is a greater acceptance of the body, and, on the other hand, the body is not seen as something foreign to oneself. As was pointed out by a participant in one of our groups:

‘I had never felt my body, how my lungs and heart work. I experienced my breathing’.

The practice of mindfulness does not only have an impact at the individual level; it also allows one to appreciate the other from a place that is free from judgement and evaluation. Specifically, it has been demonstrated how children, after training in mindfulness, demonstrate more pro-social and empathic behaviours. This aspect is central in programmes that actively involve compassion towards oneself and others as central elements in practice. One of the key elements is recognising the shared humanity or the interconnected nature of our lives [47]. A number of studies have shown how the practice of mindfulness increases the development of positive emotions and behaviours related to compassion, gratitude and generosity, in children, adolescents, adults and senior citizens alike [42, 48–50]. The following account of an adolescent who participated in a mindfulness workshop in school serves as an example of the above:

‘I am very good at getting upset and fighting, but now, when I’m getting into a fight, I can calm myself down; I breathe, close my eyes, and that has helped me to get along better with others’.

The perception of beauty through mindfulness also influences the way in which we perceive the environment. Recent studies have argued for the effect that the practice of mindfulness could have on care for the environment [51]. Specifically, it has been suggested that improved psychological well-being, centred here and now, promotes the satisfaction of non-material needs, which impacts directly and indirectly on the adoption of sustainable behaviours. In fact, being more aware of how my behaviour impacts on others and on the environment could help self-regulation. Nonetheless, there is another element that has received less attention in the relationship between mindfulness and sustainable behaviours [52, 53], which is that the contemplation of nature itself can reveal both things: a new point of view on what is perceived and potentially an insight into the self through what is observed. This aspect recalls the practice of *nembutsu*, as discussed previously.

For instance, it is not infrequent that participants, after mindfulness training, report how a tree that was always present near their place of residence, had never really been seen by them before and how they were surprised by its beauty. Thus, the contemplation of beauty could be a means of getting to know oneself, as much as it could appreciate its beauty.

In short, we argue that the practice of mindfulness develops the capacity for inner contemplation and also for contemplating the world, by focussing one's attention on what is being experienced in the moment and being aware of it with equanimity, curiosity and openness whilst momentarily suspending conceptual evaluation of what is observed in favour of direct perception. This allows us to perceive the intrinsic beauty in ourselves, in others and in the environment that surrounds us.

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The authors in this book ask us to consider whether the perception of beauty has been defined by our genetics and culture over the years - has it grown and changed? Do certain neural connections define our emotional reactions to beauty? Does beauty follow any rules or laws? Can the aspiration toward beauty be detrimental? Can we divorce ourselves from dictates and sink into a mindful connection with our internal beauty? Can we move from the superficial where “beauty is only skin deep” to an intense appreciation of beauty in all of its variations. The Perception of Beauty will lead to a deeper understanding and contemplation of nature, art, and the world around us.

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