The Beauty of the Human Face in Contemporary Interdisciplinary Discourse

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The face serves as a fascinating focal point for exploring different perspectives and attitudes on human nature, including their identity, boundaries, culture, roles, the function of looks, beauty, religion, imagination, memory and more. In this paper, I will explore the analysis of facial beauty in the framework of contemporary interdisciplinary research, particularly the realms of contemporary cognitive science, neuropsychology, and evolutionary biology. Why do we prefer some faces and not others? What mechanisms underlie the evaluation of some faces as more attractive than others? What is the role of evolution in our perception of facial beauty? | *Keywords: Face, Beauty, Averageness, Symmetry, Straight Profile*

1. Introduction

The following reflection will explore the analysis of facial beauty in the framework of contemporary interdisciplinary research, particularly the realms of contemporary cognitive science, neuropsychology, and evolutionary biology. Why do we prefer some faces and not others? What mechanisms underlie the evaluation of some faces as more attractive than others? What is the role of evolution in our perception of facial beauty?

The face serves as a fascinating set of possibilities for perceiving human identity, emotionality, culture, beauty, and many other phenomena. When meeting others, the face is the first and most important feature that we notice. It represents a key element of our orientation in society, and provides us with an estimate of the age, characteristics, emotions, and moods of a stranger (Kohl, 2012, p. 13). Imagine the challenge of communicating with a person who has lost most of their face. Facial perception is part of our daily contact with

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others. When we meet family members, friends, colleagues, and strangers, when we see people on TV or billboards, we focus on their faces. We pay more attention to the face than the clothes, body proportions, voice, smell, gestures or other features of a person. The face acts as a kind of guide that helps us create feelings about others and determine attitudes towards the people we meet. Faces look at us, smiling and crying, angry, tired, scared, disgusted, stern, cheerful, wise. Living faces are without any doubt visual mediums (Kesner, 2012, p. 6). Not only do they serve as representations of our identity, but they also represent a part of our material being. We can touch them, kiss them, caress them, put makeup on them and scar them. They attract us and repel us; we like them, we don't like them, we want to look at some of them for a long time, and we turn our eyes away from some of them. In European languages, the term for face extends beyond physiognomy, to visage, but also to the public image of our persona (e.g. face, *das Gesicht*, *twarz*, *ansikte*, *ansigt*, *l'affronter*, *viso* etc.). As Kesner notes: "Chinese has two terms to distinguish this dual role of face: while lian means the physiognomic face, mianzi refers to the frontal surface of a person, a 'social skin,' which one presents to others" (Kesner, 2012, p. 7).

2. On the understanding of face in the last century in philosophy

Despite its uniqueness, the face has not been a frequent object of investigation by philosophers. Ludwig Wittgenstein called it *a picture* (Wittgenstein, 1953). The face has been thematized by phenomenologists (Sartre, Merleu-Ponty). For Lévinas, the face is the most exposed, most vulnerable and most expressive aspect of the other's presence (Lévinas, 1979, p. 50–61). An interpretation of this concept can be found in Lyotard's understanding of the face as an anonymous landscape stripped of identity and thrown into anonymity (Sebbah, 2014, p. 137), in postmodern philosophers of deconstruction (Deleuze, Guattari), or the already mentioned Wittgenstein. In Sartre's philosophical novel *Nausea* Antoine Roquentin couldn't resist looking at himself in the mirror, even though he knew it was a trap: "It is the reflection of my face. Often in these lost days I study it. I can understand nothing of this face. The faces of others have some sense, some direction. Not mine. I cannot even decide whether it is handsome or ugly. I think it is ugly because I have been told so. But it doesn't strike me. At heart, I am even shocked that anyone can attribute qualities of this kind to it, as if you called a clod of earth or a block of stone beautiful or ugly. Still, there is one thing which is pleasing to see, above the flabby cheeks, above the forehead; it is the beautiful red flame which crowns my head, it is my hair. That is pleasant to see" (Sartre, 1955, p. 26). Roger Scruton's view aligns to the contemporary biological evolutionary perspective in his conception of the beauty of the human body and face. According to him, it is not an accidental feature of human beauty that it arouses desire (Scruton, 2021, p. 50).

Let us dwell for a moment on Lévinas' approach to faces. According to him, when focusing on the individual features of the human face – seeing the eyes, chin, and nose in front of us – and them, we approach the other in an objectified way. Lévinas perceives such an attitude as a form of murder of the

other person. By focusing on the face as an object, we forget our duty to its bearer. "The epiphany of the face is ethical" (Lévinas, 1979, p. 174). In his understanding, the face represents the most exposed part of our body, displaying vulnerability and covering the embarrassment with poses. Although each face is defined by a particular form, it always breaks through it, that is, it speaks to us and invites us to form a relationship. To manifest as a face means to assert oneself beyond the form that is manifest and purely phenomenal, and to present oneself in a way that is not reducible to manifestation as the very directness of that face-to-face, in its nakedness and without the mediation of any image, that is, in its need and its hunger (Lévinas, 1979). We should not be confused by the idea that a face's manifestation implies its expression. According to Lévinas, even expression does not reveal the interiority of the other. Instead, expression, can be a part of a pose or *vice versa*, a pose is part of an expression. Lévinas maintains an ethical stance when not assigning value to the presentation of a person through the face. He understands the face as an exceptional self-presentation that goes beyond the presentation of simply given facts, giving rise to the suspicion of falsity (expression, pose, make-up, aesthetic surgery procedures, etc.) (Lévinas 1979). In contrast, Frédéric Schiffter questions that Lévinas really believes in such a subtle definition of the face and says: "Isn't it the face with which the other in the blink of an eye draws my attention to his uniqueness? What is a face without a nose, forehead, chin, eyes, if not a ghost, the face of a Muslim woman covered with a hijab…?" (Schiffter, 2014, pp. 9–10). Schiffter further suggests that if we do not pay attention to the other's face and are not curious about it, this implies contempt, indifference, and disrespect. According to him, the bodily exceptionality of a person forms part of our identity and it is thus "a special moral attitude that requires us not to want to perceive the bodily exceptionality of a person" (Schiffter, 2014, p. 10). Merleau-Ponty also emphasizes the idea that the body should be visible, seen and touched, and it is precisely this distinct corporeality that, according to him, is a tool for participation in the being of others, it establishes communication and socialization (Merleau-Ponty, 2004). While Lévinas's ethical imperative is understandable, it is hardly usable in everyday interactions with others, their emotions and expressions.

Although individual philosophical considerations about the face differ, they share a common point: they do not seek objective ways of 'measuring' the attractiveness of the face. Rather, they perceive it as self-reflection (Sartre) or as an exceptional presentation of oneself (Lévinas), or as the basis of communication and socialization (Merleu-Ponty). They are not looking for measurable parameters of facial beauty, rather, they associate facial beauty with its manifestation of authenticity, the ability to communicate, socialize, self-present, and represent.

3. On the understanding of perceiving delight and beauty in deep evolution

Let us examine the connection between the feeling of beauty in human evolution and the criteria for evaluating the physical beauty of the human face. In humans, it is possible to measure the physiological response that

accompanies pleasurable treats, such as increased pulse, increased sweating, and dilated pupils. Physiological responses to perceived signals can also be measured, for example, in pollinators. Their neural networks create a simple hedonistic response. Neural networks whose activity is the basis of hedonic evaluation are functionally flexible, the more flexible the more complex the brain. Their flexibility depends on the state of the organism, its age, experience, etc. The roots of human evaluation of beauty lie in the activity of neurobiological systems, perception and evaluation, which we have inherited from our evolutionary ancestors. Since ancient times, the feeling of beauty has been expressed by people through art, personal adornment, and the embellishment of their homes and surroundings etc. The emergence and development of visual art in the Pleistocene are explained by three theories.

1. The theory of sexual selection. According to this theory, visual art should be interpreted as a manifestation of courtship that appears during the competition for sexual partners (a theory defended by, for example, Geoffrey Miller (2001; 2010)).

2. The theory of social ties. According to this theory, art was created in the context of group rituals (e.g. Ellen Dissanayake (1995)).

3. The theory of cognitive functions, according to which art appeared together with tool innovations (e.g. Steven Mithen (2007)).

These three theories may be understood as a connected continuum. Sexual selection in humans is influenced by culture. Both women and men have decorated themselves, probably since the Paleolithic. Grooming can be considered a strategy by which individuals try to influence other individuals in order to increase the probability of reproductive success by being more attractive to their potential mates than rivals. In ancient Egypt, both women and men used paints, oils and ointments to emphasize the blackness of their eyes. Women in ancient Rome painted their eyelids, cheeks, lips, hair and nails and whitened their teeth (Davis and Arnocky, 2020). Humans continue to beautify themselves with sophisticated surgical procedures, waxing, hairdressing, etc. For example, in 2017, the value of the sacred cosmetics industry was estimated at 532 billion USD (Dixson, 2022).

Why we like some objects, love them and desire them, and, to what extent the assessment is objective or subjective are age-old questions of philosophers and aesthetes. If we like or love something (whether it's a human face, a piece of music or a view from the window), we experience a pleasant feeling, a feeling of pleasure. On the other hand, if we don't like something, we experience distaste, disgust and we turn away. The hedonic reaction is involved in the regulation of the physiological state of the organism in relation to its behavior. It co-determines what we eat and drink, but also who we enter into a closer relationship with (Koukolík, 2023). Beauty is not the result of objective mathematical features, as Plato or Renaissance thinkers believed. Symmetry, which we shall later focus on, is processed by the visual neural networks of people, and it is thus an evolutionarily coded phenomenon. The subjective aspect of beauty perception consists of neural networks that learn through

reward-based mechanisms. Through the interactions of the neural networks with the inner and outer world, objectivity is evolutionarily conditioned and the subjectivity of beauty is individually, culturally and historically conditioned.

An assessment of whether we like, are repulsed by, or find something interesting or not represents one initial consideration when perceiving a face.

The perception of attractiveness usually varies on the basis of the context of the encounter. Whether we realize it or not, positive appeal significantly influences many of our social decisions and activities – the treatment of offspring, choice of partner, lawsuits, choice of employees, and so on. Individuals who give the impression of being attractive are usually considered to be more desirable partners, have more sexual partners and begin their sexual life earlier (Rhodes and Simmons, 2005). The face is not the only part of the human body which influences our perception of individuals as attractive or unattractive; other elements also include height, breast size as well as waist-to-hip ratio or waist-to-shoulder ratio in men.

Until recently, psychologists, aestheticians and anthropologists believed that the beauty of the face depends on individual taste, and thus that beauty perception differs depending on the cultural and social aspects of society (Havlíček and Rubešová, 2008).

Traditionally, female beauty did not always have a dominant place in the representation of overall beauty or in the attention of artists. The first portrayal of a Palaeolithic human face with individual features is the small head of a mammoth from Dolné Věstonice, showing an elongated face, a long narrow nose, a low forehead, and asymmetrical eyes (Blažek and Trnka, 2008, p. 15). It has massive hips in contrast to small arms and a small head with the features mentioned above. The emphasis on body parts such as the stomach, hips and chest, compared with the atrophic head, may mean that these parts were symbols of fertility. Later portrayals of faces were associated with the creation of societies in Egypt or China. The most famous work of Praxiteles of Athens, *The Aphrodite of Knidos* from the 4th century B.C., reveals all the sophisticated details of Aphrodite's face:

> When we had taken sufficient delight from the plants in the garden, we passed on into the temple. The goddess is set in the middle of it – an exceedingly beautiful work of Parian marble – with a look of proud contempt and a slight smile which just reveals her teeth. The full extent of her beauty is unhidden by any clinging raiment, for her nudity is complete except insofar as she holds one hand in front of her to hide her modesty (Pollitt, 1990, p. 86).

For a man, the primary criterion when it comes to evaluating the physical beauty of a woman is her youth, since a woman's reproductive value constantly decreases after the age of twenty. It is low at the age of forty and at the age of fifty is nearing zero. This preference for youth is not restricted to Western cultures. For instance, the anthropologist Napoleon Chagnon asserts that men from the Amazonian Indian tribe Yanomanö find women

who are *moko dude*, or represent a ripe fruit, as the most fertile and the most attractive (Chagnon, 1997). Across thirty-seven cultures studied, men preferred partners younger than themselves.[1]

4. Facial specificity

Facial perception is the most developed visual skill in humans, playing a critical role in social interactions. It is not surprising that the vision regions of the brain have evolved to become devoted to facial recognition (Kennard, 2006). Functional imaging has identified activity when viewing faces in the superior temporal sulcus, the same with monkeys, and also in the inferior occipital gyrus and the lateral fusiform gyrus, which are located anterior to the colour area V4 (Kennard, 2006). There are two prevailing hypotheses in cognitive neuroscience to elucidate facial dominance:

> One position contends that the brain is composed of domains – specific modules each of which (more or less) carries out an explicit function. Clearly, such functions that can be seen in the primary visual cortex are consigned to feature identification. An alternate view is one that suggests that the brain, although somehow segmented by neurological modules, processes information by means of domain-general mechanisms, which may process different types of information. This view suggests that the brain's modules may be far more versatile in dealing with the myriad of different signals that arrive in a great flood for simulation processing (Solso, 2003, p. 143).

The face specificity hypothesis is discussed in connection with the cognitive processes of facial perception. This hypothesis is based on the existence of a neural network between the temporal and occipital lobe in the *gyrus fusiformis* or the *fusiform face area* (Kanwisher and Yovel, 2006). Its existence is proven by the fact that we perceive faces as a specific category of observed objects. As soon as we identify an object as a face, cerebral cortex areas specifically focused on face analysis are stimulated (Gautier, Behrmann and Tarr, 1999). It is interesting that this stimulation also takes place as a result of an extraordinary stimulus – when a face is turned 180°. During the identification of an inverse face, a time delay of 120ms occurs which is known as two-stage facial recognition. When a face is considered attractive, the medial orbitofrontal cortex is stimulated. Face attractiveness improves the ability to determine very quickly that the presented object is a face and not something else. The ability to distinguish facial emotions increases with attractiveness as well. The activity of the cortex increases the more desirable the face is, which is remarkable as at the same time, one is smiling (Blažek and Trnka, 2008).

When considering biological determinants related to the human face, we should mention strokes. Strokes can result in agnosia or 'ignorance' and give rise to what neuropsychologists call prosopagnosia, i.e., face ignorance.

[1] Aging does not mean only a biological process, it is also a cultural process (different cultures have different attitudes regarding aging and death and these cultural perspectives can have a huge impact on how we experience aging and attractivity of face and body. While many cultures celebrate the aging process and venerate their elder (for example Native Americans cultures, Koreans, India etc.) in Western cultures where the youth are confronted with aging as a shameful experience. The physical signs of human aging tend to be frowned upon (aesthetical surgery, cosmetic preparations and so on). See for example Novak et al. (2016).

Patients with prosopagnosia then are literally of faces (Perrett, 2010). As Perrett contends (2010), people with face-recognition problems report that faces change and are altered in their attractiveness. He mentions the example of a young man who complains that his wife's face no longer looked the same after having a stroke. "He sadly recalls her beautiful eyes now that that beauty had gone. In fact, she was the same person, with the same eyes, but for him the attraction and wonderment of her eyes were now missing – when he gazed at her face, the eyes were almost blanked out; they had no significance" (Perrett, 2010, p. 44). Another element changing our perception of facial attractivity may be increased-blood alcohol level. When the connections within the brain between the parts that are necessary to see faces as faces and the parts that give us pleasure are broken, our capacity to find any face attractive is also disrupted. If the connection is primed by alcohol, drugs or pathologically over stimulated for example through epilepsy, this might change the attractiveness of faces and make them all beautiful (Perrett, 2010).

5. Can facial beauty be measured?

When the statue of Apollo (320 B.C.) was discovered, it was regarded as the epitome of beauty and became the most famous statue in the world. Beauty was then a matter of how satisfactory facial features aligned with this icon of beauty. Dutch physician and philosopher Petrus Camper measured facial angles in profiles. Camper found that Greek statues had a profile angle of about 100 degrees, yet most human profile angles range from 70 to 90 degrees (Bergman, 2010).

Subsequent to Camper, Johann Casper Lavater, Charles Darwin and others tried to measure faces, probing the question of whether facial beauty can be measured reliably. In the 21st century, contemporary researchers highlight three mechanisms contributing to facial beauty.

Three parameters contribute to facial attractiveness, none of which is unique to any specific ethnicity. "The first parameter is averageness. The second is symmetry. Both of these parameters apply to men and women. The third parameter has to do with features that make men and women look different from each other, or the parameter of sexual dimorphism" (Chatterjee, 2014, p. 11).

Let us delve into the three biological and evolutionary parameters that contribute to facial attractiveness, acknowledging that there are also some non-biological aspects, as for example spiritual beauty or expressions, which are unmeasurable.

6. Averageness

The English scientist Sir Francis Galton, in the mid-nineteenth century, was among the first who noticed the phenomenon of averageness He was interested in whether specific facial features were characteristic of personality traits, as was his cousin, Charles Darwin. Galton took composite photographs of criminals in order to find the typical appearance of an offender. He created photographs by superimposing repeated exposures of individual faces'

negatives, and noticed that the final face is much more attractive than the individual faces from which the composite was created. In this way, he discovered that averaged facial features are attractive: "These faces have statistically averaged features, such as how thick or thin a nose is, or how far apart the eyes are set. Earlier, there was doubt about the validity of averaging experiments. The concern was that composite faces blurred the edges of each individual face, making them look younger. They had the soft-focus haze often used by fashion photographers. However, recent computer techniques have avoided this methodological limitation and it is clear that faces representing the central tendency of a group are seen as more attractive than individual faces. Even infants look at these averaged faces longer than they look at other faces." (Chatterjee, 2014, p. 12). Averageness, in this context, denotes the fact that the face as a whole approaches the hypothetical average of the population. Later in the 20th century, this phenomenon reappeared in research. Evolutionary-oriented psychologists assumed that the attractiveness of averaged faces is a consequence of stabilising selection, pointing to the higher extent of heterozygosity of an individual (Fink and Penton-Voak, 2002). The averageness of the human face may be one of the indicators of good health and good design (Ettcoff, 1999). Authors focused more on cognitive processes explain the attractiveness of average faces through their prototypicality: they contain features that describe the perceiving object, the face, in the best way. Because averaged faces contain features that are familiar to people, they may rate them more positively than a configuration of atypical features (Havlíček and Rubešová, 2008).

7. Symmetry

The parameter of symmetry regarding the human face has been extensively researched by evolutionary biologist and anthropologist Karl Grammer and entomologist Randy Thornhill. They calculated facial balance by measuring the distance of various facial landmarks on both the left and right sides of the human face, and showed that the symmetry index correlated with our assessment of the attractiveness of faces. This conclusion can also be found in the philosophical tradition. Pythagoras of Samos, a Greek philosopher and mathematician, considered the balance between two opposed entities as a cause of symmetry. Symmetry was one of the most important requirements of the canon of beauty in Greek art.

Consider the sculpture of *Kore* from the 6th century B.C. According to Pythagoreans, the girl is beautiful because of the balance between her legs and arms, which are in the same harmonic proportions as the distances between planetary spheres. In n the 6th century B.C., an artist had to etch a girl's subtle beauty into stone. The task involved crafting the stone, creating two equal eyes, evenly distributed hair, breasts, legs, and arms, and correspondingly raising the corners of the mouth. Two centuries later, the Greek sculptor Polykleitos created the famous bronze statue *Doryphoros*, which introduced a new canon: a mathematical basis for artistic perfection. All body parts had to be arranged in accordance with geometrically defined connections; A-B is equivalent to B-C (Eco, 2005). Marcus Vitruvius Pollio formulated guidelines

for symmetrical body proportions; the face should comprise one-tenth of body height, the head one-eighth, and so on, although it is important to note that Vitruvius's symmetry differs from axial symmetry. "The design of a temple depends on symmetry, the principles of which must be most carefully observed by the architect. They are due to proportion [...] Proportion is a correspondence among the measures of the members of an entire work, and of the whole to a certain part selected as standard. From this result the principles of symmetry" (Vitruvius, 1914, p. 72). Symmetry was a main feature of beauty for philosophers such as Plato, Aristotle, Cicero, Lucian, and Boethius. Aristotle, for example, considered symmetry the chief tenet of beauty. This view is maintained in contemporary standards by cosmetic surgeons who draw on the golden proportion standards of facial beauty:

> The ratio of the size of one segment of the face to another is the key element in these standards. On the basis of this general principle, it has been proposed that three vertical segments of the face should be approximately equal in height. One of the three equal segments extends from the hairline to the brow ridge, another from the brow ridge to just under the nose, and the third from just under the nose to the tip of the chin. The distance between the top of the face and the tip of the noses said to be "golden" if it is approximately two-thirds of the total length (Zebrowitz, 1997, p. 123).

How can we explain the tendency to consider symmetrical faces more attractive? There are at least two theories. According to the first, this phenomenon is a by-product of a function of our visual system which processes symmetrical objects more easily than asymmetrical ones. This justifies our general preference for symmetrical shapes. However, this hypothesis can be easily contradicted by the fact that we process faces in specific parts of the brain, the *fusiform face area*, as mentioned before. The second theory comes again from evolutionary psychology. The tendency to prefer symmetrical faces is viewers as an adaptation for the selection of a genetically high-quality partner. Slightly fluctuating face asymmetry indicates a certain developmental stability. The extent of symmetry reflects the quality of gene expression during the development of the organism and also its ability to cope with pathogens, toxic substances and other environmental dangers. However, as Zebrowitz notes, symmetry does enhance sexual success but does not necessarily imply markers of good genes (Zebrowitz, 1997). While highlighting the role of symmetry, we cannot overlook the apparent exceptions, such as situations where a lack of symmetry or asymmetry is more attractive. Well-known examples include actresses and models like Marilyn Monroe and Cindy Crawford who proudly accentuated or painted their beauty marks. One of the answers to why asymmetry may be beautiful is offered in Ramachandran's consideration:

> Imagine that you have room for furniture, pictures and other accessories. Even without a professional designer, you know that absolute symmetry will not work, although space contains symmetry islands, such as a rectangular table with symmetrically positioned chairs. To get the most dramatic effect on the contrary, you need some carefully selected asymmetric moment. The key to solving this mystery can be found in the notion that the symmetry law applies only to individual objects, not to dimensional representations. From the point of view of evolution, it makes sense, because a predator, prey, friend or partner is always an isolated, independent object (Ramachandran, 2013, pp. 275–6).

An interesting aspect of perceiving symmetrical faces may involve little asymmetry, like a 'beauty spot'. While a symmetrical face is generally considered beautiful, the asymmetrical element draws attention to the symmetry, as noted by Démuthová, Selecká and Démuth (2019). According to them, "the faces of famous supermodels and actresses such as Cindy Crawford or Marylin Monroe, who became beauty icons, can serve as an example" (Démuthová, Selecká and Démuth, 2019, p. 39). David Perrett also highlights another specific example of an asymmetrical face which is considered to be charismatic: a face of Gérard Depardieu, "Gérard Depardieu is still attractive to many despite his face being lopsided" (Perrett, 2010, p. 82). 'Universal rule' of attractive faces is maybe not so universal, in judging prospective we may be also using the other means of assessing the human faces (charisma, intersexual differences or straight profile for example).

8. On Intersexual Differences

The third parameter or 'universal rule' of facial attractiveness, according to contemporary cognitive studies, is sexual dimorphism. Male and female faces differ in their shapes, deepening during puberty. The main differences are a greater development of the lower jaw, larger protruding cheekbones and a deeper-set face (Enlow and Hans, 1996). Pivoňková (2009), Démuthová (2016) and Fisher (2020) mention the influence of sex hormones, testosterone in men and oestrogen in women, as a reason for intersexual differences. In order to increase their attractiveness and woman-ness, women accentuate all the mentioned feminine characteristics using decorative cosmetics (eye shadow, cheek make-up, lipstick etc.). Intensifying with a red lip colour gives rise to the idea of emotional states connected with excitement which increases, in no small measure, a woman's appeal (Kišoňová, 2019). The situation with the attractiveness of masculine features in a man's face is more complicated. Some studies based on the evaluation of photographs of male faces have found a preference for male features, other studies based on morphing show a preference for slightly feminized male faces. The lower attractiveness of faces with masculine features may be affected by societal associations of aggressiveness, dominance, and violence to such features (Havlíček and Rubešová, 2008). As Démuthová, Selecká and Démuth (2019, p. 81) mention, "sexual dimorphic features of a face are also "honest signals"; however, as opposed to the more universal signs of symmetry or averageness, whose presence increases its attractiveness to both men and women, these features have a different effect on perceived attractiveness in men and women".

9. Another aspect of facial beauty: the straight profile

This rule is consistent with the principles of cosmetic surgery; a straight profile is one in which the jaw is in relatively vertically aligned with the forehead rather than positioned forward or behind creating a concave or convex profile (Zebrowitz, 1997). It is interesting that children also respond to this attractiveness marker. Research that examined various facial measurements found that the straight profile was the only element to have a reliable and marked effect on children's judgement of their peers who were

shown in frontal and profile photographs (Lucker and Graber, 1980). "The straighter the profile, the more likely the children were to say that there was 'nothing wrong' with the face" (Zebrowitz, 1997, p. 122).

The attractiveness of a straight profile is evident in beauty competition winners, top-models, actors and actresses (Peck and Peck, 1970). Zebrowitz describes one study in which teenage girls were photographed with their jaws positioned into straight, protruding, or receding alignments. Orthodontists, artists, and lay judges agreed in ranking the girls' faces as more pleasing when they were positioned into a straight jaw alignment rather than into a protruding or receding one (Zebrowitz, 1997, p. 122). This may be a signal of genetic fitness. There is also a functional aspect to such a profile, as it is the result of a normal alignment of the molar teeth, which contributes to a positive prognosis for keeping one's teeth, which also had evolutionary survival value. Research showed that the best predictor of profile attractiveness is the extent to which the profile approximates the functional ideal that develops with normal growth and efficient chewing (Zebrowitz, 1997). Except for facial features, facial attractiveness is also influenced by skin condition, through which we can determine the age of an individual, their state of health or sex. As we get older, our skin acquires wrinkles, is looser and covered with more pigmented lesions. The skin reveals an array of health problems – acne, eczema, skin infections, jaundice, etc. These aspects greatly influence the assessment of facial attractiveness. Thornhill's research showed that the homogeneity of female skin texture correlates with facial attractiveness. Another characteristic affecting the appeal of a human being is hair. The amount of time and resources we dedicate to hair care is one of the signs of its significance (Havlíček and Rubešová, 2009).

Facial expression is another important criterion of attractiveness. For instance, people looking at us are perceived to be more attractive. Individuals with dilated pupils are equally perceived to be more attractive, a tactic frequently used in marketing. Those promoting products on billboards have digitally dilated pupils (Havlíček and Rubešová, 2008). The smile also has an exceptionally positive influence on attractiveness. Smiling faces are judged to be more attractive, while faces with a neutral expression are considered more appealing from the side view. The majority of studies agree on the fact that female facial attractiveness changes during the menstrual cycle. Men and women determined that photographs of women taken in the follicular phase were more attractive. Studies also confirmed a positive relationship between attractiveness, femininity and levels of oestrogen in women who did not wear make-up. However, the studies did not unequivocally show which face characteristics are modified during the period. It might be a change in the intensity of the red lip colour in connection with an increase in basal temperature during ovulation, modification of the colour and quality of the skin, dilatation of pupils and so on.

Symmetry, averageness, youthfulness, a straight profile, sexual dimorphism and other aspects indicate, the attractiveness of a face, as indicated by numerous studies and researches (e.g. Démuthová (2017), Démuth and Démuthová (2017)).

> However, all of the aforementioned aspects are not crucial regarding the attractiveness of portraits. The beauty of a human face activates a different network, with nodes in the left ventral striatum, the ventromedial prefrontal cortex and the perigenual part of the anterior cingulate cortex. Beautiful human faces activate this network more than less attractive faces. However, it should be noted that the beauty of a visual art face (portrait) activates a network whose nodes are the ventromedial prefrontal cortex and the pole cortex of the frontal lobe. Therefore, both types of visual beauty are processed by different neural networks, a necessity for distinguishing a beautiful face from its depiction (Koukolík, 2023, p. 115).

10. Conclusion

Contemporary interdisciplinary research, mainly in cognitive science, neuropsychology, psychology, neuroaesthetics and evolutionary biology, delves into a comprehensive study of the human face, including how we perceive it, the areas responsible for recognizing faces, the areas responsible for distinguishing a beautiful face from its image, and the like. Contemporary evolutionary psychology identifies three fundamental elements of a beautiful face.: symmetry, averageness and sexual dimorphism. This doesn't imply a preference for a dozen expressionless faces that just meet the mentioned criteria. However, research in evolutionary psychology, neuroscience, and anthropology suggests that the importance of facial (and bodily) beauty is increasing, especially as far as Western culture and society are concerned. This is evidenced by the overuse of cosmetic products and facial aesthetic surgery in younger generations. Individuals, including men, seek to prolong the youthful appearance and "vitality" of their face, to acquire skin without wrinkles and sagging. The result is often an inauthentic, artificial face that has lost its unique expression (which includes aging) and thus resembles many other faces, even blending in with them.

The paper also drew attention to the importance of subtle asymmetry when judging a face as attractive. A certain degree of uniqueness and authenticity that the face carries, through which it speaks to us and communicates the identity or anonymity of its wearer, must be perceived as significant elements. This uniqueness is vital as it allows a person to 'give themselves', and 'expose' themselves in an intimate and undisguised revelation. Finally, the consideration of French philosophers Gilles Deleuze and Félix Guattari underscores the meaning of the human face as follows:

> The face forms a wall that the signifier needs in order to reflect from it, it establishes the wall of the signifier, a frame or a screen. The face deepens the hole that subjectivization needs to penetrate, forming the black hole of subjectivity as consciousness or passion, as a camera (Deleuze and Guattari, 2010, p. 191).

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