

## COMMUNICATION

**Faces of the Face**

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**Summary**

The most important environment of human being is the human being itself. So we have been sensitive to the appearance of ours and others at the same time. This writing aims for locating origins of the face and discerning differences [1] between the face of humans and those of other animals [2]. The face assumes a substantial significance not merely as a body function, but, above all, a means of expressions and features being looked at. The face is an important means of communication to humans as social animals. Knowledges about the various faces of the face are useful to become a efficient specialist as an extensive generalist because the face is a regular patron to the plastic surgery.

The face in Korean consists of two elements of *eol* (the soul or the mind) and *gul* a residing place). When Wittgenstein says “the face is the soul of the body,” his semantics corresponds to the Korean meaning. The meaning of the face in Korean is summed up in five ways. (1) the head or the front of the face with the eye, the nose and the mouth, (2) reputation or honor, (3) the general description of the psychological state, such as “the face of sadness”, (4) a figure person representing a particular area, such as “Sun Dong-yul is the face of the Korean baseball community,” (5) the primary imagery of the things and the event, such as “He is the face of the 4.19 Revolution.” As such, the word “face”, referring to a body part, extends its usages in a wide variety of contexts. What image do you convoke when you think of a person? With rare exceptions, you are most likely to invoke the face of the person. The face has come to be a byword for one's reputation or honor, and a pronoun for an expression of the essence of the thing and the event. This is presumably true of other languages. That is because human beings are equipped with the universal rule of language. A comprehensive understanding of the face is a must for cosmetic surgeons whose main responsibility is to sculpt and repair



**Fig. 1.** La Liberté' Guidant le peuple, (Liberty Leading the People). The painting was rendered by Eugene Delacroix to commemorate the July Revolution in 1830. However, most people mistake this painting as “the face” of the French Revolution of 1789.

the face (Fig. 1).

**Specialist as a generalist**

Department of Plastic Surgery conducts a study on the whole aspects of the face, treat external injuries and wounds from illness, and do research on the sculpturing of the physical appearances. However, most of the plastic surgeons are most likely to start to work from specialized areas without taking a systematic perspective on the face as a whole. The reason for this is that surgeons launch into their career more as practicing clinicians, rather than as researchers. Surgeons can be compared to repair men in a sense that they treat the parts of the body which need repairing. Surgeons look to the theoretical aspects for the purpose of making betterment to hitherto unknown aspects of the medical intervention, which contributes to improve the performance of the surgery by devoting a substantial time to acquire the skills of the procedures and clinical applications. Furthermore, they are expected to comprehend the relation of the whole to its parts and a harmonious way in which the structures and functions operate. For instance, they become proficient specialists who treat hair problems by doing research on the physiology and pathology of hair and familiarizing themselves to a wide variety of the diseases and treatments, and mastering most of the medical knowledge related to hair. As hair is on the scalp, any surgeons who want to be a proficient expert on the hair should learn, master the medical knowledge about it and gain clinical credentials. You can not be a proficient expert of hair unless you are knowledgeable about scalp related illnesses such as circular balding or dermatitis serrboherric. Likewise, they are not expected to be experts unless they are well-versed in male and female pattern hair loss and have an extensive experience of treating

them. The crux of the argument is that the human body is a complex system in which the whole is inextricably interwoven with the parts and the mind and the body is inseparable. Plastic surgery does not focus on how to maintain proper functions and cure illness; rather, it makes medical interventions to modify the structures of the body, make up for the damage, and perform the task of restoring the functions and beauty. Plastic surgeons strive to not only preserve and improve sense organs and organs of locomotion, but, more importantly, achieve the excellence of their exteriority. While we take care of all parts of the body, the face comes as the prior area to them. In a sense, it is not exaggeration to say that the face is the regular patron to the plastic surgeons.

### The face in environment of evolutionary adaptedness

This writing aims for locating origins of the face and discerning differences between the face of humans and those of other animals. The face assumes a substantial significance not merely as a body function, but, above all, a means of expressions and features being looked at. The face is an important means of communication to humans as social animals.

Modern human beings are surrounded by more beautiful faces than at any other time in history. Flooded with images in advertisements, people feel more desire to enhance their physical attraction. They are getting less satisfied with their appearances, making more efforts to emulate supermodels. Here, it is important to remember that the accentuating of the appearance can be traced back to old times. Human beings, in the environment of evolutionary adaptedness for at least million years, have been sensitive to their appearance. The results of behavioral studies on primitive peoples scattered around the remote areas on the earth far away from modern civilization and hominoids like chimpanzees testify to the claim. The most important environment to human beings is the members of the human species. Social individuals are aware of the values of appearance as shown to the members of the society. More significantly, human beings emulate the appearances of the ruling class, which is an expression of desire for upward social mobility. The modern society dubbed a global village has seen the appearance of the ruling class emulated. At least for several million years, wealth and power play a pivotal role in the success of reproduction [3]. Men had to live aggressive lives for success, while women have adapted their appearances to attract men's sexual interests. That sounds stringent to women as well as men, but as far as it goes, it is reasonable to Darwinists.

### Natural and sexual selection of face as a formula of beauty

Since the dominance of the West over the East, the Western Europe sustained the colonial rule of imperialism, and Westerners are still a dominant race in the world. That is because a global standard was set up by Westerners in eighteenth and nineteenth century and people

all over the world subscribe to the system. How else can we explain the fact that the double eyelid surgery is the most popular cosmetic procedure in Korea, Japan and China? Is this the reason why Mongolians feel their average features inferior to Western beauty standards, pursuing to reach that standard? The question as to why the standard of the beautiful face is fundamentally biased for that of the West is embedded in the geopolitical topology of the world. A Japanese living in the late era of the *Shogunate* in the nineteenth century when Japan was pressurized to open the country to the world was said to make a comment on the appearance of the Westerners to the effect that he could not possibly tell one Westerner from another because their eyes resemble those of the dogs. Even though monkeys and dogs make distinguish individual differences among themselves, humans have difficulty telling individual differences among dogs or monkeys. Likewise, the Japanese abovementioned used an expression of "Westerners' eyes resemble those of dogs" precisely because Easterners, confronting Westerners first time, found it difficult to discern their individual differences. The very expression is possible for the very reason that the timing of the enunciation preceded the process of the mental colonization. Today young Korean singers and movie stars hope for high and long noses to emulate those of the Northern Europeans. Such desires stem from unconsciousness; therefore, their presence have nothing to do with intellectual capacity or pride. Here, it is important to keep in mind that according to evolutionary psychology, a desire mechanism to activate human action originates from unconsciousness, so it does not do justice to criticize or trivialize what human beings desire in terms of the present power relations. It looks strange to this writer to see a man wearing gat – a Korean tradition hat-with a tie around the neck, but this can be meaningful to us only when we take into consideration the fact that this phenomenon is the very result of what the people's in the region surrender to the norm of models in the fashion magazine or movie stars so many people aspire to conform to the contemporary tastes. It is the response of people living in the East to the evolutionary adaptation. In other words, the dominating nations in the world accelerates the process of "racial betterment", which is tantamount to saying that Koreans, Japanese and Chinese opt for a racial breeding program. Such an acceleration of "sexual selection" may lead to a cosmetic surgery by nature in a foreseeable future.

### The origin of face

When did the face emerge since the onset of life forms on. Up to now, it is known that first forms of life emerged about 3.4 billion years ago [3]. The cells of eucaryocyte are found in fossils 1.4 billion years old discovered in China and Montana, USA. Primitive forms of life that existed as simple replicants with RNA and DNA evolved into cells; eucaryota which held nucleus in the cell developed into Cell organisms; then, when did life forms with the eyes, the nose and the mouth, diverging toward animals and plants, emerge? The exact time scale when organism with faces with the eyes, the nose, and the

mouth has not been accurately determined, yet there are some pieces of indirect evidence. One of the evidences is found in Ediacare [4] fossils formed 61 million years ago and Burgess fossils, one of the most famous fossils [4]. What made the research of early life forms more complicated is that they did not leave their traces in the form of fossils. Multicellular organisms found in Edicare fossils came to evolve into animals with a wide variety of faces whose forms are well preserved in Burgess fossils buried in soft mud at the time of so-called the big explosion of the Cambria Period 54 million years ago [5]. Here, one can find opabinia, members of the anthropolod family, with five eyes stuck on the head like horns and long nose of an elephant and wiwaxia, members of the mullask family with the mouth located in the underside of the body, wrapped around the body by a protective armor. Among the various forms of the face, some patterns of the face did not survive the test of the time, doomed to extinction, while the survived faces remain. In other words the present forms of the faces have survived the test of time of 500 million years (Fig. 2).

However, all creatures need to have the face. Plants do not have any forms of the face-the flowers of the sun flowers do not have the faces even though they are often referred to as the face metaphorically. Among animals, starfish, clams, sea anemone, and jellyfish do not have the face. Most of the faces of animals share some commonalities. The faces of lions, elephants and birds share some commonalities, as do the faces of fish and insects. Why is it that? The answer lies in the fact that the face is the product of the evolutionary process. The face consists of the mouth and sense organs. Two eyes, one nose and one mouth are aligned in a T-structure. And the order of the alignment never deviates. The face presumed to emerge during the pre Cambria Period is the result of forward movements in the ancient sea [6]. When an animal moves along, preceding parts become the face and then the momentum enables the mouth on the part to catch preys with ease [6]. More significantly, the preceding mouth makes incessant contacts with new objects. That is why sense organs predominantly concentrate on the face. The future of the ani-



**Fig. 2.** Those face types of the opabinia became extinct. It is safe to say that universal features of the present animal phyla have passed the test of time 500 million years.

mals depends upon the head. We identify and classify animals from insects to primates by mainly looking at the face. Therefore, predators know by instinct that attacking preys in the face is the most efficient method in hunting. Most animals with heads keep and protect inside the brain to handle the collected senses and dictate movements. This makes the head skull firm and strong and the foundation of the face. The face, therefore, reflects the survival environment of the animals. The eyes of fish located on the either end of the head acquire the vision of 360 degrees. As animals evolved into mammals, the eyes moved into more inside of the face to efficiently coordinate both of the eyes and human beings eventually have come to acquire the neck with efficient rotation and pupils with a capacity of movement. Human beings in order to get more information more from visionary senses than olfactory senses have come to have the narrower nasal cavity compared to chimpanzees, which makes the human face, albeit otherwise similar to one another in many ways, distinctive from the face of the chimpanzee. The fact that the face is the product of the evolutionary process means that its features and functions will continue to change. It is needless to say how important embryological and animal comparative anatomical research are in understanding the face (Fig. 3).

When did life forms living in the sea begin to emerge into the land? We have not determined the exact time, yet when amphibians whose four feet evolved from the fin launched into the land, it means an unprecedented event in the history of life. The Mesozoic dubbed the Age of the Dinosaur saw the emergence of common ancestors to mammals. Mammals, surviving the great extinction in the Cretaceous Period, opened up an Age of Mammals, taking advantage of the extinction of the dinosaur. The small and weak common ancestors of mammals in the early stage were engaged in nocturnal activities at first, hiding from prying eyes of their predators and kept the body temperature constant thanks to being covered in fur. The vestiges of humans covered in fur leave their marks in the body of modern humans. The human body gets thin hair and is covered in sparsely scattered fur. Then, since when did hairs start to disappear from the face? Darwinist come up with changes that have taken place in the upper lip as a clue. Most of the mammals have their upper lips



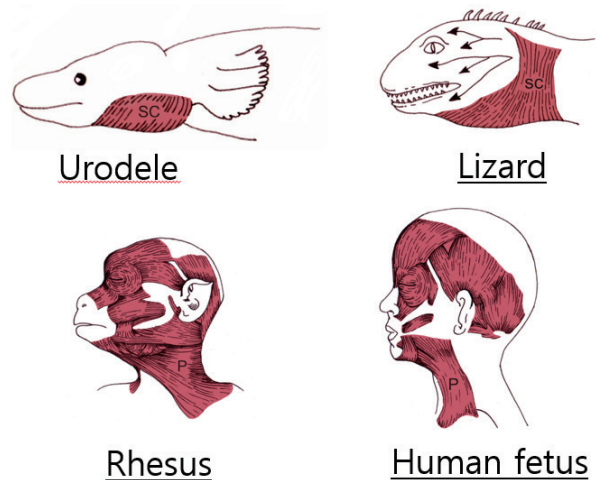
**Fig. 3.** A good grasp of the similarities and differences between the face of the lion and that of the human furthers expands the understanding of the human face.



**Fig. 4.** The face of the monkey with the upper lip separated from the gum is one of the first steps in diverging from other mammals.

tied to the gum. The use of fur and the separated lip is not identical, so the two events are not thought to have occurred simultaneously; nevertheless, they led to the expansion of communication and expression. Cats can not laugh like Cheshire that lives in Alice's Wonderland. People express such an old phrase as "something cows laugh at" to denote something impossible to happen. However, primates' lip is separated from the gum, which enable them to shape a variety of the forms of the lip. It is because politics set in the primates' world. They needed a more means of communication just than picking out hair, or sharing food. The primates with the upper lip separated make various sounds and expressions, which leads to a political success by marshalling more alliances and a reproduction success in which their genes are more successfully passed to their posterity [5]. From that moment, the snout changed its main function from a means of attack and defense to communication. Darwin expresses the process as follows (Fig. 4): the brain of the human makes the snout useless [3]. The cost humans pay for this modification is that they have aging signs inscribed around the mouth and the eyes. In contrast, dogs and cats show no wrinkles in old ages. However, humans need not so much the capability of stability in the face as the capability of movement, which makes crows feet more prominent, the cheeks sagging, the areas around the eye drooped and the skin of the middle of the brow deeply burrowed. Humans have become the masters of expression. One of the face organs necessary in maintaining stability is the retaining ligaments. Also, different levels of fat compartments exist for the movement (Fig. 5).

The main reason why it is difficult to understand the position and function of the hyoid bone is that the region is closely related to complex movements such as respiration, communication and swallowing food and some of expedient structures were added in later stages to facilitate the speech capability. The position of the hyoid bone is the main factor of constituting the beautiful and young neck; its balance, however, finely tuned for pronunciation in a later stage, makes the change of the position difficult. And the reason why humans are likely to get the double chin as they age is a tendency in



**Fig. 5.** The sphincter colli (SC) of the urodele continued to expand up to the area of the lizard face and head and, in passing the rhesus to the human, have come to be the expression muscles by adhering to the lower lip, the modiolus and the mandible. SC; sphincter colli muscle, P; platysma muscle. Redrawing from Kent and Carr. Comparative anatomy of vertebrates, 2011 [3].

which the mandible undergoes the atrophic retrusion, which results in the descent of the hyoid bone. Such a change in the function of the hyoid bone is attributed to the necessity of performing dual tasks-the digestion of food and language activity involving enunciation, which is also a cause of the aging phenomenon in the neck.

When we look at a change in the function and position of the platysma, we are aware of the fact that the muscle ranged from the spine at the back of the neck to the snout, disappeared except for the parts at the starting points of the chest and the neck in early mammals, and eventually, just as the snout changed into the mouth, the platysma was reduced to the underside of the lip and the face [1]. The platysma, which once served to secure a stability of the face, the movement of the ear, and that of the vibrissa hairs, are transformed into, in the process of the human evolution, the expression muscles to facilitate the facial expressions [1]. Nevertheless, the remains from the past still are with us and we come to get a more complete picture by comparing their past and present forms. The platysma also changed into the expression muscles, gaining momentum of increased movement rather than fixation, which brought about the change in the lower face and the neck mainly resulting from aging. Thus, primates have gradually evolved into the creatures who express their thoughts and feelings in clarity. Furthermore, in the course of the evolutionary process, hairs on the face disappeared because humans had to show their emotional signals to others. The face without hair makes it possible for humans to express a wide variety of information, which contributes to the acceleration of the progress of socialization. That is to say that the face without hair is the first step toward creating a civilization [6]. The brilliantly shining forehead and the eyebrow retaining subtle hair enhance the expressions of the eye and the face.



**Fig. 6.**

In the beginning, mammals bore resemblance to the present rat. As the snout changed into the mouth, hair on the face came to disappear. "Seeing and being seen" enhances communication.

The transformation of the muzzle into the mouth on the human face and the face without hair put humans on an irreversible cogwheel of "socialization". With hair vanishing, the pupils shine like stars and the red lip get even redder. The differences between the face of humans and animals are surmised as following (Fig. 6): (1) The functions of the face as defense and attack disappear. (2) The muzzle is transformed into the mouth. (3) The expression of thoughts and feelings come to the fore. (4) Hair has come to disappear from the face to show their expressions in clarity. (5) The face without hair is the first step toward the civilization.

### The sociology of the face

The face alive is something we are constantly in touch with; nevertheless, it remains something mysterious. We are instantly aware of the age, gender, health state and mood of others, but still have trouble penetrating into the inner space of them. In this respect, the face is a device of sending signals imbued with secret codes. The face sends a variety of messages with a surprising depth and almost limitless hues. The signals, though not so clear as language, are more subtle and complex than language. The human face is a brilliant cover. And cosmetic surgeons are repair men of the cover.

Human's incessant yet impossible desire to read others' inner thoughts has sustained an art of "physiognomy" without a solid foundation. The art of physiognomy is deeply flawed because it is confused about the difference between the structure of the face and spirit and fundamentally based on the erroneous assumption that spirit and the structure of the face share a genetic origin. Therefore, exaggerating the physiognomy as if it has a scientific foundation makes one suspicious of its underlying intention. People tend to take the face as the soul of the body. Indeed, the face provides many pieces of useful information about us as social beings. Therefore, we are looking for faces everywhere and the faces never cease to captivate us. In a society, a universe made up of faces, the face makes human beings individuals (Fig. 7). The face acts as a fore front in making contact with others. The face is at once a source of credible information and a mirage, something vanishing at the very moment we suppose we get a hold of it. The face is a gimmick which attracts others' attention and snare them; it is a social identification card. The



**Fig. 7.**

In a society, a universe made up of faces, the face makes humans individuals.

face is the very thing people both take pride in and are ashamed of. People may wear masks because the face is a secret they do not want to divulge. That is why people do make-up and tattoos and they want to acquire an art of rejuvenation. Even if we know the fallacy of the connection between beauty and goodness, we do not necessarily subscribe to the recognition.

The face enables people both spread and conceal information about themselves. Understanding the origins and the process of evolution provides a new perspective. We can trace the archetype of the human face by studying on the structures of other mammals diverged from our distant ancestors and recent ancestors. More significantly, human beings have come to establish themselves as a species who possesses self consciousness to censor and evaluate themselves. We have become moral animals adorned with ethical accoutrements.

### A bridge between nature and freedom

Cosmetic surgeons are doubly burdened in a sense that they are expected to transform the human body confined in the law of nature into something to satiate the precarious human desire operating outside the law of nature. Cosmetic surgeons are obliged to comprehend and perform the procedures and, simultaneously, listen to patients' subjective judgments based on "aesthetic satisfaction." Cosmetic surgeons build up a bridge to connect the gap between nature and freedom [7]. The two worlds never converge but are always at arm's length to each other. It is still unclear whether cosmetic surgeon who perform operations in accordance with the law of nature satisfy the minds of their patients located outside of the law of nature. Therefore, it is of utmost importance for cosmetic surgeons to set up a proper definition and standard of a universal beauty and youth in order to serve the purpose of the justification of the medical interventions. Ultimately, a comprehensive understanding of the face belonging to the world of nature can be a credible bedfellow in going over the bridge to the world of the mind that require aesthetic satisfaction.

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