Imposter

Catie Buhler

OS24

The skeletal face is made up of fourteen bones and thirty-two teeth.[1] Each make-up of bones is so unique that a forensic biologist could determine what one's fleshy, tissue covered face would look like simply from their skeletal make-up.[2] Thirty-three muscles covering the facial skeleton are responsible for all facial movements and expressions. Unlike the muscles in the rest of the body, these do not attach to bones with tendons, but they attach under the skin.[3] This is how the face is able to make subtle movements that the rest of the body cannot, such as a raised eyebrow.

The mind contains our emotions, conscious and subconscious. Basic emotions such as fear, joy, surprise, love, and anger, which can be broken down into specific feelings, are almost universally and uniformly interpreted through facial expressions. Charles Darwin spent time observing the facial expressions of individuals that had been blind and deaf since birth, and found that they still showed a full range of expressions. When cultural settings change, emotions do not; the only thing that varies from nation to nation is the way in which feelings are explained. People may experience different events, but their thoughts and emotional reactions never stray too far from the known emotions. The complexities of what one person feels can never fully be explained or understood, even by the person who is feeling it. The English author G.K. Chesterton once wrote, "There are in the soul tints more bewildering, more numberless, and more nameless than the colours of an autumn forest."[4]

The face holds subconscious expression; it is where internal thoughts and emotions manifest. These inner workings are out of an individual's power. Emotions are defined scientifically as, "A psychological state that arises spontaneously rather than through conscious effort and is sometimes accompanied by physiological changes; a feeling."[5] How we interpret the world around us occurs first on a subconscious level that we cannot control. Our feelings are not felt by choice, emotions can be brought on without explanation, and in the same way our facial expressions cannot always be made by choice. People can sense the difference between authentic emotions and fake emotions, because they are created by different muscle arrangements. When someone poses to smile for a picture they are using circuitry in their cerebral cortex, which is a deliberate act; but when someone smiles out of genuine happiness they are using circuitry in their limbic system, which is a reflex. The reasons that we are biologically wired to both voluntarily and involuntarily express our emotions to others are still not completely explainable. It has been observed that people are far more expressive when with others than when alone. Facial expressions are our most sincere form of emotional communication, as we can never fully understand what another person is feeling through language, these involuntary reactions are as close as we can get to being inside someone's head.

---

[1] "Face." *World Book 2011*. 2011. Print.
[2] "Features of Human Cranium – Atlas of Human Skull Bones and Facial Bones." *A Human Face*. Web. Apr. 2011. <http://face-and-emotion.com/dataface/anatomy/cranium.jsp>.
[3] "Your Muscles." *KidsHealth – the Web's Most Visited Site about Children's Health*. Web. Apr. 2011. <http://kidshealth.org/kid/htbw/muscles.html>.
[4] Pinker, Steven. *How the Mind Works*. New York: Nortion, 1997. Print.
[5] "Emotion." The American Heritage® Science Dictionary. Houghton Mifflin Company. 09 May. 2011. <Dictionary.com http://dictionary.reference.com/browse/emotion>.

A person automatically recognizes the geometric configurations of the mouth, nose, eyes and other features as a face. A six-month old baby can recognize a broad spectrum of individuals, even those of different species. At nine months a baby becomes less skilled at recognizing other species, and within the first year of life a human's ability to differentiate individuals is narrowed and becomes limited to recognizing the individuals that one might see often. Specific cells in the brain have a fondness for recognizing certain visual stimuli; there are cells particular to recognizing faces, and even some explicit to recognizing certain features, and specific relationships between features. The variations in facial features and their spatial relationships are how a person is able to recognize their mother from a stranger.[6]

When the visual information enters the brain it goes to the fusiform gyrus,[7] where it is recognized; faces specifically are thought to be further recognized in the fusiform face area of the brain. By simply recognizing a face, one can decode it and determine significant information such as the sex and age of a person, and from the facial movements the emotions that someone is experiencing. All of this information is then processed in a part of the limbic system called the amygdalae, two almond-shaped nuclei that exist in humans (and other complex vertebrates) that are responsible for managing memories and evaluating the emotional significance of the information that enters the brain.[8] The size of the amygdalae are directly linked to the complexity of a person's social networks and the amount of connections a person has. It is hypothesized by some that a person's "emotional intelligence" correlates to the size of the amygdalae; the larger it is the more emotionally perceptive someone is.[9]

Not everyone has the ability to recognize faces, recognize emotions, or interpret emotional information. Certain behaviors, such as repeated incidents of binge drinking have shown in studies to weaken the abilities of the amygdalae, and general emotional perception and processing.[10] People diagnosed with Autism are considered to be "mind blind". Someone on the autistic spectrum is able to recognize faces, and to recognize their mother as their mother, but they cannot fully comprehend facial expressions and emotions. As not all cases of autism are the same, the inability to read emotions is only severe for some. Autistic children are unable to pretend. They can understand logic but cannot interpret a frowning face despite being able to recognize it.

Seven million (2%) of the United States population suffers severely from a disorder called prosopagnosia ("prosop" meaning face, and "agnosia" meaning lack of perceptual knowledge), more commonly known as face-blindness. Those diagnosed with this disorder are unable to recognize faces, but also have trouble deciphering individuals of any kind, and in the most serious cases, one could not recognize one's own children. Almost all those who suffer from face blindness have injuries in the fusiform gyrus and

---

[6] Sacks, Oliver W. *The Mind's Eye*. New York: Alfred A. Knopf, 2010. Print.

[7] "Selectivity for the Human Body in the Fusiform Gyrus." *Journal of Neurophysiology*. Web. Apr. 2011. <http://jn.physiology.org/content/93/1/603.full>.

[8] "Amygdala." *Science*. Web. 20 Apr. 2011. <http://www.sci.uidaho.edu/med532/amygdala.htm>.

[9] Tuesday, Maia Szalavitz. "How to Win Friends: Have a Big Amygdala? – TIME Healthland." *TIME Healthland – A Healthy Balance of the Mind, Body and Spirit*. Web. 20 Apr. 2011. <http://healthland.time.com/2010/12/28/how-to-win-friends-have-a-big-amygdala/?xid=rss-topstories>.

[10] "Cognitive and Emotional Consequences of Binge Drinking: Role of Amygdala and Prefrontal Cortex." *Philosophical Transactions of the Royal Society B: Biological Sciences*. Web. Apr. 2011. <http://rstb.royalsocietypublishing.org/content/363/1507/3169.long>.

specifically the fusiform face area. Jane Goodall, an anthropologist best known for her work with chimpanzees, Chuck Close, an artist famous for his hyper realistic portraiture, and Oliver Sacks, a well-known neurologist and author, all have prosopagnosia in common. In an interview Close told that his case was so severe, he once mistook a man on the other side of a window for his own reflection; despite his inability to recognize individuals he is still sensitive to emotions and facial expressions. The main struggle that one suffering from prosopagnosia experiences is finding other ways of letting those they care about know that they do in fact care about them, even though they cannot differentiate them from a stranger.

In 1923 the French psychiatrist Joseph Capgras was the first to describe a patient convinced that her husband, children, and home had been replaced with identical doubles. Capgras delusion or syndrome is a disorder in which a person becomes convinced that someone (in some cases more than one person) close to them has been replaced with an identical imposter. This disorder is rare but can occur in totally or seemingly functional people, although it generally takes place in someone who is already suffering from disorders such as Schizophrenia or Dementia. Some cases are permanent, where as others come and go. I myself have experienced a similar delusion; at the age of six I believed that my Mother was not in fact my Mother. Being able to see her and knowing that she looked the same, I thought that a monster had taken her form, and that she could not be trusted. This only lasted for a month, but the feeling of skepticism about my own Mother was too real.

This disorder still cannot be fully explained. When Capgras Delusion is rationalized from the viewpoint of neuroscience, it is thought that the connection between the fusiform gyrus (the recognizing center of the brain) and the amygdalae (the emotional processing center of the brain) is broken. For example, one will see their spouse and recognize them as such, but will not be able to associate any feelings or memories with them, so they will convince themselves that who they are seeing is not their spouse. When explained psychologically this disorder is thought to be the extreme symptom of not wanting to recognize some negative aspect of a person. When the facet that they dislike comes out one tells them self that they are a different person. This is denial in a psychotic form. My own delusion over my Mother was never taken seriously. I never attempted to understand why it happened. It could just be that my active imagination had taken an extreme form; after seeing a horror movie I became paranoid of monsters, convincing myself that they could take the form a person. Perhaps though, I really believed it. At the age where a child may first begin to see any flaws in their parents, perchance I was subconsciously choosing to ignore something about my Mother that scared me. It is quite possible that there was a reason for my severe distrust.

When talking on the phone with the supposed imposter, the sufferer of the delusion will recognize their voice and believe that it is in fact them, but upon seeing their face they will again think they are an imposter. This happens because the visual and auditory parts of the brain are separate, and we value visual information much higher than other sensory information, so hearing their voice is not enough to overwhelm the visual deception that brings on the belief that someone is an imposter. In the lasting cases of Capgras Delusion, the delusions begin to occur in other relationships, and the sufferer becomes unable to trust anyone around them, suspecting that they have all been replaced with identical frauds.

Although many are living functional lives without the abilities to recognize faces, emotions, and the emotional relevance of visual information, these capabilities play key roles in how we form and execute relationships. Without the ability to sense other's emotions through facial movements, most of us would be completely lost in the world, unable to even begin to understand others. Although language is what seems to link people to one another, it really is only going part of the way; the true connections are made through the unspoken and unexplainable ways in which we express and interpret everything around us. Viewing a facial expression is the most genuine way of gauging a person's immediate emotional reaction to something. I believe that we are still very far from being able to fully grasp what is occurring emotionally in others, mainly because we cannot always explain the inner workings of ourselves. Almost all relationships rely on recognition and interpretation of facial expressions. Although an expression cannot explain everything a person is feeling, interpreting these involuntary responses to the world are as close as we can come to understanding each other.