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All About Red

For those of you who don't know, I, Margaret Beirne, am a redhead and that makes me pretty special. Every person is unique but not everyone is part of an elite club of people, composed of about 2% of the population, separated by a unique color and some amazing attributes, that may or may not be immortal. Despite my love for being a redhead, I was not always this passionate. I used to hate it, wishing I was some other hair color, blonde like my sister or brunette like my parents. I didn't like the way it made me stand out from everyone else. I didn't like how people would come up to be touching my hair, saying how much they loved it and wished for their color to be like mine. In my 7-year-old mind I would have gladly given it up; just wanting to fit in and be "normal" like everyone else. I would try on my costume wigs, to see how I would look if I were blonde, brunette, or had black hair or even purple. Needless to say, none of those colors fit me, they looked wrong framing my face. Taking off the wigs, I realized that the other colors weren't quite right because they weren't me. I am a redhead, it is the only color that looks good on me because it's supposed to be there. Slowly I began to appreciate my hair more, I began to like the compliments, the fascination. Let me tell you people were fascinated. Before I went to China in the summer of 2018, with Holy Child, a friend told me that because of my red hair and the fact that I am an American, people would treat me like a celebrity over there and would openly stare at me and my hair. Needless to say, my friend was right, I was gawked at. Red hair is so rare in China, that they might not have seen a redhead before besides on TV in animated films. Being a redhead is so much more than a hair color, it is part of who I am, just as much being a sister, a friend, and a student are all parts of my identity.

Although redheads in the real world are very rare, on the screen it is almost like they are everywhere. "A 2014 report by Upstream Analysis found that 30 percent of the TV commercials that run during primetime feature a redhead prominently. During their research they even found that at one point, CBS showcased a ginger every 106 seconds" (Rosa *The big redhead book*:

inside the secret society of red hair 7). Advertisers use redheads to make their commercials more memorable. After continually seeing blonde, brunettes, and similar hair colors, seeing a burst of red sticks out to your brain and makes the ad more memorable, as it is a break from the pattern. Producers for movies and TV shows are also drawn to redheads, they use the red to create symbolism for their character and emphasize certain parts of the character's personality. Media portrays redheads in 5 ways creating stereotypes. As a result, all reds are associated with or are pressured to fill these roles. The first is the vixen, think Jessica Rabbit or Julia Roberts as Vivian in *Pretty Woman*. Their clothes are almost painted on, and they steal the attention of men just by entering the room. The color red is associated with passion, lust and love, and is very attention catching; if you want your character to grab the audience's attention make them a redhead. The second portrayal is the comic relief redhead, like Conan O'Brien. They are self deprecating and provide the jokes, are the joke, or are the clown. The modern circus clown was based off of the juxtaposition of the rustic fool in a big, modern city, mocking the influx of Irish immigrants in the mid 19th century. When the clowns were performing they needed something bright and attention grabbing so the audience could see them from the back of the tent. The solution, red hair and red wigs, a natural color that grabs attention and is easily seen.

The third type of redhead in the media is the fiery redhead. This is that crazy redhead with a temper that everyone seems to know about and fear. These redheads speak their mind and are unabashedly themselves, consequences be damned. You know when you are on their bad side and want to avoid it at all costs. The fourth portrayal is the evil or soulless redhead. Perpetuated by "Southpark", the media ran with this idea of evil redheads. The ones who are laughing while the world burns and have no remorse for their actions. Redheads soon became the villain or bad guys in movies and TV shows, i.e Syndrome in *The Incredibles*, or Tim Burton's Red Queen in *Alice in Wonderland* (2010). The last portrayal of redheads is the most common version on the big screen, the animated redhead. When creating an animated film, you want each character to stand out, and an easy way to do that is give them an eye catching hair color. Redhair can empathize a character's personality - want a spitfire and no nonsense cowgirl, give her red hair. When the audience sees Jessie from the *Toy Story* franchise, an automatic

connection is made between her hair color and personality. Animated redheads provide representation for young redheads, who might not have seen another redhead in person before and provides a sort of comfort of having a role model like them.

The song "Part of Your World" that Ariel sings in the grotto was actually about redheads just wanting to feel they weren't so alone in the universe...Even seeing an animated someone and not a flesh-and-blood someone, makes the difference between feeling isolated and knowing you're not alone. Because as a redhead we are often the only one in our immediate families with red hair, or the only person at school or work with it, so having the representation can make a huge impact (Rosa 31).

Redheads on the big screen are so common that "there are over thirty leading characters or recurring characters with red hair in the Disney and Pixar Universe" (Rosa 30). And redheaded Disney princesses outnumber brunette ones. here are four redheaded princesses: Ariel, Anna, Merida, and Megara, while there are only three brunette ones.

How did these stereotypes come about? There wasn't just a fiery redhead character that was a big hit so Hollywood ran with the idea, instead most of these stereotypes come from the history of redheads. Redheads did not originate in Northern Europe in the middle ages as some might think. In Fact the gene for red hair, MC1R, has been found in Neanderthal remains migrating from Africa to Central Asia around 50,000 years ago. While the Neanderthals had a mutated MC1R gene, DNA has proved that it is not the same mutated MC1R gene that produces redheads today. Since the time of the Neanderthals, reds were intertwined with both the political and the art world, shaping the way they were portrayed today. Let's start with the portrayal of reds in the bible. Mary Magdalene was a sinner, assumed to be a prostitute, and was frequently painted with red hair. Lilith, Adam's first wife, a demon dubbed as a temptress and seductress, was also frequently painted red. And Adam's second wife, Eve the person responsible for the first sin was also repeatedly painted with red hair. Later, Judas Iscariot, Jesus' betrayer who condemned him to death for pieces of silver, was painted with red hair in Carl Bloch's *The Last Supper*. Even though the paintings may not inaccurately show how we know they probably looked (dark hair, olive skin), these images stuck: redheads are sinners and seducers.

Let's now talk about redheads on the throne, there were definitely a lot, especially in the English Monarchy. Red is often viewed as a power color, and is often associated with anger, strength, and passion. Rulers were drawn to it and some very influential rulers adopted the color as their own. Rames II, ruled in Egypt in the 1200s BC, and ruled with red henna in his hair and is "often acknowledged as one of the most influential and powerful pharaohs" (Rosa 123). Cleopatra who ruled for over 20 years, also had red henna in her hair, and is one of the most well known Egyptian rulers. In England from 1154-1189 AD, King Henry II who, despite his infamous temper, is accredited with laying a path for a unified Britain. King Henry II's son, King Richard I was an excellent fighter and strategist earning him the nickname "the Lion Heart". Later in the monarchy, King Henry VII the infamous king with six wives, who beheaded two of them and was known for passing self centered policies, and was a bit of a tyrant to say the least. But him and his brother Arthur, as well as his first wife Catherine of Aragon all were varying shades of red. Catherine of Aragon's daughter, Queen Mary I who ruled from 1553-1558AD, wasn't very well liked by the people, adopting the nickname "Bloody Mary" as she frequently persecuted the protestants of England and executed Lady Jane Grey (also a redhead) the queen before her who ruled for only 9 days before being executed for treason. Queen Elizabeth I, Queen Mary I's half -sister, ruled from 1558 to 1603AD. She was frequently painted as a redhead and throughout her reign, red began to be a sign of nobility and a fashionable trend, aristocrats and nobles tried to mimic her red hair through the use of red wigs and dyes. Two modern redheads in the English monarchy are Prince Harry and his son Archie. Reds will continue to be associated with the British monarchy. After a line of rulers with fiery tempers, barbaric policies, and seemingly no remorse for their actions it's easy to see how redheads got the perception of having crazy tempers or being soulless.

Red wasn't always a favorable hair color to have. While some Egyptian pharaohs had red henna, followers of the god Osiris would sacrifice redheads in an act of retaliation towards the redheaded god of chaos and storms, Set, who murdered Osiris.

The Greeks viewed redheads as barbaric due to the Thracians, a tribe who had a high concentration of redheads, worshiped redhead gods with fair skin, freckles and blue eyes, and had some barbaric practices such as the selling of unwanted children into slavery. The Greeks

also thought that redheads turned into vampires when they died, probably due to the evil Thracians, and would murder redheads and burn their bodies, preventing them from coming back as bloodsuckers. Those children sold into slavery by the Thracians, most of them were redheads, and were bought by Athenian homes. The image of redheads being slaves became so popular that in Greek and Roman plays the slaves were given red wigs to symbolize to the audience the character's role before they said their first line. The slaves frequently were clumsy, dimwitted characters, designed to be the comic relief of the show, obviously it worked as redheads are still the comic relief characters in shows today.

In England, redheads were believed to be witches and were frequently executed during witch trials. This is most likely due to Lilith, a demon seductress and mother of all demons frequent portrayal as a redhead. And in the 1600's a new red haired, green eyed mythical creature appeared in Northern European folklore. The pixie, smaller than a hand and notorious for "pulling pranks and mischief" (Rosa 124). In the mid 16th and 17th century a link was created between red hair and Judaism, used to promote anti-semitic ideas throughout Europe. In 1290, Jews were banned from England, with the many redhead portraits of Mary Magdalene and Judas Iscariot circulating England, the idea that Jews and Redheads were linked together as evil and sinners. Writers like Shakespear used red hair to symbolize Jewish characters, "Because ginger locks are such a strong identifying marker, evil figures in culture were often depicted with red hair to show that this person was Jewish" (Rosa 131). In Shakespear's play *The Merchant of Venice*, Shylock is a manipulative and evil money lender who was set on revenge, was given a red wig during performances to symbolize his Judaism and evil nature. It's very easy to see a correlation between the way redheads are portrayed now and how they were portrayed historically.

Redheads did not just magically appear, despite the allegations of witchcraft, like most things they are a result of a genetic mutation. More specifically a mutation on the MC1R gene, which produces the protein melanin which is responsible for your hair and skin color, as well as how likely you are to sunburn. A normal non-mutated MC1R produces a dark brown/ black pigment giving people dark hair. A mutated MC1R, which is far less common, produces a yellow/reddish pigment giving a person red hair, and usually pale skin, freckles, and a whole ton

of other amazing attributes which I will talk more about later. To be a redhead is to win the genetic lottery, that's not just bias talking, the allele, or trait, for red hair is rare and is considered lucky if your child has it. A lot of people think that to have a redheaded baby the parents both have to be redheads, while that is the only way to 100% guarantee a redhead in the next generation, it is not the only way. My family is proof of it, both of my parents are brunettes but two of their children are red and the other is blonde and we are not adopted. In order for my brother and I to have our red hair, both of our parents have to be a carrier for the mutated MC1R gene. Four out of every ten people carry the mutated MC1R gene, but they most likely don't know because they are not redheads. To put it simply, my parents carry the dominant allele for dark hair and the recessive allele for red hair. It takes two copies of the mutated MC1R gene to produce a redhead. My parents had a 75% chance of having a dark-haired child and a 25% chance of having a redhead. They got lucky and got two! Odds are, my sister also carries the redhead gene. For my parents who both have dominant hair color alleles, the odds of having a redhead were not in their favor. The way their genetics works, my parents have a 25% chance of having a child have 2 copies of the dominant allele (in this case dark hair), a 50% chance of having a child have one copy of the dominant allele and one copy of the recessive allele (therefore having dark hair but can have a child with red hair if they meet someone who is the same); and a 25% chance of having a child with two copies of the recessive allele (a redhead). See what I mean by genetic lottery?

This genetic mutation along the MC1R gene, besides giving me and my fellow reds our hair, gives us some other pretty amazing stuff. Firstly, redheads are able to produce their own Vitamin D. Now that might not sound impressive, but it is. Vitamin D comes mainly from the sun and is important in "regulating the absorption of calcium and phosphorus, and facilitating normal immune system function. Getting a sufficient amount of vitamin D is important for normal growth and development of bones and teeth, as well as improved resistance against certain diseases"(Team "3 Surprising Benefits of Vitamin D"). Redheads, due to our mutated MC1R gene are able to synthesize, or break down, the vitamin D we get from the sun faster than any other hair color, this means we get more Vitamin D with less sun exposure which is good for our pale skin. You can see how the greeks thought redheads were vampires, what with their

pale skin and how they did not need to spend as much time in the sunlight as non-reds. However just because we are redheads and are better at synthesizing Vitamin D, it does not mean that we can never be Vitamin D deficient. Tons of factors like diet, exercise, sun exposure, etc, can all interfere with Vitamin D production and can cause Vitamin D deficiency. Another amazing attribute of our mutated gene is our smell. In 1886, Dr. Augustin Galopin published his book *Le parfum de la femme*, with the theory that "Every woman gave off a specific bouquet of scents based solely on hair color" (Rosa 42). In his studies, Galopin was unable to conclude concrete results except with redheads. They were the only type of person tested to have a distinct scent, described as "ambergris, an earthy and sensual scent"(Rosa 42). Not only did redheads smell differently, scents also don't last as long on a redhead. This is because of our skin mantle, a thin acidic film on the surface of our skin that is secreted by our sebaceous gland and acts as a barrier against harmful bacteria and other contaminants. Everyone has one, but the skin mantle on redheads is more acidic than those of non-reds. The increased acidity breaks down scents faster, making a scent not last as long, it also contributes to redheads smelling differently. If I sprayed the same perfume as my sister not only would it not last as long on me, but it would also smell different on me than my sister due to the fact it mixes with the natural "earthy scents" of redheads.

Another interesting thing about redheads is the way we experience pain. Due to our mutated MC1R gene, Redheads feel pain differently than other people, specifically pain involving extremes of hot or cold, shocks, and stinging pain (i.e. needles). You might have heard that redheads feel pain more or not at all but that is not the case,

One study found that people with red hair are more sensitive to thermal pain, while another showed that they are less sensitive to a wide array of painful stimuli, including electrically induced pain. So it's not as simple as saying that redheads are more or less tolerant to pain – they just tend to feel pain differently (ZME Science "Redheads do feel more pain -- and they're tougher than anyone else")

A study in 2005, from the University of Louisville, revealed that redheads are more sensitive to changes in hot and cold and just temperature in general. Another study in 2005, from Oslo University "[Found that] redheaded women feel less pain when pricked by a pin than those with

other hair colors do" (Rosa 45). Not only do redheads experience pain differently than other people, but the way we react to painkillers, anesthesia, and novocaine is also different. In a 2003 study, women of different hair colors were tested to see how well they handle painkilling drugs and if there was a correlation between the two, specifically with redheads. In most people when you feel pain, say a headache, your body produces natural opiates to fight the pain, however when you take a painkiller like Advil because you are still in pain. The natural opiates interfere with the drug making it less effective and for you still to be in pain. When redheads release their natural opiates and take a painkiller, the opiates do not interfere with the painkiller allowing it to work more efficiently and the pain to end faster. "When taking pain-killing drugs, redheaded women can tolerate up to 25 percent more pain than people with other hair colors " (Rosa 45). Similarly, it is harder to knock out a redhead or numb them than any other hair color. "A 2004 University of Louisville study found that it takes 20 percent more general anesthesia during surgery, on average, to sedate a redhead" (Rosa 49). With no other hair color or physical trait can you tell how much amnesia a person would need besides redheads, with them you just know they will need more. A similar thing occurs with novocaine, "In 2005, another University of Louisville study found that, much like with anesthesia, [redheads] require more topical numbing at the dentist"(Rosa 50). Say it takes a blonde or brunette one shot to numb them, it often takes redheads two to three shots to be numb and even that sometimes isn't enough.

If you have made it this far, you can understand how amazing it is to be a redhead, besides just our amazing colored hair. Thanks to one mutated gene, we are able to do things no other hair color can, have a deep history explaining the way we are portrayed today, and are advertiser's favorite. Redheads are so unique that we have four days a year dedicated to celebrating us, even if we celebrate our locks all year long. The first is January 12, or "Kiss a Ginger Day", make sure you ask first because you might offend that fiery temper otherwise. Next we have "Hug a Ginger Day" on May 20th. It was formerly known as "Kick a Ginger Day", thanks to a "Southpark" episode and was used to attack redheads for "having no souls" (citation). However "Kick A Ginger Day" was prohibited nationally in 2016 by the Thirteenth Amendment(Kick A Ginger Day.com). Earlier this week on May 26th we celebrated "World

Redhead Day". "National Love Your Red hair Day" is November 5th, even though we love our hair all year long. There are even redhead conventions, hosted around the world for redheads to get together and celebrate how amazing they are as well as see other reds besides on screen. What is being a redhead to me? It is access to the most elite club in the world, the real 2%. It means being a genetic mutation with mutant abilities, including the possibility of being immortal. Being a redhead is part of who I am, as much as my love of reading, criminal minds, and owls, and is something I cherish deeply. I am so glad that I was given the opportunity to learn more about myself and my fellow reds through my Senior Independent Project, and have learned so much about what it means to be a redhead, despite just scratching the tip of the iceberg on all the redhead knowledge and history out there. Thank you for taking the time to read about my research and I hope you have enjoyed learning All About Red as much as I have. Now you may not only view reds differently, but you may also appreciate them just a little bit more now.

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