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# Finding Your Unknown Twins

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*Similarities Exist Among Individuals, But What is The Chance That Humans Have a*

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Have you ever been accidentally mistaken for someone else - somebody who has your hair color, your lips' shape, and other unique physical traits? "Folk wisdom has it that everyone has a Doppelganger" - said science journalist Zaria Gorvett - "Somewhere out there there's a perfect duplicate of you, with your mother's eyes, your father's nose, and that annoying mole you've always meant to have removed."

Human genetics is known to be diverse, but there is a limit to it. In April 2003, a group of researchers published their studies in The Genome Project, where DNA examination and data analysis were conducted to compare human genetic sequences. Surprisingly, it turned out that over trials of the experiment, more than three million base pairs of our genes were found to be similar, which make up a total of 99.9 percent of DNA in a human body. Let's say, a randomly spotted stranger walking on the street is 99.9 percent genetically similar to you, and your differences in phenotype are caused by the remaining 0.1 percent genotype, combined with some other developmental factors. Imagine shuffling a deck of cards; there are certainly many combinations of three cards. If you shuffle enough time, there will be a moment when you have a three-card combination twice. Eventually, limits in genetic diversity indicate that certain features of you can be randomly combined.

Let's set up a simple math problem to find how many potential doppelgangers a person might have. Assume that you are a male with blue eyes, dark brown hair, an oval face, and a full beard. According to web-based data, eight percent of the global population has blue eyes, 75 percent has dark hair, 14 percent have oval faces, and 25 percent have full beards. After applying the probability calculation method– probability of having blue eyes x brown hair x oval faces x full beard– there is a 0.0021 percent of the world population who have the potential to become your Doppelganger. That actually turns out to be 1,617,000 people! But to be considered "similar", there would be more factors to compare rather than just eyes/hair colors, face shape, and beard. Hence, this number would be significantly reduced after other physical traits come in. Fortunately, researchers have already calculated the possibility for us: your chance of spotting a Doppelganger is one in 135, and on average, each person can have around seven doppelgangers.

We share the most genetic information with those who are related to us. Twins' genetics are more identical than siblings, and siblings are more identical than cousins. A Doppelganger looking similar to you, also, is said to have more similarities in DNA than strangers although you are totally unrelated. "People who look identical almost certainly share more DNA than two random strangers who don't look alike" - according to Arthur Baudet from the Baylor College of Medicine - "Some of these people might actually be distant relatives".

Several people may find it easier to find their lookalikes than others. It is said that those who have average faces - the type of face with the average of other people's features - have the highest chance to find their Doppelganger. Winrich Freiwald, a researcher at Rockefeller University commented: "There are only so many genes in the world which specify the shape of the face and millions of people, so it is bound to happen. For somebody with an average face, it's comparatively easy to find good matches."

Doppelgangers have appeared as a horror element in the past but surprisingly have turned into a form of entertainment, curiosity, and wonder. Neil Douglas, a photographer from Glasgow, made it to the news in October 2015 when he boarded the flight to Galway. When Douglas was about to take his seat, he realized that the seat was already taken by somebody else: "There was a dude already on my seat. When the guy looked up, I thought: "He looks like me." The unexpected coincidence brought Douglas unforgettable memories. But things didn't stop on the airplane. Later, Douglas and his Doppelganger re-encountered, when they realized that they had booked the same hotel. "Later that night, I went to the pub again, there was my twin. Total weirdness. We had a laugh and a pint." The stories about his meetup, posted on Twitter, received wealth interests from others, it also raised a question for me: Why were people in the past so scared of doppelgangers and perceive their lookalike as extremely bad luck, but our current generations seem to be interested in discovering, and even finding out who our Doppelganger is?"

Psychological research shows that we are more likely to be attracted by people who share some extent of similarities. "If you meet someone that looks like you, you have an instant bond because you share something," - said Francois Brunelle, a photographer who had photographed over 200 pairs of doppelgangers for his project I'm not a look-alike. It is human instinct to perceive those who look similar to us as trustworthy, attractive, and reachable. Many Artificial Intelligence (AI) tools have been developed so that people can satisfy their curiosity. As long as you upload a clear photo of your face, the algorithm will detect your facial features and compare to other photos available in the database, giving you your Doppelganger with the percent similarity. There are even Reddit channels where you can upload your photo, and the web-based community would help to find out who you look similar to. Many people have been told that they looked like celebrities, and being a lookalike somehow totally changed their lives.

Recently, humans have paid more attention to the concept of Doppelganger. Partially because it is interesting, but also because of the security and privacy factor. Think about this: your physical appearance is part of your identity. Facial recognition is now widely used for everyday security measures: driver's licenses,criminal records, unlocking a phone, doing business, and so on. And now, there exists another person who looks exactly like you and has your identity. Even the most advanced AI algorithm can be tricked into the similarity. "They look like clones." - said Brunelle.

At the moment, scientists are working on developing methods of distinguishing Doppelgangers using algorithms. But in the meantime, perhaps, you can find your doppelganger on the internet from a number of different websites. You may find another version of yourself there, your unknown twin. • • •