# THE ORIGIN OF SKIN COLORS

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For a considerable number of years it has been important for Christians with training in science to gather evidence which demonstrates the scientific necessity of supernatural creation to explain the history of life. However, sufficient evidence has now accumulated to convince anyone whose philosophy does not hinder him or her. Although it will continue to be an important ministry for scientists to add to this body of evidence, it is now time for creation scientists to devote more of their resources to “doing science” within the creation perspective. This paper will hopefully serve as an example of this new emphasis. It is also intended to provide some information in an area of interest to many.

Ancient literature indicates that people have always had some awareness of inheritance, some appreciation for the fact that children resemble their parents. However, it was not until the middle 1800’s that Gregor Mendel discovered the basic principles of heredity. And it was not until the middle 1900’s that scientists began to uncover the chemical processes that control inheritance. Now every school child learns about deoxyribonucleic acid (DNA), the molecules with which the “book of genes” is written. DNA serves as the master blueprint determining the possibilities for our physical features. Each cell of your body has two sets of “blueprints”, one from your mother and one from your father. The cell uses that information to produce the combination of traits that is uniquely yours.

The molecules of DNA are extremely large and complex, and much remains to be learned about the exact ways they control heredity. In order to discuss inheritance in a more easily understandable way, we use symbols to represent the DNA that controls individual traits. For example, there is a DNA molecule that determines whether a person will have red hair or some other color. We can symbolize the form of the DNA that produces red hair with *c* and the form of that same molecule that results in non-red hair as *C*. Because, as pointed out earlier, each cell has two sets of DNA blueprints, we will have to use two letter *c*’s to represent the DNA which controls red vs. non-red hair. Each person can therefore be said to be *CC*, *Cc*, or *cc*, depending on the forms of the DNA they receive from their parents. It turns out that a person need receive only one *C* to have non-red hair, so both *CC* and *Cc* will produce non-red hair while only *cc* will result in red.

Although each of the body cells contains two sets of DNA blueprints, a special type of cell division causes sperms and eggs to contain only one set. Then when fertilization (the joining of sperm and egg) produces the first cell of the new life, it will have a set of blueprints from each parent. By the way, the set of blueprints that goes into a particular sperm or egg is not either the grandfather’s or the grandmother’s but rather a mixture of the two.

With that bit of genetics theory under our belts we are ready to consider the characteristic with which this article is concerned, namely, skin color. We will be studying only differences in darkness and not those differences which some perceive as yellow or red. Statistical research has indicated that from four to six DNA blueprints are involved in controlling this trait. For at least some degree of simplicity, we will assume that only four blueprints control skin color. If in truth there are more involved, the same principles would apply. Now let’s consider some of the details of the inheritance of skin color, using forms of the letters *a*, *b*, *c*, and *d* to represent the DNA blueprints involved. According to the system we are using, the darkest person can be represented as having *AABBCCDD*, and the lightest as *aabbccdd*. The forms of DNA which we are representing with capital letters each add a degree of color. A person with an *AaBbCcDd* makeup would be intermediate in color as would someone with *AABBccdd* or *aabbCCDD*, or any other combination of four capital letters.

Now we’ll consider the origin of skin colors in humans. Some have proposed that originally there was only one type of blueprint, which we might symbolize as *AABBCCDD* or *aabbccdd*. This theory states that mutations, genetic mistakes in copying the DNA blueprints, produced the other forms responsible for other skin colors. The major difficulty with this idea is that almost all mutations are harmful, and it is known that different skin colors are beneficial in different climates. Therefore, we would not expect that beneficial differences would arise from mistakes, but would rather have been provided by the Creator. Is it possible that one created couple, Adam and Eve, could have been given the genetic potential for all of the colors we see today?

The answer is most definitely *yes*, and in fact there are a number of different possibilities. One would be where one spouse had a completely different blueprint from the other. If one of the original parents was *AABBCCDD* and the other *aabbccdd*, all of their children would be *AaBbCcDd*. The recombination of these blueprints could, in future generations, produce all of the shades now present. Of course, this would mean Adam and Eve would be opposite extremes in color, and their children would be brown. It isn’t my purpose to raise, at this point, the topic of interracial marriages, but I suspect that it might have been simpler for the first family if they had all been the same color.

There is, perhaps, some Scriptural evidence for this, however slim. Recall that when Adam came out of the anesthetic and saw Eve for the first time, he was inspired to speak (or sing?) the first love poem in the Bible:

“This is now bone of my bones,

And flesh of my flesh;

She shall be called Woman,

Because she was taken out of man.”

Not particularly romantic, perhaps, but remember it was humanity’s first attempt at poetry. At least it seems pretty clear that Adam had no trouble recognizing that Eve was his kind of woman.

Not to make too large an issue out of it, I would like to propose a genetic possibility for the parents of us all that would have caused them minimal confusion. Such a possibility (and not the only one) would have Adam with *AABBccdd* and Eve with *aabbCCDD*. They would both be the same brown color because each would possess four color-producing blueprints. All of their children would be *AaBbCcDd* and the same color as their parents. Future generations would produce the whole “rainbow” of skin colors.

We can see definitely in this one example that there is no need to invoke unexpected beneficial mutations in order to explain the diversity in our own species. The inheritance patterns of other characteristics are not all as well known as that of skin color. It may be that one or more of the features that distinguish one population from another is the result of a genetic mistake somewhere in our past. But if such a variable trait as skin color could have come from a single created couple, there is no reason to think that most, if not virtually all, of the rich diversity possessed by our species was given to us at the beginning by our gracious Creator.