

“Help Me Understand the Genetics of Skin Color”

Ray,

I've got a genetics question for you. A pastor friend posed the following for me, which he says is the argument of some creationists he knows. He sums up their argument this way:

1. Adam and Eve were the first parents of all the races.
2. Adam and Eve contained all the genetic information from which eventually all the races came.
3. From Adam to Noah, all descendants of Adam and Eve were probably all a mid-brown color since Adam and Eve were also mid-brown.
4. After the global flood and the tower of Babel incident, descendants of Noah separated into people groups according to their own languages and traveled to different parts of the world.
5. As different “people groups” were exposed to different environments, natural selection occurred resulting in certain genetic traits to be enhanced for adaptability (for example: darker skin pigmentation for environments with more intense sunlight due to the genetic “potential” to increase more melanin).
6. As the “people groups” were isolated and intermarried with each other with a certain group, they eventually lost certain genes that were not needed for adaptability. (That would explain, from this point of view, why African Negroes who move to different northern environments or European Whites who move down to Africa, do not change back to another color because over time they previously lost the genetic potential to do

so.)

Ray, from your knowledge of genetics, does this hold water? Or is it speculation? Thanks.

Your pastor friend is essentially correct. This scenario as regards to skin color is eminently workable genetically. There are at least three and perhaps four genes involved in skin color and several alleles at each gene producing differing amounts of melanin. It would not take long for these to segregate out into different inbred populations creating true-breeding lines for particular skin color shades. I even discussed this back in the late 70s with my genetics professor and he saw no genetic problem with this scenario.

The only change I would make in the scenario would be to emphasize the critical role of the wives of Noah's three sons. They are actually more important than Adam and Eve. Noah's sons would most likely be very similar genetically so the major variation would need to originate with their wives since the world is repopulated from these three pairs. The full genetic range could easily be incorporated into these individuals. Adam and Eve would not necessarily need to possess the entire range of skin gene possibilities since there is some time for accumulation of mutations between them and Noah's sons. With that said, since Adam and Eve would both possess two copies of each gene, that means a possible total of at least 4 different alleles at each gene and if there are 3 different genes, that means 12 different alleles which could be combined 144 different ways. This would seem more than adequate to accomodate the full range of human skin color.

Respectfully,

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