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 RON! RON! RON!

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Colour Vision

Rob Heaton

Colour is great. Without it, it would have been harder to spot predators in the undergrowth, the wonder of Hawaiian shirts would never have been discovered and the hair dye companies would go out of business.

But what caused one of our ancestors to turn to another and say 'blooming heck look at that tree, it's not grey' (or words to that effect)?

Since primates are the only mammals that see colour (makes you feel proud doesn't it) what caused a random section of a phylum of animals to gain this skill?

Until recently, the commonly held belief was one of luck. Our ancestors evolved this to spot ripe fruit and leaves so that we could eat them. Random chance basically; any omnivore or herbivore could have done it.

However, recent studies by Caltech in Pasadena, America beg to differ.

The study investigated the ability to alter skin colour and the receptiveness of primate eyes for colour.

The suggestion is that blood with low oxygen content stains the blood blue and gives the skin a greenish-blue appearance. By contrast, blood with oxygenated haemoglobin (the oxygen carrier in the blood) causes the skin to appear red.

The specific wave lengths which primates are responsive to, between 540-560nm, lie between green and red on the visual spectrum.

This responsiveness increased in primates with more advanced colour recognition, such as humans and gorillas.

Higher primates with good colour recognition also tend to be barefaced which could support this theory. You cannot see skin colour if who you are looking at is covered in hair.

All this suggests that colour recognition is linked to skin colour modulation, in effect, blushing.

Instead of being able to tell food ripeness (a good side effect), you could read the emotions of your troop - very important in a social context.

Without an ability to read emotions, social structures are impossible. In fact, human civilisation is impossible.

Colour recognition might not have evolved so you were not poisoned, but without it you would not be able to read this. In fact, you would still be sitting in a cave wondering why no body would talk to you.



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