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Őseink lehetséges defektusa: Tritanopia

Tritanopia: a possible defect of our ancestors

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Abstract:
Colours are very rarely mentioned in the Bible; especially, the occurrence of the colour *blue* is remarkably lacking, not only there, but in the Iliad and Odyssey of Homer, as well. The perception of the blue colour is inherited as an autosomal recessive way; we suppose that the cause of the absence of mentioning of the blue colour might be the often presence of blue-blindness as a consequence of the high occurrence of consanguineous marriages in the ancient world.

Keywords: Autosomal recessive trait, colour blindness, tritanopia

Kulcsszavak: Autoszomális recesszív jelleg, színvakság, kékvakság

Observations and scientific explanation

Yi*gal Yannai* (1) dealt in his study with the different colours mentioned in the Scriptures. He emphasized that there were colours extremely rarely alluded to in the Bible for characterizing physical features of people or objects. He quoted *Mrs Roni Pines* (2), who, surveying the Scriptures, found no more than about 30 Hebrew words for the indications of various colours; but, if increasing the severity of her criterions, no more than 5 or 6 names for colours remained left and untouched.
Two highly interesting further notes have emerged from the study of Yannai. The first one is that the designation of *the blue colour is neither occurring in the Bible nor in the Iliad and Odyssey of Homer*; the second one is the citation of the supposition of *B. Landsberger* (3): according to him it might be possible that *our forefathers were partially colour blind, namely, suffering from a blue- colour- blindness, also called tritano*pia.

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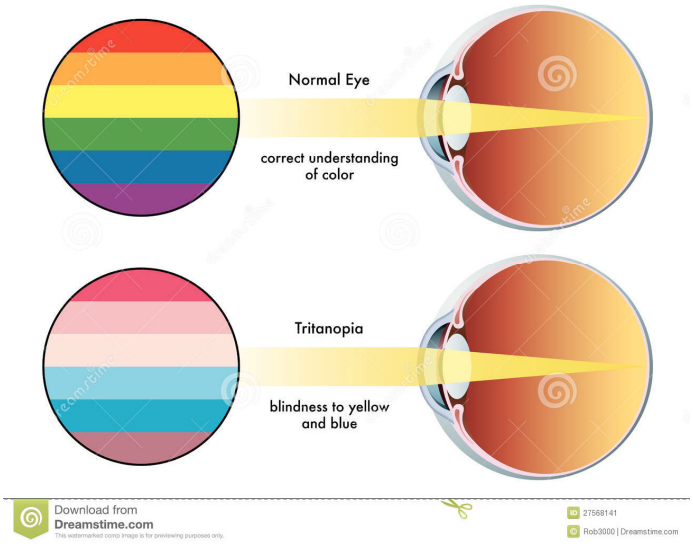
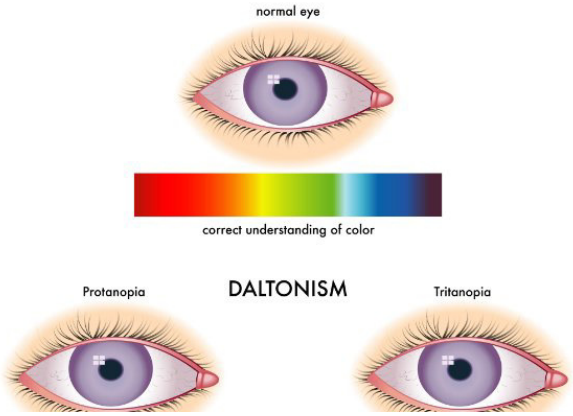


Colour blindness in theory and praxis

It happened about 200 years ago when *John Dalton*, the famous physicist and chemist (1766-1844) was invited to hunting by the royal court and wore a green jacket instead of a read one. Consequently, he was thought to be an „enfant terrible" and a „saboteur" of the regulation of the etiquette. The truth was that he was merely colour blind. By the way, he might have been informed of the earlier (1794) published thorem of *M.V. Lomonosov* about „the trichromatic basis of colour sensitivity". The expression of *daltonism* in the French and Spanish scientific literature reminds us of the anomaly of the scientist.



Since the work of *J.H. Purkyně* (1787-1869) it has become obvious that the defect of the cones of the retinal layer were responsible for the colour blindness. The frequency of red and green blindness is 4% among males and 0, 5% among females. The number of people concerned of this type of colour blindness is 40 000 in Hungary, 200 millions in the world.
Contrary to the rather early results in favour of the elucudation of the trait, it has been a good many time until the theoretical observations were put into practice, e.g. it can be taken for

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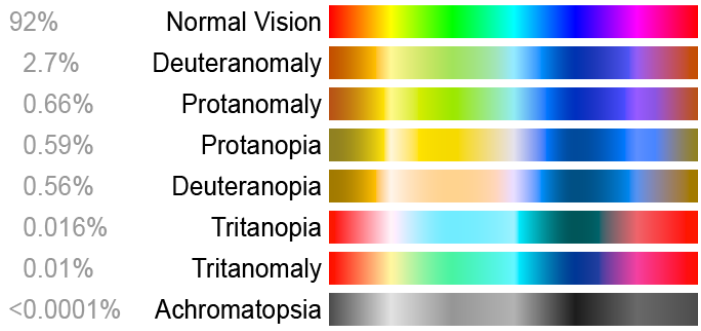
granted that the railway accidents in the years 1875 in Lagerlund (Sweden) and 1918 in Dresden (Germany), both were consequences of red and green blindness of the engine-men.
It is well-known for today that the mood of inheritance of the red and green blindness is sex-linked, mediated by the X-chromosomes.

The heredity of tritanopia

The anomaly was first described by *König* (1897). It is most probably inherited as *an autosomal recessive trait, with a rare frequency of 1:12 000 in the European population.*
If we suppose that many of our ancestors (Jews, Greeks, etc.) were suffering from tritanopia and confront it with the small frequency of it nowadays, we might propose a new idea: respecting that it is acknowledged that consanguinous marriages were common forms of mating of our forefathers, autosomal recessive traits might have also been very often among them. Two heterozygotes for blue blindness, if marrying, could give more frequently birth to a homozygous sick offspring than the average population. These homozygotic blue blinds might have had a selective disadvantage, a mindered genetic fitness than other members of the ancient populations. It may explain the relative rarity of tritanopia in our days.



By chance, Android offers a Color Correction mode which enables your device to compensate for Color Blindness. This mode offers you to compensate for Color Blindness with one of the following option :

- Deuteranomaly (Red-Green)
- Protanomaly (Red-Green)
- Tritanomaly (Blue-Yellow)
- Deuteranopia (Green)
- Protanopia (Red)
- Tritanopia (Blue)

References

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