Re: Why is the sky red?

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From: Terry B (*bohlsen_at_nospam.northnet.com.au*)
Date: 11/30/04

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"Prai Jei" <pvstownsend@zyx−abc.fsnet.co.uk> wrote in message
news:coao0gqgg1@newsg4.svr.pol.co.uk...
> Jimmy (or somebody else of the same name) wrote thusly in message
> <0HFld.121844$dP1.419958@newsc.telia.net>:
>
>> Hi! Some days when the sky goes up or down the sky is very very red so
>> the
>> air around us looks red to. Why is this happening?
>>
>> Guess there must be something special with the air those days that
>> changes
>> the frequency of sunlight that we observe.
>>
>> Thanks
>
> The blue of the sky is due to reflected (scattered) light being mostly
> blue
> while the red of a rising or setting sun is due to transmitted light which
> is correspondingly richer in red.
>
> For the same reason blue−eyed people (myself included) have their eyes
> appearing red in flash photographs. There is no blue or red pigment
> involved. The "normal" blue arises from scattering of light by the cloudy
*> but *unpigmented* iris. The red−eye effect arises from the flashlight*
> passing through the iris (so losing its blue by scattering) and being
> reflected back by structures in the eye behind it.
> −−
> Paul Townsend
> Pair them off into threes
>
> Interchange the alphabetic letter groups to reply

Sorry but the red eye effect has nothing to do with the colour of the iris. Normally the pupil looks black because almost all of the light that enters the eye is internally reflected. If the source of light is nearly on the same axis as your eyes then the light is reflected back by the retina and you see a red colour from the blood in the retina. This is how an

ophthalmoscope allows you to see the retina. A mostly parallel light source is beamed onto a mirror just below the optical axis and reflected to be parallel with the vision of the observer. i.e. you look just over the top of the source of light. This light is aimed into the pupil and is reflected back by the retina. The image is magnified and focused by a lens. If the pupil is small due to bright light it is harder to visualise the retina. If it is dilated due to darkness (or eye drops) then it is easier.
The same principle happens with flash photos. The pupil is dilated due to the dim light (hence the need for flash) allowing the flash to reflect back to the camera lens. The effect is prevented by either using a preflash to make the pupil constrict or by moving the flash further away from the optical axis of the camera− a difficult problem with todays compact cameras but easy with a separate flash on a SLR.

Clear skies

Terry B
Moree
Australia