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The Rays of Light is Visible

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Abstract: ***The rays of light are visible. When the rays of light come from any source of light towards our eyes, it look like the strip of parallel and very closer beams of rays. But this strip of rays seems going towards perpendicular to the line joining our eye to the source of light and vanishes at a distance. These rays are clearly seen in darken night, room or place when the source of light is far away from us. If we are standing at a too much lightful place, then we must be reduce the radius of our pupil of eyes by eyelids to enter less and less rays facing to the source to see these rays clearly.***

Keywords: rays of light

The rays of light is not invisible but it is visible, i.e. it can be seen directly by our naked eyes.

Theory (01): When the parallel rays of light coming from a source of light or reflected rays coming from a point towards our eyes, it seems to go perpendicular to the line joining the eyes to that of point.

From the fig. 01, let a point A is the source of light, AO is the line joining the source of light A to the eye O. Here, the line AO is called the line of axis . Let ray AP along with other parallel rays coming from point A towards eye O. When these parallel lines coming from point A towards eye O, it seems going perpendicular to line AO towards AC. This phenomenon is called ARAVIND EFFECT. But, these perpendicular lines seems to end at a fixed point P, which is called ARAVIND POINT. The space between the point P and eye O always seems vacant or raysless and the distance between P to O is always a constant and called ARAVIND CONSTANT, denoted by d.

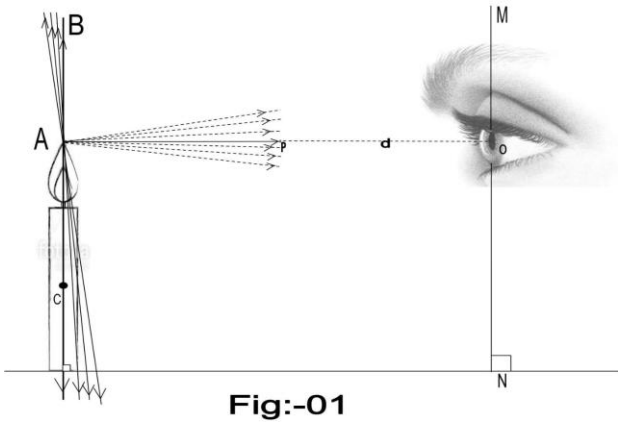

Fig:-01

According to fig. 01, actually, ray x comes from the point A (source of light) towards eye O, always ends at a fixed point P. But it seems to go towards AC which is perpendicular to AO.
i.e. LINE
$\angle OAB = \angle OAC = 90°$

$$BC \| MN \quad \ldots\ldots (a)$$

and
OP =d (since, ARAVIND CONSTANT)

Theory (02):- Since, the virtual rays going from the source of light perpendicular to axis, is actually come to our eyes. This can be understand by the fig. 02.

If a hollow cylindrical pipe MN of the smallest diameter keep on a stand XY horizontally between eye O and a flame of a light A. The one edge M of pipe MN, facing flame A while the other edge N facing the eye O.

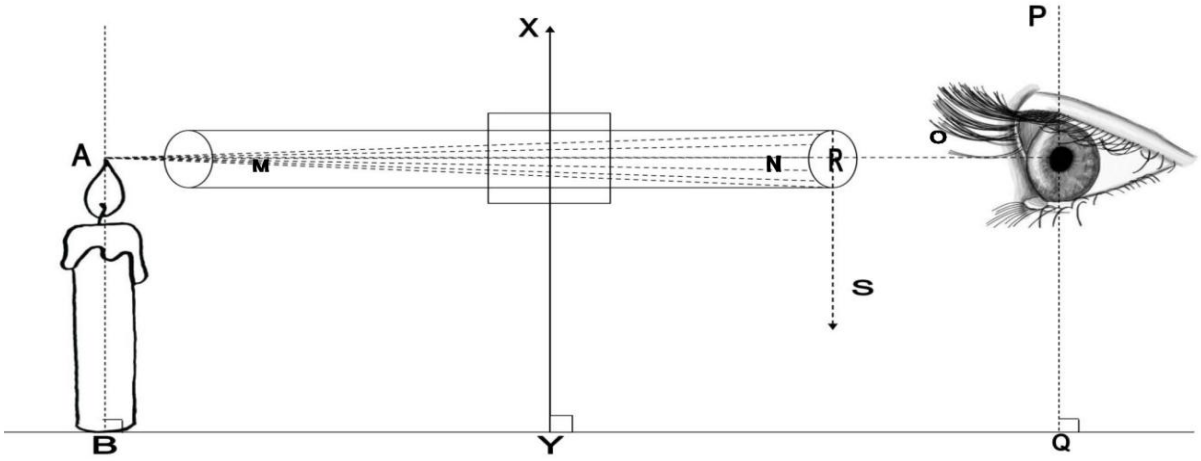

Fig.:-02

When we see the the flam A, through pipe MN, from the side N, the rays coming from A to eye O, still seems going perpendicular to the axis AO, but at this time the going rays go perpendicularly to AO from the point R.

Hence, the virtual ray RS is parallel to AB.
i.e.
∠ORS = ∠ 90°
and
RS∥AB . . . . . (b)
here,
RO = d. . . . .(Aravind constant)
still remains constant.

Theory (03):- If the eye rotates at an angle with respect to horizontal line, the virtual rays also rotate at that angle in the same manner.

From the fig. 03 and 04
- POm = ∠ Bal 1= 1′
- XOQ = ∠ YAC

= Q2 = Q2′
And
But,
l ∥ m .....(c)
RO = d (Aravind constant)
Also remains unchanged

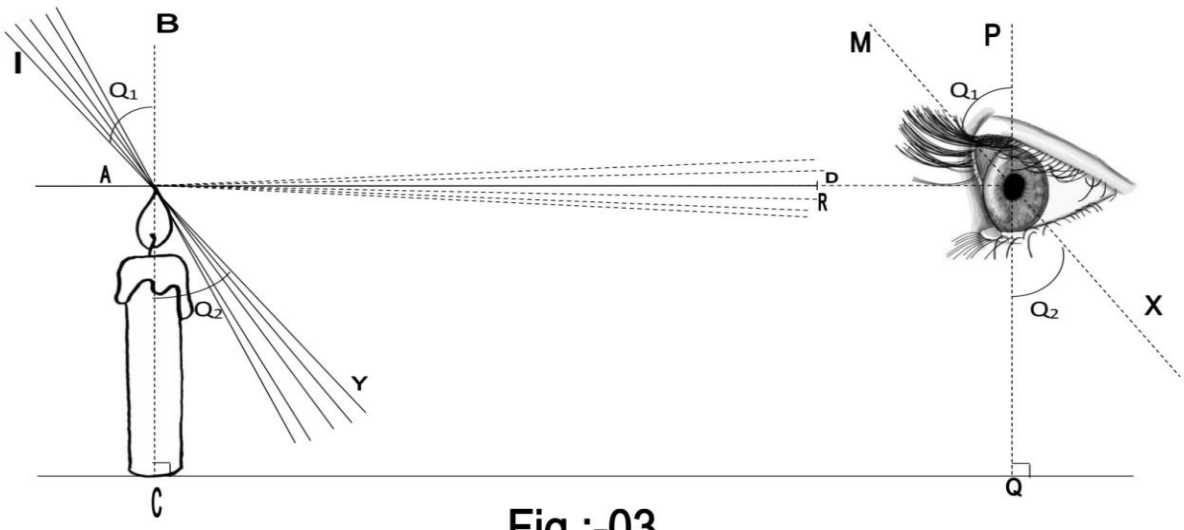

Fig.:-03

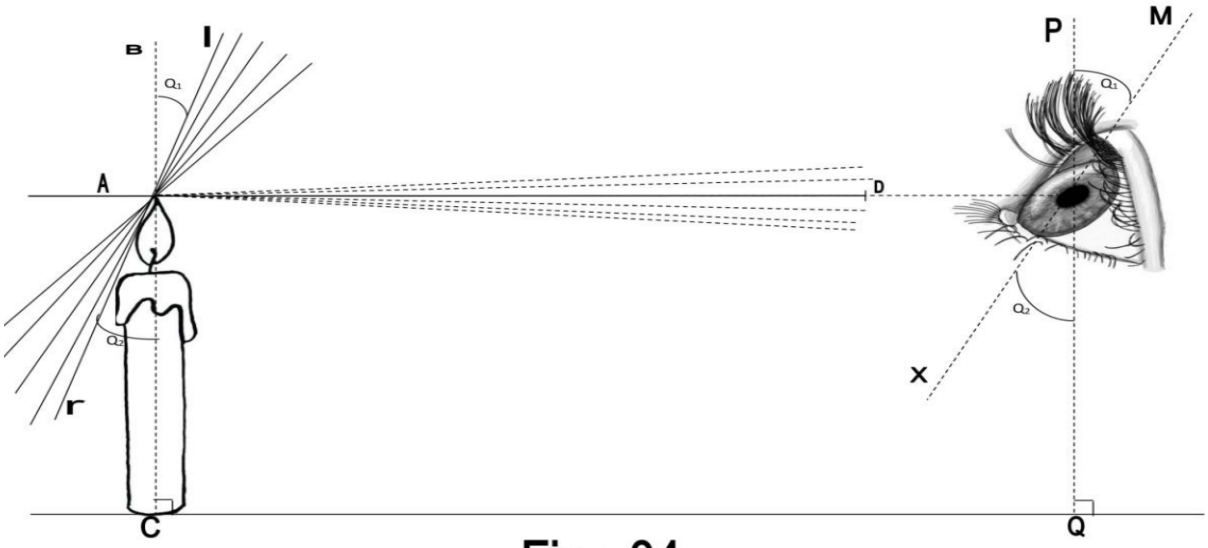

Fig.:-04

Theory (04): If we see towards any window AB (from fig. 05) of a closed room. Then the reflected rays from AB coming to eye O seems going in the direction of MN, which is perpendicular to axis AO.
From fig. 05,

∠ROP = ∠SMT (angle of rotation of eye)
∠NMO = 90° (by the Aravind effect)
And

MN∥RL . . . . . (d)

Here, WO = d (Aravind constant), still
Remains unchainged.

Conclusion

From the equation (a), (b), (c) and (d) we come to a conclusion which are -

a) Rays are not invisible, it can be seen directly by our naked eyes.
b) The rays which we see in really, it seem to go at that angle at which our eyes make from the axis (the line, joining the source of light to eye).
c) If our eyes rotate at an angle with the vertical, the going rays (virtual) also seems rotating with the same angle.
d) The rays which we see, seems to end at a fixed point,which is called Aravind point. And the distance between this point to eye is always remains constant. This constant is called Aravind constant, denoted by ´d´.
e) The rays which we see seem to go perpendicular to the the axis, this phenomenon is called Aravind effect.

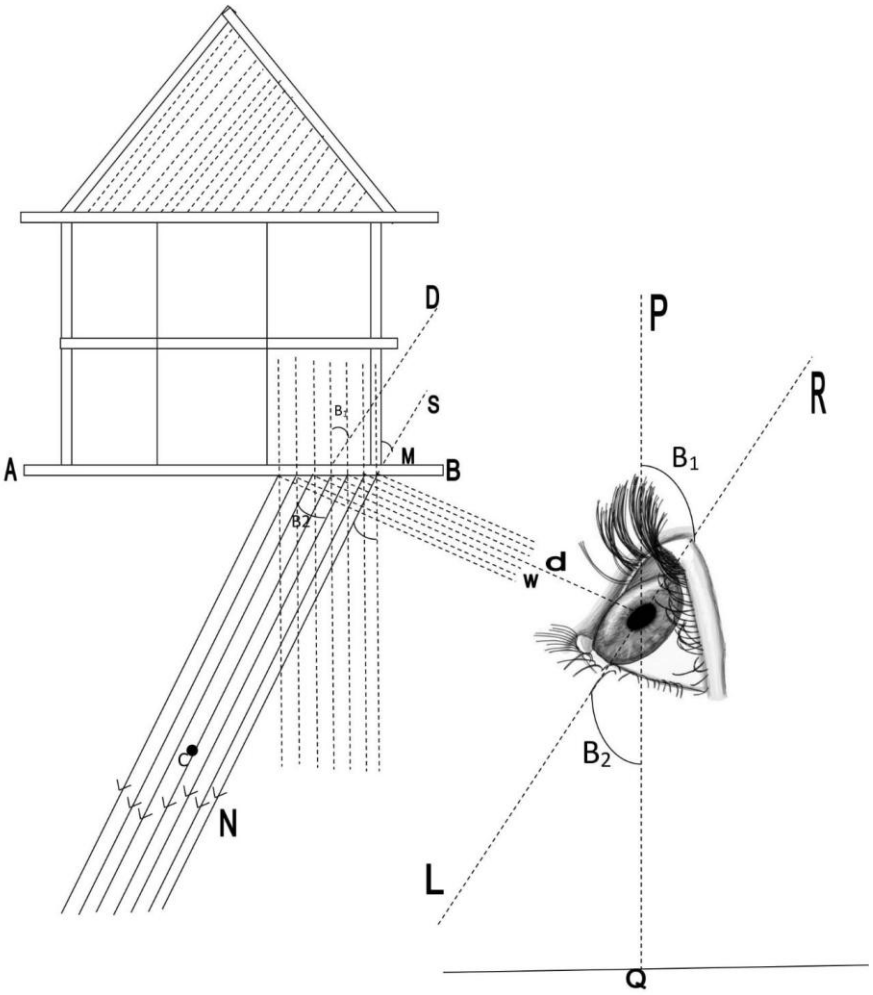

Fig.:-05