

lens in straight lines and fall on the retina at the back of the eyeball, where the arrow will be inverted as at E.

For short distances light travels in straight lines, but for very long distances of thousands of miles it travels in great curves. When these facts are properly appreciated it will be seen that the eye cannot stretch out further in one direction than another. In fact the eye does not "stretch out" at all; it is light which comes into the eye. Strictly speaking we never see anything outside the eye, all vision is within the eye or optic nerve; and we learn from our other senses to associate distance with the various objects we see.

But even after much experience these distances are often deceptive. For instance, mountains look much nearer before rain than after it. When we have digested these facts we shall see the absurdity of thinking that the sun and stars are many millions of miles away from the earth.

No architect makes a light or a fireplace a million times greater than the house he wants to light up and warm, and the Creator was too good an architect to make such a blunder! The sun and moon and stars were made to light and warm this, the only world; and no other world has ever been discovered by astronomers.

- Where'er a man's horizon be,
Not one yard further can he see.
Man's eye-formed tent is God's provision,
To frame and circle all his vision.
In all directions he can see,
His eye-line's length the same will be.
The horizontal line of sight
Is equal to its length upright:
That is, straight on before his eye
Is just the same up vertically.
Controlled by *certain limits, too,*
The telescope extends the view:
And its extended line of gaze
Is equal in its length *all ways*.
All mortal things have limit scopes,
Including man-made telescopes.
But globites think their eyes can trace
A hundred million miles in "space:"
That is, when looking towards the sun,
They say the stars are further on.
Some stars *they see are—so they say—*
Five hundred million miles away,
But the Creator of the sky
Created, *too,* the human eye:
So, doubtless, 'tis a *wise decision*
That man *is limited in vision*.
The one who said "Thou shalt not die"
Deceived man also re his eye!
But each man's dome formed by his eye
Holds *all* he sees of earth or sky.

Sight Limitations.

Equal in Every Direction.

By ZETEO

(Lady Blount, F.R.S.L., F.N.B.A., F.S.A., etc.).

TELESCOPE, WORTHING PIER.

PRINTED AND PUBLISHED BY THE AUTHOR.

N.B.

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TELESCOPE LIMITATIONS.

In January, 1913, I wrote on the above subject to a most notable firm of opticians, and on the 23rd of the same month I received their reply.

I asked the firm if it could supply me with a telescope which would enable me to view from London to Brighton, and I agreed to place the instrument as high above the earth as would be necessary.

In the reply I received it was stated that it was "impossible to state whether Brighton could be seen from London." I also suggested that "of course, whatever distance can be seen horizontally, under equal atmospheric conditions, would be the same vertically, as the telescope's power, like that of the human eye, could not be 'stretched' beyond its limits."

But to this I received no answer. Therefore I wrote again, and put the same question more plainly, and quite apart from my letter I wrote the queries on a separate page.

In reply, the firm's representative said: "The questions you asked are very difficult to answer. Briefly, they (the firm) would reply as follows:— 'Provided there is no *obstruction* there is no limit to the range of the telescope (vertically), that is to say that, with clear atmosphere the sun, moon, and stars can be viewed perfectly.'"

This, of course, was all that they could say, because most telescope makers believe the false tenets of astronomy, and imagine either that human sight is limitless, or that vision, with the aid of their human constructions called telescopes would be limitless in a *vertical* direction.

They think that the sun, moon, and stars are moving with the earth-and-sea-globe, which they imagine is also a star, and all moving at infinite distances somewhere in infinite space, and they think that men can gaze at those distant objects through the telescope, vertically, weather permitting!

But that telescopes cannot help us to perform such miracles *horizontally*, the optician was compelled to admit. And even with the aid of a high position the longest distance that can be seen with the naked eye, he was forced to own that he could not guarantee that the telescope's power would extend the range of vision from London to Brighton, a distance of some fifty miles.

But he stated that, "under favourable conditions, the most powerful telescopes should carry a distance of fifty to sixty miles," *i.e.*, horizontally.

*THE WRITER BEGS TO THANK
the Public, including numbers of
Scientists, D.D.'s, and School Teachers, for
their appreciation of the facts set forth in
this Pamphlet.*

SIGHT LIMITATIONS.

EQUAL IN EVERY DIRECTION.

By ZETEO

(Lady Blount, F.R.S.L., F.N.B.A., F.S.A., etc.).

TELESCOPE, WORTHING PIER.

A hundred million miles and more
Man's range of sight can't be,
Yet all are taught, from shore to shore,
Much further they can see.

Unlimited man's sight is not,
None of his senses are,
But theory—science men forgot
They could not see so far.

HUMAN SIGHT is limited, and equal in every direction
when there are equal conditions and possibilities.

Most people would agree to this proposition at first sight,
but few think of the results of the application of the principle.
Atmospheric differences and variations in different directions

cause the sight to be curtailed or cut short of its full length of view. Sometimes these differences obtain in one direction and sometimes in another, and local differences are innumerable as the stars. But although the possibilities of human sight are equal both vertically and horizontally, and also betwixt these two at every point, it is usually, more or less, cut short, horizontally rather than vertically. When there are no solid obstructions, such as buildings, hills, trees, etc., even then smoke, vapours, mists, etc., refract the light.

Humidities in the air, as well as the eye's nearness to the earth, all prevent the full possibilities of sight horizontally.

Looking vertically, sometimes clouds and mists preclude the fully extended reach of sight quite as effectually as do solid sight-deterrents on the earth in the shape of bricks and mortar, etc.

Even when the human eye is looking over the open sea or over a plane its full range is rarely reached.

The eye is always in the centre of its own visual bounds, the full extent of which it can only see under favourable conditions, when all obstacles or obstructing causes are cleared away.

The heavens are pictured down to meet the human eye, and no man can possibly see beyond his eyesight's range within his limited area. This perspectively appears enclosed by circular bounds extended as far as the individual's eye-power can command on all sides. Each human eye is enclosed as in a tent by the limitations of its own formed canopy.

In every position on earth or on sea a man is under the same conditions. His eye-formed canopy or "tent" is ever over him, and if he moves a few yards, or a hundred miles, he can never extend the limits of his own bounds determined by his own eye and the limitations of light. The laws controlling these conditions are fixed.

Every man's eye-formed bounds moves along with him bodily, new canopies ever forming round him wherever he may

go. But his eye can only command sight-grasp of a few miles of circuitous space in breadth or height.

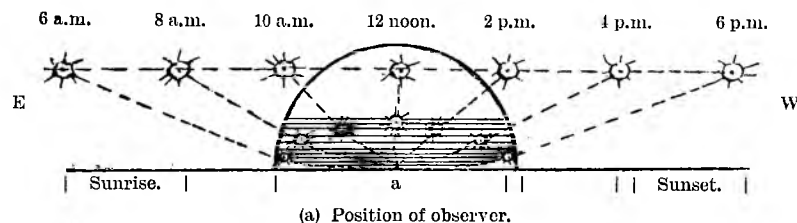
The heavens sink down to his horizon, and consequently the heavenly lights in motion appear in a dome as though moving above his head. And wherever the field of motion of the heavenly lights may be—whether far or near above—they are reflected down through the atmosphere to each human eye, and they appear within the eye's own bounds according to their located positions on the earth or sea.

The images of the sun, moon, and wandering stars pass through the eye-formed "tent" according to their regular courses. That the projected image of the sun comes through the atmosphere into the horizon of every mortal's limited area and very near above the earth is an evident fact—as is shown in the following diagrams.*

It is shown that the image seen of the sun within the eye-formed tent or canopy of every person on earth often appears within two or three miles above the earth, or the spectator's eye. It was so when the drawing of Diagram III. was made.

DIAGRAM I.

March 21st.

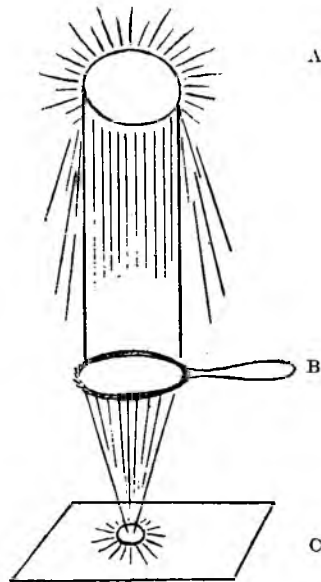


The sun "rises" perspectively into the horizon of the eastern atmosphere limits of each man's eye-formed bounds, or tent, gradually rising higher and higher until noon, when it reaches its zenith, or central point of vision.

* See "The Motions of Light," "Refraction and Reflection," etc., etc., by the same author.

These facts may be made clearer by the following diagram.

DIAGRAM II.

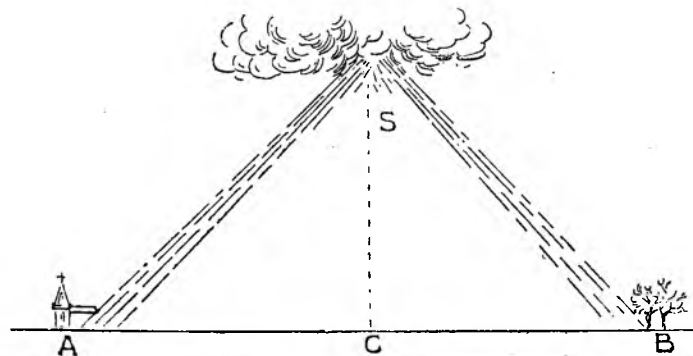


In the above diagram let A represent the sun, B a magnifying glass.

Those rays which fall vertically on the glass B pass and are converged at the point C. This experiment can be tried any day when there is sunshine, and if the converging rays are focussed on a piece of paper as at C the focussed image of the sun will be seen, and it will set fire to the paper.

DIAGRAM III.

FIG II



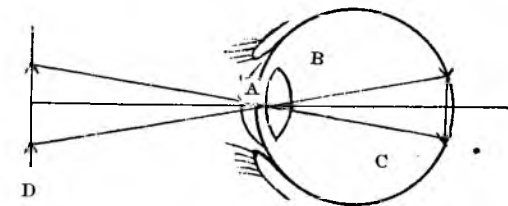
In the same way the Sun Light is focussed in the atmosphere, and that which we see is a focussed image borne by sun-rays in the air in harmony with the eye's nature.

This diagram was taken from observation for the author by a scientist.

S was the focussed image of the sun shining through the clouds, and its rays diverged to the right towards some trees as at B, and to the left to a distant church.

These rays made an angle of about 45° with the earth, and the distance from A to B was four to five miles. Drop a perpendicular from S to C, then the distance over B, a little over two miles, equals the altitude of S—the focussed image of the sun. If we were to rise higher in the air in a balloon the focussed image of the sun would rise higher with us, up to a certain height, just as when we approach a rainbow, its arch recedes from us as we approach it.

DIAGRAM IV.



This diagram roughly represents a sectional elevation of the human eye. A may represent the aqueous humour; B the crystalline lens which answers to the glass which converges the rays of light; C represents the eyeball filled with what is called the vitreous humour.

All these, with the cornea in front of the eye, are transparent, and they allow the light to go through the pupil of the eye to the membranous lining of the eye-ball called the retina.

If an arrow be placed before the eye as at D, the rays of light will pass from it through the pupil and the crystalline