

Written for the National
Academy of Sciences
Washington D. C.

[2]



Figure 1 earth 2 sun's rays 3 cloud on which the sun is shining 4 shade clouds flowing fog or layers of mist. 5 cloud beam or northern light. 6 point of observation.

The northern light. Moisture theory.

The light streaks seen in the sky on a still damp ^{night} known as streamers are cloud beams, or floating particules of moisture in an early state of precipitation made visible by light and shade. The light coming from a cloud of dazzling whiteness upon which the sun is shining passing between shade clouds, both below the origin, from the point of observations,

The action motion or that which seems to be a stream passing from north to south, which some suppose to be Electricity according to this theory is light traveling, its course and progress indicated by the floating particulas of moisture becoming visible as it (the light) reaches them in succession,

When dark clouds form under the sun, and allow the light to pass between, the moisture is made visible or sun-beams are produced a cloud at a great altitude below the origin, on which the sun is shining causing it (the cloud) to be of a dazzling whiteness. The light from this cloud passing between or below dark clouds into a damp atmosphere the floating particulas of moisture are made

vizible or a cloud beam is produced ^[3] which is known as the aurora borealis or northern light.

The shade clouds moving latterly gives the steamer the appearance of a ribbon waving when suddenly moved like the slide of a magic lantern allowing the light to pass instantaneously we then have an ocular demonstration of the rapidity with which light travels across the ocean.

The various angles formed by the streamers with the ocean, are according to the various depths of the white cloud below the ocean.

In high latitudes the different colors of streamers are caused by the analysis of light by the particles of moisture, whether by light passing through a rainbow or the distances of the particles of moisture from each other is yet to determine by observation considered under this theory.

The three conditions necessary to cause the aurora can only exist a few degrees of latitude between the poles and the equator north or south of these the aurora is never seen.

These conditions are with a white cloud south a still damp atmosphere between these flowing fog broken clouds or layers of mist, these occur often, ^{rather} a warm rain followed by a lowering of the temperature of the air they are frequent where a warm southern sea is flowing north, such as passes round the north of Europe Norway and Lapland.

The aurora like a sun-beam disappears when a northern breeze starts up.

It sometimes occurs while there is an auroral

display, that the atmosphere is ^[4] so damp that the electric fluid is conducted from the wires and telegraphic communications is interrupted which some have supposed to be caused by the aurora.

As many have supposed the light, ^{with heat,} passing through to be electric, ^{fluid} we might notice the difference

The aurora is only seen at night. Electricity is seen both night and day. The aurora is a pale silent light. Electricity passes through the air with a bright light and a loud noise. Electric fluid travels from cloud ^{to cloud}. The aurora passes off into space at an angle sometimes of 45° . Electricity travels along water or the earth. The aurora passes through the upper regions of a nonconducting atmosphere.

The steamers do not obey the laws of electric fluid.

Seeing a steamer in the East (had it not been in the east the cause might not have been sought) and finding it to have been caused by the burning of a log, heap led to the study of the moisture theory.

For more than 22 years I have made observations considered under this theory and every difference or variation as admitted of such a beautiful & agreeable explanation that I have been induced to think it is the true theory of the northern light.

James Brantley
Wayne County P. C.

Newfoundland P. O.

1/9/84

Professor Maesh,

(1)

Dear Sir:

I have forwarded this in hopes you will give publicity to it any way if you think best, either by having it put in print, ^{or} the ~~or~~ inaccuracy in orthography and syntax could soon be corrected. I should be pleased if it was made public I think it would aid the cause of Science J. R. Randles