

and then leaving him to extricate himself as he can from his perilous situation—

“ A wand’ring fire,
Hovering and blazing with delusive light,
Misleads the amazed night-wanderer from his way
To bogs and mires, and oft through pond or pool,
There swallowed up and lost, from succour far.”

Milton.

Mr. Bradley supposed this appearance to be occasioned by a swarm of luminous insects, and Mr. Ray was of the same opinion. It is generally produced by the presence of phosphorated hydrogen gas, which inflames at the common temperature of the atmosphere, but it may be sometimes occasioned by a strongly electrified animal vapour. And here it may be observed, that the incipient decomposition of animal and vegetable substances is generally attended with luminous appearances, and this is particularly the case with fishes.

Light is also given out during combustion, and it may also be produced by a variety of mechanical means. When two pieces of lump sugar, agate, or quartz, are rubbed violently together, a vivid yellow light is produced. The New Zealanders and other savages produce fire by the friction of two smooth pieces of wood, and forests are inflamed by the same means when two branches or trunks of trees, agitated by the wind, are violently rubbed together.

Under all these circumstances light is produced, and its appearance would almost lead the observer to imagine that it is a constituent part of bodies. Some philosophers do believe it to be a component part of combustible bodies, an opinion which seems to be justified by the experiments of Dieman and Pacts. These chymists exposed to a high temperature a mixture of sulphur and zinc, excluding every substance from which they might obtain oxygen. The two substances united without oxydation, and formed a sulphuret of zinc, and at the moment of combination gave out a vivid light. Without admitting light to be a constituent of combustible bodies, it is almost impossible to account for the variety of coloured flames produced by substances, and the principle of absorption would lead to the same result. There must, however, be some primary source from which all the luminous bodies on the earth’s surface derive their property, and solar light is that source,—a principle that pervades the system of which our little world