

On the other hand, where a freshwater stream mingles with the salt water in pools left by the tide, and the endosmotic action of the water set up by its reduced density is greater, the algæ become broader if flat, or of more inflated character if tubular. This is well seen in *Dumontia filiformis*, *Enteromorpha intestinalis*, and *Chondrus crispus*. The influence exerted by the character of the surrounding medium and pressure may also be observed in that interesting genus of freshwater plants, *Callitriche*.

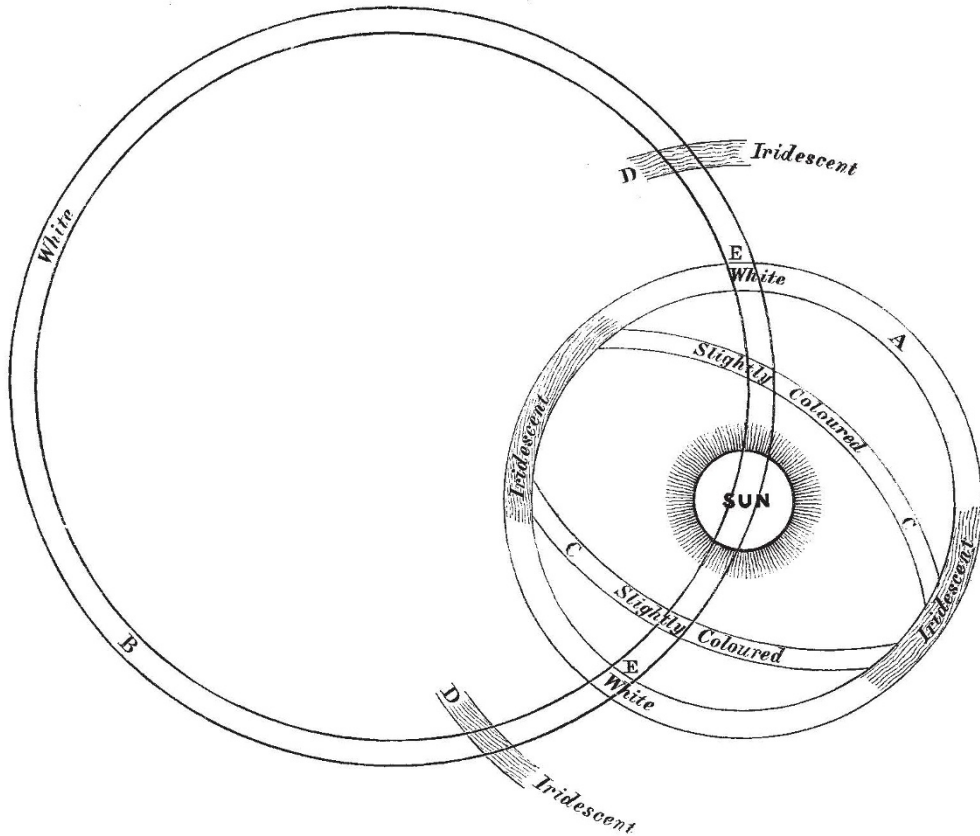
E. M. HOLMES

Solar Halo

I BEG to forward herewith diagram and remarks of solar halo as observed here to-day, thinking it may be of interest,

being an unusual phenomenon. The cause depends upon many circumstances necessary for such observations, chiefly a calm reflecting surface of water in front, behind, and around the observer, making their appearance local as well as un-frequent.

The halo marked A, caused by the sun's rays passing through the thin cirri, was reflected from the surface of the water on the English Channel side of the island, producing the large white halo B, and passing over the sun's centre, the non-concentric arcs C being most probably reflected from the harbour side, the bright iridescent arcs at D on the large white halo B being the reflected crossings of the two halos at E. I have fixed the points of the zenith and due south horizon as approximately as possible; the observer facing due south, the iridescent arc D was nearly



Solar Halo as observed at Portland, Dorset, April 28, 1883.

vertical, and about the same distance from the sun's centre to the estimated centre of large halo B, viz. 12°; the diameter of halo B was a little over double that of A.

Latitude of Verne 50° 32' 86" N.
Longitude of Verne 2° 23' 40" W.

Altitude of highest point of Verne 495 feet above sea-level (Ord. B.M.).

Time (local): first observed at 12.20 p.m.; brightest aspect 12.30 p.m.; duration about three-quarters of an hour. Cloud, thin cirri, with cumulo-stratus low in northern horizon. Amount, 9.

Wind, S. E. CARDWELL,
Late Supervisor Meteorological Department, Bombay
Verne Citadel, Portland, Dorset, April 28

I SEND inclosed a diagram of a system of solar halos observed here on Saturday last. If one may credit the oldest inhabitant, the phenomenon is very rare in these latitudes; in fact the ancient mariners frequenting the New Key End declare they never saw the like in all their wanderings.

My attention was first called to it at 12.25 p.m., when it presented the appearance I have depicted; but I am told that earlier in the day a white halo was seen south of the sun. The

smaller circle had the sun for its centre, round which the sky was of a leaden cast as far as the edge; the fringed portions represent brilliantly coloured partial halos, or coronæ. The larger circle was, as near as I could guess, 40° diam. Its circumference cut the centre of the smaller circle, was brilliantly white, perfectly defined as seen from here, and narrow. I am told that, seen from high ground some four miles from here, it presented the appearance of two horns. The phenomenon lasted after I observed it about an hour, during which time a peculiar haze was drifting over the sky, which, when viewed carefully, seemed to have a hair-like structure, especially when seen passing the bright edge of the larger halo. I may add that the surface wind was southerly, the drift of the haze S.S.E.: a line joining the centres of the circles would point E.N.E. at about one o'clock.

Weymouth, April 30

THO. B. GROVES

Mock Moons

THE explanation of the phenomenon observed on the 16th ult., which is given by "Sm." of Rugby, appears to me to be scarcely satisfactory. According to the usual explanation of halos, parhelia, and paraselenæ, which attributes them to refrac-