

Early Science at the Royal Society.

November 2, 1664. Dr. Wilkins related that Sir John Cutler had declared to him, that he was firm in his resolution to settle upon Mr. Hooke 50*l.* per annum for such employment as the Royal Society should put him upon.—A letter of Mons. Huygens to Sir Robert Moray was read, containing a relation of his having seen with wonder at Paris a glass of twelve foot of the workmanship of Divini, which bore the aperture of two inches Parisian measure; upon which occasion he recommends it as a matter worthy of inquiry, to know what may be the right aperture in each glass, of such and such a distance from the focus.

1671. Mr. Oldenburg presented to the Society from Mr. Hobbes his "Rosetum Geometricum," printed at London, addressed by him to the Royal Society for their judgment thereon: Which pieces were referred to the consideration of the professors of Astronomy and Geometry in Gresham-college, and Mr. Collins.

November 4, 1663. The history of whale-fishing, and of the making of whale-oil, was delivered in by the secretary from Mr. Gray of the Greenland Company, who had been in those parts, and was present at the killing of whales and the making of oil.

November 5, 1667. It was mentioned by Mr. Oldenburg, that Sir Paul Neile had spoken to him, that Mr. Adrian May had desired, that the society would give order for a good thermometer for the use of the Queen.—Dr. Wilkins moved, that Mr. Collins might be declared exempt from the payment of admission-money and the weekly payments, he having but a small revenue, and being capable and willing to do the Society very good service. He was declared exempt accordingly.

November 6, 1672. Mr. Hooke mentioned that among Mr. Guericke's experiments there was one which he thought deserved to be tried before the Society, viz., that of a sulphur-ball having a considerable attractive power, and representing the properties of the earth. Mr. Locke intimated that himself had made some experiments with such a ball.

1673. The earl marshal, who was present was acquainted by the council with their thoughts of removing their weekly assemblies to Gresham College, and of beginning to meet there again upon the next anniversary election-day; as also by the solemn invitation of the city of London, and the professors of Gresham College. To which was added, that though this Society should thus remove their meetings, yet they were full of hopes that his lordship would be so far from removing his favours and kindnesses from them, that he would preserve them in the same degree that he had done all along, and especially during the many years he had entertained them under his roof. Whereupon the earl marshal very obligingly and generously declared that though they had been a great honour to his roof, he could not but give up his reason to the reason of the council.

November 7, 1666. Sir Robert Moray proposed, that the directions for seamen, and the inquiries of tides, might be printed separately, and the instruments mentioned in the printed papers concerning these particulars provided both at the society's expence; and promised, that he would endeavour to procure an order from his Royal Highness the duke of York to Trinity-house, importing, that every captain and master of a ship should take with them in their voyages a copy of such printed books, and make observations and trials accordingly; of which they should at their return give one to Trinity-house, and another to the society.

Societies and Academies.

LONDON.

Royal Meteorological Society, October 15.—Mr. C. J. P. Cave, president, in the chair.—L. F. Richardson: The brown corona and the diameters of particles. As a result of experiment the following variety of Airy's formula has been found to be in rough agreement with measurements on various holes and spheres:

$$\left(\begin{array}{l} \text{diameter} \\ \text{of obstacle} \end{array} \right) = \frac{5.3 \times 10^{-5} \text{ cm.}}{\sin \left\{ \frac{(\text{radius of chestnut-} \right.}{\text{brown corona})} - \frac{1}{2} (\text{radius of } \left. \right\} \text{source)}}$$

In view of Ray's work this will not be applicable to the smallest cloud-droplets of 2 microns diameter; but is more likely to apply to drops of ordinary size of, say, 5 to 20 microns diameter.—L. F. Richardson: Photometric observations on clouds and clear skies. With an improved instrument made at Benson, it was shown that the difference-of-brightness at the moon's-limb, as measured by the instrument, is independent of the glow of the sunlit sky. It was also shown that the transparency of blue sky alters during twilight. Observations on clouds enable one to compute the rainfall equivalent to the cloud on those occasions when a corona reveals the size of the droplets; a certain very dark thunder-cloud was like a rain-factory holding in stock only one hour's output.—L. J. Sutton: Notes on haboobs. Haboobs are severe sandstorms of a type apparently confined almost entirely to the Sudan, where they are most frequent in the central region. Nearly all of them occur during the rainy season, *i.e.* May to October, and at Khartoum, for example, they are experienced more than once a week during this period and last about three hours on the average. Haboobs probably owe their origin to the heating up of a large region for four or five days, but owing to the wide distances between meteorological stations in the Sudan, it has not been possible to discover where any particular haboob originated or to follow its track.

MANCHESTER.

Literary and Philosophical Society, October 21.—G. Senn: The change of position of the chlorophyll grains in the plant cell. Green chlorophyll grains show positive and negative phototactic reactions to red and green light, if it is strong enough or if the sensitiveness of the grains is raised by lower temperature. The various colouring substances appearing in the chlorophyll grains of different Algæ (yellow in diatoms, brown in Brown Algæ, and red in Red Algæ) generally do not influence their phototactic irritability. A Red Alga was only slightly more sensitive to green light of diffuse intensity. In high intensities of direct sunlight the red rays induce a very strong effect on the grains of the majority of Brown Algæ (five of six species) and of the only Red Alga studied. But as the yellow light with its shorter rays produced much weaker effects, the strong action of the red rays must have been produced by a damaging action on the protoplasm which transported the grain by its streaming. In this case the grains are passive during their movement like those of Elodea and Vallisneria during the rotation of the protoplasm. It seems that it is only the colourless protoplasmic strands of the envelope of the green chlorophyll grains which execute their normal movements.

PARIS.

Academy of Sciences, September 29.—M. Louis Bouvier in the chair.—Mme. Sylvia Creanga: The cyclifying developable surfaces of a curve and