

Early Science at the Royal Society.

June 29, 1681. In discussion the president [Wren] observed, that it was necessary, that all wholesome food should have oils: that most roots wanting oil are not of themselves a good nourishment: and that in Ireland, where the people feed much on potatoes, they help themselves by drinking milk soured, to make the potatoes digest the better.

June 30, 1686. Ordered, that the treasurer, to encourage the measuring of a degree of the earth, do give to Mr. Halley fifty pounds or fifty copies of the "History of Fishes," when he shall have measured a degree to the satisfaction of Sir Christopher Wren, the president, and Sir John Hoskyns.

July 1, 1663. Mons. Moncony's description of the way used in Egypt of hatching in ovens, was read, and ordered to be registered. He was of opinion, that the temperament of the air in Egypt contributed greatly to the method of hatching chickens, since the grand duke having sent for some of the christians of Cairo, who are the only persons, that carry on that business, they had built an oven at Florence, but failed of hatching chickens.

1680. Sir Christopher Wren affirmed, that extreme freezing will sweeten salt water: that the curd which is then upon the surface of the water, will be found sweet: that this is found in Hudson's Bay: and that a little hole left in a window in winter, and a little fire in the chimney, will freeze anything to a great degree.

July 2, 1662. It was ordered that the committee appointed to view the Towgood's engine, meet the Saturday following afternoon in the Temple church.—A new astronomical hypothesis of a stranger was referred to the consideration of Dr. Wren [and others].

1668. The experiments appointed for this meeting not being prepared by reason of the operator's indisposition, it was ordered that on the like occasion another person should be hired and made use of *pro tempore* to do the manual part, that the Society might not be destitute of experiments.

July 3, 1661. Mr. Croune to procure, against the next meeting, some fresh vipers; and the operator to provide fresh hazel-sticks.—Mr. Evelyn presented his relation of gravings and etching; and, after public thanks returned to him, was requested to transcribe it.

1672. Dr. Grew was put in mind to see, what might be discovered of the peristaltic motion in plants, asserted by Signor Malpighi.—Mr. Hooke was called upon for making a report concerning Signor Cassini's paper concerning the satellites of Jupiter, and desired to give in writing what he had said upon it that it might be without mistake imparted to Signor Cassini, who had desired that favour.

1679. It was ordered that Mons. Papin be employed for the writing of all such letters, as shall be ordered, to the correspondents of the Society: and that for so doing the said Mons. Papin shall receive the sum of eighteen pence per letter, unless the letter shall exceed two sides of a quarter of a sheet of paper; for every of which he shall receive two shillings.

July 4, 1678. A letter was read to the meeting written by Jacobus Pighius, dated at Padua, wherein he expressed the high respect which he had for the Society, and his great desire of being known to them. He mentioned his esteem for the English in general, and the favour done him by the English students at Padua, in choosing him their pro-syndic.

1683. It being thought proper, that some man should be appointed to keep the door of the meeting-room during the time that the Society was assembled, the porter, who removed the seats, was ordered to wait, and to have 12*d.* a time, when he waited.

Societies and Academies.

LONDON.

Royal Society, June 19.—J. C. McLennan and G. M. Shrum: On the luminescence of nitrogen, argon and other condensed gases at very low temperatures. Experiments are described on the luminescence of nitrogen and argon at the temperature of liquid hydrogen under electronic irradiation. The spectra of the light emitted by both elements contains wavelengths close to but not coincident with that corresponding to the auroral green line. Both solid nitrogen and solid argon phosphoresced brilliantly under electronic excitation. From these experiments there is no confirmation of Vegard's theory that the auroral green line originates in vaporous solidified nitrogen.—H. Grayson Smith: On the fine structure of the band spectra of sodium, potassium and sodium-potassium vapours. Four bands of the blue-green group of the band absorption spectrum of sodium and three bands of the red group of the band spectrum of potassium have been examined. Two values of the moment of inertia of the normal sodium molecule have been found from different bands, 2.515 and 2.286×10^{-39} gm.cm.². Assuming that the molecule is diatomic, the corresponding values for the distance between the nuclei are 1.151 and 1.098×10^{-8} cm. The moment of inertia of the potassium molecule is 18.39×10^{-39} gm.cm.², so that the distance between the nuclei of a diatomic molecule is 3.069×10^{-8} cm., which is in fair agreement with X-ray measurements. Two bands of a new group found by Barratt in the absorption spectrum of a mixture of sodium and potassium vapours give a moment of inertia of 6.615×10^{-39} gm.cm.². This agrees with the supposition that these bands are due to NaK molecules, the distance between the nuclei being 2.137×10^{-8} c.m.—Lord Rayleigh: (1) The non-luminous oxidation of phosphorus in an oxygen atmosphere. The views on phosphorescent combustion of phosphorus developed in former papers require that phosphorus vapour, when apparently inactive in an atmosphere of oxygen, should in reality be combining with it at isolated centres, though the action fails to spread. Either this action or the ordinary phosphorescent combustion can be caused to occur *at one given pressure and external temperature*. The rate of oxygen absorption is widely different in the two cases. With a given area of phosphorus surface, the rate of action is enormously increased by allowing a large oxygen space around it. The action occurs in the volume of the gas space, and therefore between oxygen and phosphorus vapour. (2) The light of the night sky: its intensity variations when analysed by colour filters. The comparison light is a uranium salt rendered self-luminous by radio-activity. Three alternative colour filters are provided; one of these approximately isolates the green aurora line. A red and a blue filter isolate the regions of the spectrum on either side of this line, excluding the line itself. The light of the sky as seen through these is equalised with the standard by means of neutral tinted glasses. Owing to faintness of the light, colour differences are not perceptible. Systematic observations of the auroral light for fifteen months, and of the other components for seven months, show variations which are far too large to be explained by changes in atmospheric transparency. The highest values of the auroral light were found during October 1923, which was the middle of a period of three months showing considerable sunspot activity. For the rest of the time there were few spots. The auroral light varies very little over the whole range of latitude from England to the Cape of Good