"May it please your Royal Highness.—On behalf of the Meteorological Society, and as Government Observer, I have the honour to thank your Royal Highness for having been graciously pleased to lay the Foundation Stone of the Mauritius New Observatory.

"I am sure I only give expression to the feelings with which the Society is animated, when I say that it will ever retain a most grateful sense of the generous sympathy and consideration which have induced your Royal Highness to come here, to-day, at personal inconvenience, to perform the interesting and important ceremony which the Society has had the extreme gratification to witness.

"If anything could enhance the pleasure which the Society now feels, it is the presence, on this auspicious occasion, of his Excellency, Sir Henry Barkly, who, during a long and an arduous administration, has not ceased to take a warm interest in the Society's objects, and to whom will be mainly due the merit of establishing in this distant Colony an Observatory which, I hope, will be second to none of the same nature in other portions of Her Majesty's dominions.

"Engaged for the most part in agricultural and commercial pursuits, but yet dependent for the necessaries of life on importations from other countries, and surrounded by a tempestuous ocean, the people of Mauritius, deeply interested in the progress of meteorological science, and many of them actively occupied in promoting it, will, I have no doubt, long preserve a fond recollection of the part which your Royal Highness has been kind enough to take in this day's proceedings.

"But the labours to be carried on here will be not merely of local utility. I trust they will also contribute to the advancement of meteorology and of terrestrial magnetism generally, as well as of certain branches of physical astronomy. In this respect their chief practical aim will be to render service to the noble profession of which your Royal Highness is so distinguished a member; and next to the pleasure of contemplating the works of the great Author of Nature, I know no stronger incentive to perseverance than the circumstance that the building about to be raised on this solitary spot, in the heart of the Indian Ocean, for the special object of conducting researches calculated to be of use to the maritime nations of the world, will in all future time be associated with the cherished name of England's sailor Prince."

His Excellency the Governor briefly addressed the audience. His Excellency said that he had always, as Mr. Meldrum remarked, taken much interest in the Society, and had done all in his power to promote its objects. It gave him great pleasure that the foundation stone of a new observatory had been laid before his departure from the colony. The ceremony could not have been more appropriately or more gracefully performed than by his Royal Highness, who was not only the second son of Her Majesty the Queen, but also a distinguished naval officer. His Excellency concluded amid general applause, by heartily wishing every possible success to what he would propose to call the Royal Alfred Observatory. Thus terminated these interesting proceedings.

SCIENTIFIC SERIALS

Journal of the Chemical Society, June, 1870.—Messrs. T. Bolas and C. E. Groves give a description of the mode of preparation and the properties of tetrabromide of carbon, the discovery of which they had announced in the preceding number of the Journal. Bisulphide of carbon was digested with an excess of bromine in the presence of terbromide of antimony or of bromide of iodine in a sealed tube of 150° for 48 hours. The bromide can also be obtained from bromopicrin and bromoform by treatment with the same reagents. Tetrabromide of carbon crystallises in white lustrous plates, fusible at 91°, nearly insoluble in water, soluble in alcohol, ether, benzol, and bisulphide of carbon, decomposed by aqueous solutions of potassa and soda at 150°. With care it may be sublimed without decomposition. By reduction by nascent hydrogen it produces bromoform and dibromide of methylene. The authors intend to study the action of argentic oxalate, cyanide, &c., on this interesting compound. Prof. A. H. Church continues his researches on new and rare Cornish minerals, giving the analysis of restormelite, which appears to be kaolinite $Al_2O_3\,2SiO_2$, 2Aq, in which some of the hydrogen is replaced by potassium and sodium and a portion of the aluminium by iron. The specific gravity is 2·58, and the hardness about 2. Chalcophillite contains 8 CuO, Al_2O_3, As_2O_5, 24 or 25 Aq., it loses 13·79 per cent. of water *in vacuo*, corresponding to 11 H_2O; the specific gravity is 2·44. This number also contains the commencement of a very long and elaborate paper on the combinations of carbonic anhydride with ammonia and water, by Dr. E. Divers. The author gives a history of the different compounds which he has examined, and describes no less than nine processes for the preparation of normal ammonium carbonate $CO_2(OH_2)_2(NH_3)_2$. Its properties and reactions are also fully given. In the second section, only a portion of which appears in this number, the preparations and properties of the half acid ammonium carbonate are detailed.

THE *Revue des Cours Scientifiques* for June 18, is almost entirely occupied with a translation of Prof. Huxley's address before the Geological Society on the course of palæontology during the last eight years. M. Bernard also proceeds with his course of lectures on suffocation by the fumes of charcoal, which is again continued in the following number, where we find also a paper read before the Congress of German Naturalists and Physicians at Innsbrück by Prof. Kékulé, on chemical work, and a review by Prof. Duclaux, of Pasteur's Researches on the Silkworm Disease. In the number for July 2, is a very important article by Prof. Agassiz on the Gulf Stream, being a report of the dredgings from the bottom of the Gulf Stream, made during the third expedition of the U.S. steamer *Bibb*. Prof. Agassiz believes that in the cretaceous period a current set in in the Atlantic from the north-east to the south-west, North and South America being then distinct continents, and that it was only at a subsequent period that communication between the Atlantic and Pacific became interrupted, and that the Gulf Stream set in in the opposite direction. In the same number is a continuation of M. Berthelot's paper on isomeric states of simple substances, treating especially of sulphur.

SOCIETIES AND ACADEMIES

LONDON

London Mathematical Society, June 9.—Prof. Cayley President, in the chair. The Hon. Sir James Cockle was elected a member. Mr. Spottiswoode, V.P., having taken the chair, the president communicated the following "Note on the Cartesian, with two imaginary axial foci." Let A, A′, B, B′, be a pair of points and antipoints; viz., A, A′, the two imaginary points, co-ords $(\pm \beta i, 0)$; B, B′, the two real points, co-ords $(0, \pm \beta)$, and write $\rho, \rho', \sigma, \sigma'$, the distances of a point (x, y) from the four points respectively, say

$$\rho = \sqrt{(x + \beta i)^2 + y^2} \qquad \rho' = \sqrt{(x - \beta i)^2 + y^2}$$

$$\sigma = \sqrt{x^2 + (y + \beta)^2} \qquad \sigma' = \sqrt{x^2 + (y - \beta)^2}$$

we have

$$\rho^2 + \rho'^2 = 2(x^2 + y^2) - 2\beta^2 = \sigma^2 + \sigma'^2 - 4\beta^2$$

$$\rho\rho' = \sqrt{(x + \beta i + yi)(x + \beta i - yi)(x - \beta i + yi)(x - \beta i - yi)} = \sigma\sigma'$$

and thence

$$(\rho + \rho')^2 = (\sigma \times \sigma')^2 - 4\beta^2$$

$$(\rho - \rho')^2 = (\sigma - \sigma')^2 - 4\beta^2$$

or say

$$\rho + \rho' = \sqrt{(\sigma + \sigma')^2 - 4\beta^2}$$

$$i(\rho - \rho') = \sqrt{4\beta^2 - (\sigma - \sigma')^2}$$

The equation of a Cartesian having the two imaginary axial foci, A, A′, is

$$(p + qi)\rho + (p - qi)\rho' + 2k^2 = 0$$

viz., this is,

$$p(\rho + \rho') + qi(\rho - \rho') + 2k^2 = 0$$

or what is the same thing, it is

$$p\sqrt{(\sigma + \sigma')^2 - 4\beta^2} + q\sqrt{4\beta^2 - (\sigma - \sigma')^2} + 2k^2 = 0$$

which is the equation expressed in terms of the distances σ, σ', from the non-axial real foci, B, B′. The radicals are to be taken with the signs $\pm$. This equation gives, however, the Cartesian in combination with an equal curve situate symmetrically therewith in regard to the axis of y.

The distance σ, σ' may conveniently be expressed in terms of a single variable parameter θ; in fact, we may write

$$\pm p\sqrt{(\sigma + \sigma')^2 - 4\beta^2} = -k^2 - k\theta$$

$$\pm q\sqrt{4\beta^2 - (\sigma - \sigma')^2} = -k^2 + k\theta$$