Mineralogical Society, June 11.—Prof. H. A. Miers, F.R.S., president, in the chair.—Hamlinite from the Binnenthal: H. L. **Bowman.** A mineral occurring in small brown six-sided plates in the white dolomite, to which the name bowmanite was given by Mr. Solly in 1904, is shown by analysis to be identical with hamlinite. The crystals show a division into six biaxial sectors, and are consequently pseudohexagonal.—Faceted beads of zinc: T. V. **Barker.** The president described beads of zinc deposited on crucible lids by sublimation of zinc through oxide of tin. Some of these beads are covered with brilliant facets, and present the appearance of crystals rich in faces. Mr. Barker has found that they do not lie in zones or obey the laws of distribution of ordinary crystal faces, and cannot therefore be regarded as the faces of a single crystal. There is, however, no evidence, from etching by acid, that the bead is an aggregate of crystals. The nature of these remarkable faces is difficult to understand. A bead of platinum presenting the same peculiarities was measured by the late Prof. Miller.—Chlormanganokalite: Dr. H. J. **Johnston-Lavis** and L. J. **Spencer.** A preliminary account of this new Vesuvian mineral was given by Dr. Johnston-Lavis in NATURE on May 31, 1906. A new analysis of the mineral gives the formula $MnCl_2.4KCl$. The crystals are rhombohedral with a rhombohedral angle of 57° 36′; they are optically uniaxial with very weak positive birefringence; the refractive index is 1·59 and the specific gravity 2·31.—Mr. L. J. **Spencer** exhibited a suite of beautifully crystallised minerals, presented to the British Museum by Mr. Percy C. Tarbutt, from the Rhodesia Broken Hill mines in north-western Rhodesia. In driving a tunnel through one of the kopjes, which consist mainly of cerussite and hemimorphite, a cavern containing flint implements and bones of recent mammals was encountered, and a cavity in the bone-breccia on the floor of this cave was encrusted with magnificent groups of hopeite crystals (the rare hydrous zinc phosphate discovered by Sir David Brewster in 1823). In the vicinity of the cave, crystals of another hydrous zinc phosphate were found in association with descloizite (hydrous vanadate of lead and zinc). The crystals of this new species, for which the name *tarbuttite* is proposed, are anorthic; they possess a perfect cleavage in one direction, through which emerges obliquely the acute negative bisectrix of the optic axes. Cavities in the ordinary ore are lined with large twinned crystals of water-clear cerussite, which are encrusted with small crystals of hemimorphite.—A group of quartz crystals from British Guiana was exhibited by Mr. **Anderson,** and a fine crystal of apatite by Mr. **Gordon.**

Mathematical Society, June 13.—Prof. W. Burnside, president, in the chair.—The number of representations of a number as a sum of $2r$ squares, where $2r$ does not exceed 18: Dr. J. W. L. **Glaisher.**—An extension of Eisenstein's law of reciprocity: A. E. **Western.**—Note on a special set of classes of partial differential equations of the second order: Prof. A. R. **Forsyth.**—Various extensions of Abel's lemma: Prof. T. J. I'A. **Bromwich.**—The arithmetical nature of the coefficients of linear substitutions, third paper: Prof. W. **Burnside.**—The invariants of the quintic: Dr. H. F. **Baker.**—Informal communications were made as follows:—Certain singular points of surfaces: A. B. **Basset.**—The minimum necessary postulates as to a function to be defined as analytic over a region: Prof. E. B. **Elliott.**

Royal Astronomical Society, June 14.—Mr. H. F. Newall, president, in the chair.—The inclination of binary star orbits to the Galaxy: Prof. H. H. **Turner** and T. **Lewis.**—The illumination of the field of view, and its effect on observations with a transit instrument: Sir W. **Christie** and H. **Christie.**—The spectrum of Mira Ceti, as photographed at Stonyhurst College Observatory: Rev. W. **Sidgreaves.** The photographs were taken during the late maximum, from December 1, 1906, to January 3, 1907, with a Thorp objective prism and with a Hilger compound prism. The spectra were compared with that of the star during the previous maximum of 1897–8. The absorption spectrum was substantially the same, but the bands were much weaker in 1906, quite sufficiently so to account for the very bright maximum.—The origin of certain bands in the spectrum of sun-spots: A. **Fowler.** The bands are hazy lines, which had not hitherto been traced to their source, various experiments made in 1905–6 having given entirely negative results. The author, however, had lately found that many of the bands are part of a fluted spectrum, and can be accounted for by the presence in the umbræ of spots of a compound of magnesium and hydrogen (magnesium hydride). The identification appeared extremely probable from a comparison of visual observations, but is rendered quite certain by reference to the admirable photographs taken by Prof. Hale at the Mount Wilson Observatory. The identification supports the view that the vapours in spots are at a relatively low temperature.—Account of the instruments and work of the Mount Wilson Observatory, California: Prof. G. E. **Hale.** A large series of slides was shown on the screen, including spectroheliograph pictures of the solar surface taken in calcium and hydrogen light, comparison of which led to important conclusions as to the relative height of the flocculi. It was suggested that the areas of the flocculi should be systematically measured, and that they might furnish data for determination of the solar rotation. A series of photographic spectra of sun-spots was also shown. Prof. Hale stated that he had found that the heat of the sun caused an actual bending of the mirror employed, the front side becoming convex and the rear side concave. He proposed to obviate this disadvantage by employing mirrors of exceptional thickness, a 17-inch mirror being under construction which is as much as 13 inches thick. Other modifications in the instrumental equipment are also in progress.

PARIS.

Academy of Sciences, June 17.—M. Henri Becquerel in the chair.—The question of the origin of the lunar seas: MM. **Lœwy** and **Puiseux.** The hypothesis of the formation of the lunar seas by external collisions is discussed and shown to depend upon very uncertain hypotheses, and even then is, of itself alone, insufficient to account for all the facts.—The usual mode of publication of equatorial observations and on a means of improving it: G. **Bigourdan.**—Further remarks on the obliteration of the pleural cavity of elephants: Alfred **Giard.** Referring to a recent note on this subject by G. Vasse, the author remarks that the mere fact of the lungs separating easily is no proof of the existence of a pleural cavity, and quotes recent observations by Schmaltz, Ruge, and Chapman to support his point.—The preparation of anhydrous lithium moxoxide: M. **de Forcrand.** None of the methods previously used for preparing this substance gives a pure product. Purified lithium hydroxide, placed in a platinum or silver boat, is heated to 780° C. in a current of dry hydrogen. The conversion into Li_2O is complete in one hour.—A new method of diagnosis of tuberculosis in man by the tuberculin ophthalo-reaction: A. **Calmette.** One drop of a sterilised 1 per cent. aqueous solution of tuberculin is placed in the eye. After five or six hours, conjunctivitis, accompanied by copious secretions, becomes apparent in the tuberculous subjects. In non-tuberculous subjects the tuberculin is without effect. The author suggests the use of this in clinical work as a means of diagnosis, as the reaction is prompt, and neither pain nor permanent ill effects result.—Observations of the Daniel comet (1907*d*) made with the *coudé* equatorial of the Observatory of Lyons: J. **Guillaume.**—Observations of the Giacobini comet (1907*c*) made with the *coudé* equatorial at the Observatory of Lyons: J. **Guillaume.** This comet is of thirteenth to fourteenth magnitude.—A new method for resolving several problems on the development of an arbitrary function in infinite series: W. **Stekloff.**—The surfaces engendered by a circular helix: M. **Barré.**—The mechanical integration of the hodograph: L. **Filloux.**—The displacement of the absorption bands of crystals under the action of variations of temperature: Jean **Becquerel.** The bands of tysonite, parisite, and monazite are all displaced in the direction of the smaller wave-lengths when the temperature is lowered; in xenotime, however, a large number of bands move in the opposite direction.—A new method for the production of flame spectra of metallic bodies: G. A. **Hemsalech** and C. **de Watteville.** The air supplied to the lower part of a Bunsen burner carries some of the metal in a fine