

of which he ascribes to the splitting of a drop of water too large to form a single crystal; the twin crystals are united by a small stay of a hexagonal prismatic form, having each of its edges corresponding exactly to the origin of one of the six regular branches of the two crystals.—A note by M. P. Bert on the influence of green light on the Sensitive plant, was presented by M. Claude Bernard. The author placed several young Sensitive plants in lanterns filled with variously coloured glass, and found that those exposed to green light lost their sensibility and died almost as quickly as those placed in perfect darkness.—M. A. Milne-Edwards communicated a note on some Mammalia from Eastern Thibet, which notwithstanding the rigour of the climate, is inhabited by two species of monkeys, a *Macacus* and a *Semnopithecus*.—The author noticed two forms of Insectivorous mammals forming new genera—one, which he calls *Nectogale elegans*, being intermediate between the Desmans and the Shrews; the other very nearly related to the latter, and called *Anourosorex* on account of the rudimentary state of its tail.—A singular animal, resembling a bear in general appearance, was noticed as forming a new genus, *Ailuropoda*, allied to the pandas and raccoons.—A long-snouted mole and a new flying squirrel were also mentioned.—The following notes and memoirs were communicated, but no particulars of their contents are given.—On the statistics of the therapeutical properties of the mineral waters of Baréges, Amélie-les-Bains, Vichy, and Bourbonne, by M. Champouillon; on some questions which may be referred to the theory of permanent isothermal lines, by M. E. Combesure; on staphylographie, and on the action of hydrate of chloral, by Mr. Lawson Tait; on the cause of the oscillatory movement of molecular granules by M. Lericque de Mouchy; on an accumulation of heat by the concentration of radiant heat through convex lenses of rock salt and the application of this heat to the production of a current of air giving rise to a continuous movement, by M. Vernier; on the production of the electric light by induction coils, by M. Delaurier; and a note on the trisection of the angle, by M. L. Vezzia.

BERLIN

German Chemical Society, February 14.—A. W. Hofmann gave a new instance of the aid science derives from industry. The manufacture of chloral yields as a secondary product chloride of ethyle mixed with other chlorinated liquids. By treating this mixture with alcoholic ammonia in Frankland's digester, large quantities of the chlorides of ethylated ammonia bases are formed, while sal-ammoniac separates. This appears now to be the most reasonable method for producing ethyl-amines. The chlorinated compounds mixed with the chloride of ethyl are not acted upon by NH_3 . They remain behind. These liquids commence to boil at $30^\circ C.$, and seem to consist partly of dichlorinated marsh gas.—O. Liebreich reported on Suevern's disinfecting process. The bulk of the substance employed consists of lime disguised by the presence of chloride of magnesium and tar. Its utility proved to be very limited. Amongst the details given by Mr. Liebreich he mentioned that the canal water operated upon contained nitrogenous matter in extremely variable quantities according to the temperature of the air. For 59 parts of N. found in it during warm days, it contained 2 parts only while the weather was cold.—V. Meyer described a new and ingenious synthetical method for producing organic acids. This method is founded on the observation that formiate of sodium, when heated, splits into H and the group COO Na. Thus, when heated alone, the formiate yields oxalate of sodium and H_2 . When heated with the potassium salt of a sulpho-organic acid such as phenyl-sulphurous acid $HKSO_3$, acid sulphate of potassium separates and COO Na takes the place occupied by the group KSO_3 . In the instance mentioned benzoate of sodium is formed. Sulphobenzoate of potassium similarly treated yields isophthalic acid. The same chemist made some interesting remarks on the constitution of camphor and of camphoric acid.—Mr. Franck, the discoverer of potassium salts in Stassfurth, and the originator of the important industry founded on this occurrence, gave some details of the manufacture of bromine from the mother liquors. After describing an apparatus for pouring bromine from one vessel to another, he described his process for purifying this substance by re-distillation. This he effects by allowing the vapour to pass through a solution of bromide of iron before it passes into the condenser. The chlorine mixed with the bromine is thus retained in the shape of chloride of iron. Bromide of iron is the best material for the production of potas-

sium. It is also well suited for transport; and a large quantity of the bromine shipped to America, goes there in the form of dry bromide of iron. Parchment-paper and clay mixed with colza oil, serve to unite the vessels used in the distilling process of bromine. The retorts are made of sandstone, and are lined with tar inside. The bromine acts on the tar, entailing the inevitable loss of sixty or eighty pounds of bromine in a new retort, and the production of brominated organic products, boiling between 60° and $400^\circ C.$, but containing no bromoform. The bromine manufactured at Stassfurth contains no trace of iodine.

DIARY

THURSDAY, FEBRUARY 24.

ROYAL SOCIETY, at 8.30.—Note on Certain Lichens: Dr. Stenhouse.—Successive Action of Sodium and Iodide of Ethyle upon Acetic Ether: Dr. Frankland and Mr. Duppa.
ZOOLOGICAL SOCIETY,
SOCIETY OF ANTIQUARIES, at 8.30.—On the Guilds at Wymondham, Norfolk: Mr. G. A. Carthew.
ROYAL INSTITUTION, at 3.—Chemistry: Prof. Odling.
LONDON INSTITUTION, at 7.30.

FRIDAY, FEBRUARY 25.

QUEKETT MICROSCOPICAL CLUB, at 8.
ROYAL INSTITUTION, at 9.—On the Results of the Ordnance Survey of Sinai: Captain Wilson.

SATURDAY, FEBRUARY 26.

ROYAL INSTITUTION, at 3.—Science of Religion: Prof. Max Müller.
ROYAL BOTANIC SOCIETY, at 3.45.

MONDAY, FEBRUARY 28.

GEOGRAPHICAL SOCIETY, at 8.30.
INSTITUTE OF BRITISH ARCHITECTS, at 8.
INSTITUTE OF ACTUARIES, at 7.—On the Proper Method of Loading the Premiums required for the Grant of Life Annuities and Assurances: Mr. W. M. Makeham.
LONDON INSTITUTION, at 4.

TUESDAY, MARCH 1.

MEDICAL AND CHIRURGICAL SOCIETY, at 8.30.
ANTHROPOLOGICAL SOCIETY, at 8.—On the Circassian Slaves and the Sultan's Harem: Major F. Millingen.
INSTITUTE OF CIVIL ENGINEERS, at 8.—Discussion upon The Mhow-Ke-Mullee Viaduct, and The Pennair Bridge.—The Wolf Rock Light-house: Mr. J. N. Douglass.
SYRO-EGYPTIAN SOCIETY, at 7.30.
ROYAL INSTITUTION, at 3.—Plant Life: Dr. Masters.

WEDNESDAY, MARCH 2.

OBSTETRICAL SOCIETY, at 8.—Anniversary.
HORTICULTURAL SOCIETY, at 1.30.
SOCIETY OF ARTS, at 8.

THURSDAY, MARCH 3.

ROYAL INSTITUTION, at 3.—Chemistry: Prof. Odling.
ROYAL SOCIETY, at
LINNEAN SOCIETY, at 8.—On Hybridism among Cinchona: Mr. J. Broughton.

CONTENTS

	PAGE
THE MINISTER OF PUBLIC INSTRUCTION	423
PROTOPLASM.—By Dr. H. CHARLTON BASTIAN	424
AGRICULTURAL CHEMISTRY (<i>With Illustrations</i>).	426
OUR BOOK SHELF	428
THE TRIAL OF THE PVX	429
LETTERS TO THE EDITOR:—	
Red-necked Grebe—W. TUCKWELL	430
Prof. Listing's Amplifier—Dr. ROYSTON PIGOTT	430
Analogy of Colour and Music—SEDLLEY TAYLOR	430
Solar Spots visible to the naked eye—ROBERT M'CLURE	431
Flight of Birds—T. SOUTHWELL	431
Relations of the State to Scientific Research.—IN SICCO	431
NOTES	434
CANONS. (<i>With Illustrations</i>). ARCH. GEIKIE, F.R.S.	434
SCIENTIFIC SERIAL	435
ON THE PROGRESS OF PALEONTOLOGY. By Prof. T. H. HUXLEY, F.R.S.	437
SOCIETIES AND ACADEMIES	443
DIARY	449

ERRATA.—Page 409, first column sixth line: for "Fern Deal," read "Ferdene."—Page 410, first column, fourth line: for "29," read "19."—Page 410, second column, fortieth line: for "50," read "40."—Page 406, second column, twenty-fourth line: for "x," read "φ."

Professor Jevons requests us to state that the subject of the paper read by him at the Manchester Philosophical Society, though similar to that read at the Royal Society, was not the same as was inadvertently stated in our report at p. 293.