

NOTES.

PERIODIC MOVEMENTS OF THE GROUND.—P. Plantamour gives an account of his observations on the movements of the ground from October 1, 1879, to September 30, 1880. The most remarkable feature is the sinking manifested on the eastern side from the end of November, 1879, to the end of January, 1880, which is much greater than might be expected from the absolute cold of the month of December, only -15° . A rise of temperature is always accompanied with an elevation of the ground level, and a fall of the thermometer is marked by a subsidence.

ON M'BOUNDON, THE ORDEAL POISON OF THE NATIVES OF THE GABOON; NEW PHYSIOLOGICAL, CHEMICAL, HISTOCHEMICAL AND TOXICOLOGICAL RESEARCHES.—The poison employed contains exclusively one base, strychnine. E. Heckel and F. Schlagdenhauffen propose to examine whether the distinction between the tetanising and the paralyzing species of the strychnos family may not depend simply on the proportion of the base which they contain.

ELECTRIC PHENOMENA OF TOURMALINE AND OF HEMI-EDRAL CRYSTALS WITH INCLINED SURFACES.—The hypothesis which J. and P. Curie put forward is that there exists a constant difference of tension between the opposite surfaces of two successive layers. Tourmaline being a compound body the different parts of a crystalline molecule may be formed of different substances, which would explain the difference of tension of the opposite extremities of two molecules.

VIOLET ILLUMINATION OF THE RETINA UNDER THE INFLUENCE OF LUMINOUS OSCILLATIONS.—A. Charpentier, fixing his eyes immovably on a sky illuminated by a uniform white light, and moving two fingers of his right hand rapidly and alternately backwards and forwards before them, saw, after a minute, a remarkable change in the uniform aspect of the heavens. There appeared on a white ground a mosaic composed of rather deep violet-purple hexagons, separated from each other by white lines, and forming a very regular design. The oscillations of the fingers should be from 300 to 400 per minute. He thinks that these hexagons are due to the cones in the fovea and in the yellow spot, and that the white lines are due to their intervals.

A GLYCOSIDE EXTRACTED FROM COMMON IVY.—The glycoside in question, $C_{64}H_{55}O_{22}$, is resolvable into a non-fermentible sugar, which reduces Fehling's liquid, and a neutral body, tasteless, inodorous, dextro-rotary, and agreeing with the formula $C_{62}H_{44}O_{12}$.—L. VERNET.

RADIOPHONY.—Radiophonic effects are thermic, not luminous, and are produced by gases alternately heated and cooled, and not by solids or liquids.—E. MERCADIER.

PERMANENCE OF HYDROCYANIC ACID FOR A MONTH IN THE BODIES OF ANIMALS POISONED WITH THE PURE ACID.—Hydrocyanic acid, if administered in a sufficient quantity to animals, preserves them perfectly for a month. It remains in the tissues, and especially in those of the stomach for the same time. It appears to combine intimately with the animal tissues. In the Carnivora it is more difficult to extract it by distillation than in the Herbivora. C. BRAME.

INFERIOR ORGANISMS PRESENT IN THE AIR.—The microscopic beings in the air are very unequally distributed. The germs of beer-yeast are not everywhere present. Bacteria are much less common than the moulds, such as *Penicillium glaucum*, *Mucor stolonifer*, etc.—E. C. HANSEN.

CHEMICAL CONSTITUTION OF ALBUMEN.—The transformation of albumen into peptones is produced by a hydration, which in each phase takes place at a fixed part of the molecule. The regressive formation of albumen from its peptones is produced by a similar de-hydration. When the molecule loses calcium and phosphoric acid the carboxylic groups appear, and give an acid reaction to the groups thus obtained. In certain phases the molecule may lose a portion of sulphur without being destroyed or changing its properties.—DR. A. DANILEWSKY.

NEW RESEARCHES ON THE ALBUMENS OF MILK.—The albumen of milk is a mixture of stroma-albumen, with small quantities of orro-proteine and the synto-protalbes. The lacto-proteine of Millon and Commaille is a mixture of soluble synto-protalbes, of snytogenes, and of peptones, which alone are precipitated by mercuric chloride. The same mixture with small quantities of peptones represents the galactine of Morin.—DR. DANILEWSKY AND P. RADENHAUSEN.

DEVELOPMENT OF THE CADAVERIC ALKALIES (PTOMAINES).—MM. Brouardel and Boutmy have verified the presence of these poisons in the viscera of persons who had died either from the action of poisons or otherwise. The organs of an individual asphyxiated by carbonic oxide were analysed some hours after death, and found free from poison. On being re-examined eight days afterwards they contained a solid organic base, presenting the general characters of the alkaloids and proving fatal in small doses to frogs and guinea-pigs. The ptomaines are produced in the dead bodies of men and animals, and vary in their nature under circumstances not yet ascertained. They are poisonous in the majority of cases.

REPORT PRESENTED BY M. TROOST ON BEHALF OF THE COMMITTEE OF THE CHEMICAL ARTS ON THE MALLEABLE NICKEL OF MM. GASPARD AND BELLE.—The metal is first brought to a state of complete fusion, its surface is freed from all traces of scoria, a small quantity of metallic zinc or magnesium is introduced, the whole is stirred up and run. The metal thus added seems to lay hold of all traces of foreign matter derived from the sides of the crucible. Such nickel is ductile and malleable at all temperatures below its point of fusion, and can be welded either with itself or with iron or steel. Plates and wires of iron or steel can thus be coated with nickel.

SPECIFIC MAGNETISM OF OZONE.—Ozone being more magnetic than oxygen it is easy to see that the relation of the specific magnetism of ozone to that of oxygen is notably greater than the supposed relation of their densities. The specific magnetism of ozone is then greater than what would correspond to the quantity of oxygen which it contains.—H. BECQUEREL.

DETECTION OF ERGOT IN FLOUR.—The suspected sample is treated with cold ether or boiling alcohol to dissolve the greater part of the coloring-matters of the flour. The residue is then extracted with ether, mixed with a small quantity of sulphuric acid, and the extract is examined with the spectroscope. The ethereal extract of ergot, if concentrated, absorbs all the refrangible portion of the spectrum beyond D; if the solution is diluted, the spectrum is enlarged, and there appear three absorption bands: the first between D and E, wave-length 538; the second between E and F, wave-length 467. Hoffman agitates the acid ethereal extract with a little solution of sodium bicarbonate, which seizes the coloring-matter of the ergot and takes a fine violet color, whilst the coloring-matters of the flour remain in the ether.

ADDENDA.

In "SCIENCE," March 2, in paper on Amplitude of Vibration of Atoms, for paragraph beginning: "For other atoms than hydrogen," etc., read, "For other atoms than hydrogen, where they have the same energy, their amplitude will vary inversely as the square root of their mass, so that for oxygen the amplitude at 0° will be $\frac{.162}{\sqrt{16}} = .04$ its diameter and its maximum temperature will be $6419 \times 4 = 25676^{\circ}$ Cent. Also the maximum temperature of the sun would be about 500000° Cent." A. E. D.

THE ODONTORNITHES.—In our last week's notice of the Odontornithes, in the middle of the second paragraph, on page 148, the dental series are said not to "reach the tip of either jaw." In place of "either" substitute "the upper."