The comparison of the temperatures system of Dove. of the seventy three pentades, observed and calculated by the formula, may serve for studying the question raised by M. Ch. St. Claire-Deville, viz., whether there exist certain days or certain epochs of the year when the temperature is lower or higher than is consistent with the regular progress, ascending or descending, of the said temperature. The greater the number of years on which this comparison is based, the more the difference between observation and calculation diminishes, not only absolutely, but in comparison with the mean error. This is contrary to the theory of M. St. Claire Deville, for if there existed a cause of errors at certain determined epochs, they ought to become more pronounced the greater the number of years. By calculating for each pentade the probable error, we may deduce from it the periodical formula representing the variability of the temperature at the various epochs, a variability which differs much in the various months. Thus it is about \pm 2° 53 at differs much in the various inducts. It is about $\pm 2^{\circ}.77$ towards the end of March, rising to $\pm 1^{\circ}.84$ at the beginning of May; it falls again to $\pm 1^{\circ}.38$ at the beginning of October, and increases rapidly afterwards to the end of the year. The first days of May, dreaded for a return of cold, correspond closely to a period of very great variability; but these returns of cold do not take place at a fixed period; they may occur from the end of April to the end of June. In relation to the succession of warm years and cold years, there will be recognised incontestably in the fifty years of observations at Geneva, series in which the one or the other predominate in a striking manner. Thus between 1829 and 1834 we find seven warm and two cold years; between 1835 and 1860, twenty-two cold, and four warm years; during the fifteen last years, thirteen warm and two cold. But there is no trace of periodicity in this return of warm or cold years. establishing four categories for the years, M. Plantamour has found that there has been during the period of half a century, fourteen very cold years, twelve cold, ten warm, and fourteen very warm. The denominations "very cold" and "very warm" are applied to negative and positive divergences surpassing the limit of probable divergence. These figures are very near to the probable figure 12 5 for each category. In the case of a periodic return of warm and cold series, every eleven years taken, for instance, as in the case of the solar spots, as some meteorologists have presumed, the succession of warm and very warm, cold and very cold years, ought to be the most common; on the other hand the succession of years very different in temperature ought to be very rare. But nothing of this kind has been observed; on the contrary, a very cold year may follow a very cold year, or vice versa. It is then impossible to deduce any periodicity in the succession of cold and hot years.

Paris

Academy of Sciences, Aug. 14.-Vice-Admiral Paris in the Academy of Sciences, Aug. 14.—Vice-Admirar rats in the chair.—The following papers were read:—Experimental critique on glycæmia (continued). Glycæmia has its source in the glycogenesic function of the liver; by M. Cl. Bernard. I. The blood of the sub-hepatic veins is more saccharine than the arterial blood and the blood of the vena porta. 2. The blood of the inferior vena cava is suddenly enriched in sugar (before entering the heart), at the part where the sub-hepatic veins join it.—On the thermal formation of two isomeric propylic aldehydes, by M. Berthelot. The transformation of a primary and normal aldehyde into a secondary isomeric aldehyde liberates very little or no heat. Isomeric bodies of the same chemical function are formed with almost the same liberations of heat, and this similarity subsists in the formation of their isomeric derivatives. - Thermal researches on hydrosulphurous acid, by M. Berthelot. Systems are so much the mydrosuppintous acro, by M. Betthefot. Systems are so much the more stable, other things equal, as they have lost a greater proportion of their energy.—On the dynamical theory of regulators, by M. Rolland.—On a hydrated aluminous silicate deposited by the hot spring of Saint-Honoré (Niévre) since the Roman epoch, by M. Daubrée. This deposit is characterised by the great predominance of silica over alumina and the small question of successions. dominance of silica over alumina and the small quantity of water. -On trepanation of the bones in various forms of osteo-myelitis, by M. Ollier.—Results obtained in treatment of phylloxerised vines with sulpho-carbonates, by M. Mares. He applies to the attacked parts sulpho-carbonate of potassium (I decilitre per stock) dissolved in water or absorbed in powdered soda-residuum, then hardens the ground by rolling or beating. This proves successful. It should be done before the stock has become stunted; otherwise two or three seasons' treatment may be necessary to recover it, or it may not recover. - Observations on

the development and the migrations of Phylloxera, by M. Boiteau. - Employment of a distributing pale to convey sulpho-carbonates to the roots of phylloxerised vines, by M. The sulpho-carbonates diluted with three or four times their volume of water and distributed at a depth of 25 cm. to 50 cm. destroyed in three days the Phylloxera on the roots, and restored vigour and verdure to the vines.

—Treatment of phylloxerised vines at Aimargues (Gard). Employment of a subterranean projector for distribution of the insecticide liquid, by M. Roussellier. With this projector he applies sulphide of carbon, in very small doses, repeated all the summer, to the roots.—On the destruction of Phylloxera by means of decortication of the vine-stocks, by M. Sabaté. In thirty hectares of vines decorticated last winter, not only the old centres of infection had not extended, nor had new ones been formed, but many vines, thought to be gone, had recovered their vigour. In forty non-decorticated hectares, the reverse was the case. The process is accomplished easily with steel gloves. the case. The process is accomplished easily with steel gloves. —Discovery of a planet (165), by Mr. Joseph Henry, at Washington, Aug. 10, by M. Leverrier.—Observations of the Perseides, at the Observatory of Clermont-Ferrand, on Aug. 10 and 11, by M. Gruey.—Résumé of practical rules of the new navigation, by M. Fasci.—Influence of sonorous vibrations on the radiometer, by M. Jeannel (see note).—Action of hydracids on tellurous acid, by M. Ditte.—On rhodeine from the analytic point of view, by M. Jacquemin. A drop of pure aniline, then of hypochlorite of soda, added to a certain volume of alcohol diluted with water, gives a vellowish colour. volume of alcohol diluted with water, gives a yellowish colour, passing into green or persistent bluish green. This reaction should prove useful in testing for phenol.—Researches on the derivatives of acetylvalerianic ether, by M. Demarçay.—Examination of the minerals of Chili, by M. Domeyko.—Alterations of the urine in athrepsia of the newly-born; applications to diagnostic, prognostic, and pathogeny, by MM. Parrot and Robin.—Investigation of animal organic matter in ancient strata, by M. Husson. From his comparisons he concludes:—I. That bitumens with tarry odour are of essentially vegetable origin.

2. That those with fetid odour, recalling Dippel oil, are of animal origin. 3. That these are, in secondary and tertiary strata, the last remains of the animal substance which is found already profoundly altered in the diluvium, and which exists in great part in the state of osseine in the ground of our bonecaverns. - Experiments on mechanical reproduction of the flight of a bird, by M. Tatin. He obtained much better effects with his mechanical birds (worked by caoutchouc springs) by always placing the centre of gravity before the centre of suspension. Stratified beds of massive silex observed near Digrin (Saône-et-Loire) in a formation considered as cretaceous, by M. Canat.

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Erratum.—Vol. xiv. p. 338, col. x, line 9 from bottom, for "Umbellifere" read "Umbellulariæ."