minute of pure water at a temperature of 25° C., has already developed a considerable lake 10 metres deep, by means of which from 500 to 600 hectares of waste land have been reclaimed. Similar results elsewhere give hope that large tracts now uninhabited, but which supported a numerous population in the time of the Romans, will soon be again brought under cultivation.—On the theory of algebraic forms with p variables, by M. R. Perrin.—On the action of the chloride of carbon on the anhydrous oxides, by M. Eug. Demarçay. Schützenberger having shown that the tetrachloride of carbon reacts readily on the sulphuric anhydride, forming phosgene and chloride of pyrosulphuryl, the author here describes some experiments he has carried out for the purpose of ascertaining whether the same substance reacts on the oxides, and whether this reaction might not be utilised in the laboratory for facilitating the preparation of the anhydrous chlorides.—On erythrite, by M. Albert Colson. This substance should yield successively by oxidation a monobasic and a bibasic acid, the latter being tartaric acid, according to Henninger's formula. But no monobasic acid derived from erythrite has yet been described, nor has the transformation of this alcohol into tartaric acid ever given satisfactory results. The author here accordingly resumes the study of its oxidation, testing by the thermo-chemical process the formulas hitherto accepted for erythrite and tartaric acid. He also treats erythrite with the perbromide of phosphorus, obtaining a bromhydrine, $C_4H_6Br_4$, fusible at 112° C., and identical with the tetrabromide of crotonylene, described by Henninger.—On the glycerinate of potassa, by M. de Forcrand. Having already determined the heat of formation of the glycerinate of soda, and of its ethylic combination, and the conditions under which these compounds have their origin, the author here subjects the glycerinate of potassa to a similar process with analogous results.—On the substances derived from erythrene, by MM. E. Grimaux and Ch. Cloez. The object of the experiments here described is to ascertain whether erythrene and the carburet of gas oils are really identical, as supposed by Henninger. The result so far shows that the erythrene derived from the oils of compressed gas unites readily with hypochlorous acid, the product of the reaction being soluble in ether, alcohol, and water.—On the artificial production of zincite and willemite, by M. Alex. Gorgeu. The methods by which the author reproduces zincite are based on the decomposition of several salts of zinc by heat alone, or aided by the vapour of water. It is merely an application of the process by which M. Debray has obtained crystals of glucine, magnesia, &c. Willemite, SiO_2,2ZnO, he produces by a method based on the action of silica on a mixture of alkaline sulphate and sulphate of zinc.—Observations on fishes inhabiting very deep waters (second communication), by M. Léon Vaillant. The really characteristic types of this class of deep-sea fauna are referred to the sub-order of the Anacanthini, which yields a considerable number of species, living at great depths. There is almost a total absence of Pleuronectes, the solitary exception being *P. megastoma*, Donov., fished up from a depth of 560 metres. A striking feature of this ichthyological fauna is its great uniformity, the same genera and even closely-allied species constantly reappearing and being evidently diffused over the widest ranges.—Researches on the mechanism of respiration in the Myriapods, by M. J. Chalande. Most zoologists suppose that the breathing process is the same in the Myriapods as in insects; but the author's researches show conclusively that this hypothesis is absolutely erroneous. In them respiration is effected by the rhythmical movements of the dorsal vessel, the air also penetrating by diffusion to the most delicate tracheæ.—On the age of the Bauxite formation in the south-east of France, by M. L. Collot. This formation, which in the Ariège district occurs between the Coralline and Urgonian deposits, is referred to the successive geological epochs between the Lower Lias and the Urgonian.—On the partial results of the first two experiments made to determine the direction of the North Atlantic currents, by Prince Albert of Monaco. Of the 169 floats cast overboard 300 miles north-west of the Azores in 1885, fourteen have been recovered, showing a general south-easterly direction and a mean velocity of 3·83 miles per twenty-four hours. Of the 510 floated in 1886 much nearer to the French coast, nine have reappeared, showing nearly the same direction, with velocities of from 5·80 to 6·45 miles.—Coincidence of certain solar phenomena with the perturbations of terrestrial magnetism, by M. E. Marchand. A comparative study of the solar observations made at the Lyons Observatory in 1885-86 with the curves of the Mascart magnetic recorder shows that there exists a direct relation between the terrestrial magnetic disturbances and the displacements of certain solar elements accompanying the spots and the faculæ.—On the actual value of the magnetic elements at the Parc Saint-Maur Observatory, by M. Th. Moureaux.—Note on the recent minimum of the solar spots, by M. A. Riccò. This minimum, which occurred between October and December, 1886, was specially remarkable for its intensity, no spots or pores being at all visible twice for eleven days and once for eight days during that period.—Remarks on the geological chart of Lake Baikal and the surrounding district, by M. Venukoff. A careful study of this map, drawn to a scale of 1 : 420,000, shows that the Baikal basin is not a *crevasse* in the Jurassic beds, as had been supposed, nor a subsidence due to plutonic or volcanic causes, but that its formation dates from pre-Silurian times and is still in progress.

BOOKS AND PAMPHLETS RECEIVED

Practical Zoology: Marshall and Hurst (Smith, Elder).—The Garner, vol. i. (Bowers, Walworth).—Massachusetts Institute of Technology—Twenty-second Annual Catalogue of Officers and Students, and President's Report (Boston).—Folk-Lore and Provincial Names of British Birds: Rev. C. Swainson (Stock).—Flora of Leicestershire (Williams and Norgate).—Journal of the Franklin Institute, January.—Transactions of the Yorkshire Naturalists' Union, Parts 7, 8, 9 (Taylor, Leeds).—Precious Stones in Nature, Art, and Literature: S. M. Burnham (Trübner).—Health at Schools: Dr. C. Dukes (Cassell).—Deviation of the Compass in Iron Ships: W. H. Rosser (Imray).—Sonnets on Nature and Science: S. Jefferson (Unwin).—Logia of the Lord; Historical Jesus; Paul the Gnostic Opponent of Peter; Devil of Darkness: G. Massey.—Report of Kew Observatory Committee for the Year ending December 31, 1886 (Harrison).—Explication des Taches du Soleil: M. Delauney (Paris).—Elementary Ideas, Definitions, and Laws in Dynamics: E. H. Hall (Cambridge, Mass.).—Studien über das Molekular-volumen einiger Körper: G. A. Hagemann (Friedländer, Berlin).

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