

the product with potassic hydrate. A number of substitution products of the two bodies have been prepared, and are here described.—The next paper is "On the Conversion of Acetone into Lactic Acid," by Linneman and Zotta. This is accomplished by heating dichloroacetone with water to 200°, when a considerable proportion of lactic acid is obtained. Ladenburg has prepared stannic triethyl phenyl by the action of sodium on bromobenzol, and stannic triethyl iodide, mixed with ether. It is a colourless liquid, boiling at 254°, which is easily oxidised in the air; it reduces an alcoholic solution of silver nitrate, diphenyl being produced in the reaction. Hydrochloric acid forms with it, benzole and stannic triethyl chloride.—An interesting paper by Friedel and Ladenburg, "On Silico-propionic Acid," follows. By the action of absolute alcohol on silicic chloride, the chloride of triethylsilicic acid is obtained; sodium added to this compound, mixed with zinc ethyl, yields, on heating, ethyl orthosilico-propionate, $\text{Si}_2\text{C}_2\text{H}_7(\text{OC}_2\text{H}_5)_3$. Silico-propionic ether, on treatment with aqueous potassic hydrate, yields silico-propionic acid. It is a white powder resembling silica, from which it is easily distinguished by being combustible. It is soluble in hot potassic hydrate solution, but insoluble in boiling sodic hydrate. This acid is the first representative of a new series of acids, containing the group SiO_2H in the place of CO_2H .—Translations of two papers by C. E. Monroe follow, the originals of which have already appeared in the American Journals.—The number concludes with a short note "On the Preparation of Creatinine hydrochloride from urine," by R. Maly. It is purified by combining it with mercuric chloride and decomposing the compound with sulphurated hydrogen.

SOCIETIES AND ACADEMIES

LONDON

Anthropological Institute, January 1.—Sir John Lubbock, Bart, F.R.S., President, in the chair.—Messrs. J. Thallon and J. Jeremiah, jun., were elected members.—Mr. C. Staniland Wake read a paper entitled "The Adamites." The object of this paper is to show, by reference to evidence extraneous to the Hebrew Scriptures, what peoples are entitled to be classed as Adamites. The name of the primitive race from which the Chaldeans sprung—the *Akkad*—proves that they must be thus classed. *Akkad* would seem to mean "sons of Ad;" the first syllable of the word being the same as the Gaelic *Mach* or *Ach*. The first Babylonian dynasty of Berossus was Median; and Sir Henry Rawlinson says that the name by which the Medes are first noticed on the Assyrian monuments is *Maad*. This people, the initial letter of whose name may be treated as a prefix, was doubtless the primitive stock from which the *Akk-Ad* were derived. The Medes had also the distinctive title *Madr*; and many of the Aryan peoples appear to have retained a remembrance of the traditional *Ad*. The first part of the Parsee work known as *The Desatir* is called "the Book of the Great *Abad*," i.e., Father *Ad*. The Puranas of the Hindus refer to the legendary king, *It* or *Ait*, who is supposed to be the same as the Greek *Aetus*. The primitive Celtic race of Western Europe was called *Gaidal*, i.e., the progeny of Gaid or Aid, who may be identified with *Dis*, the mythical ancestor, according to Caesar, of the Gauls. *Dis* (the Greek *Hades*) was also "Lord of the Dead" among the Chaldeans, and may well, therefore, have been the same as the legendary ancestor *Ad*. Among Hamitic peoples, the original Arab stock trace their first origin to Father *Ad*, who is probably referred to also in the name of the Egyptian deity, *At-um*. The paper also mentions certain facts showing that the name of the legendary ancestor of the Adamites may be traced in the names of the deities of Turanian and American peoples, and also among the Polynesian Islanders, whose word for "spirit" is *atua*, or *akua*, and whose Great Ancestor is called *Ta-ata*. Dividing all the races of mankind, according to the simple classification of Retzius, into brachycephalic and dolichocephalic, the conclusion arrived at by the paper is, that *Ad* was the legendary ancestor of the former, the Adamites, therefore, embracing all the actually brachycephalic peoples, and those whose brachycephalism has been lost by intermixture with the long-headed stock. The Adamites extend through the whole of the northern hemisphere, and are found in various parts of the southern hemisphere, on both the old and the new continents. The names "Adam" and "Eve" were, however, merely expressions of the philosophical notion of the ancients that the male and female principles pervade all nature,

and originated all things and personifications of the ancestral idea in relation to the human race.

Chemical Society, Dec. 21, 1871.—Prof. Williamson, F.R.S., vice-president, in the chair.—After the usual business of the society had been transacted, the chairman announced that the celebrated Italian chemist, Prof. Cannizzaro, had consented to deliver the Faraday lecture. A paper was then read by Mr. H. Bassett, "On Eulyte and Dyslyte," two beautifully crystalline compounds obtained by the action of nitric acid on citraconic acid, a product of the dry distillation of citric acid. Both these substances contain nitrogen, but owing to the comparatively small quantity obtained, namely, less than two ounces from thirty pounds of citric acid, the author has, as yet, been unable thoroughly to investigate their nature.—Prof. H. E. Armstrong also read a paper "On the Nitration of the Dichloro-Sulphonic Acids," being a continuation of his researches on the isomeric nitrochloro-phenols and their derivatives; after which the meeting adjourned until January 18, 1872.

PARIS

Academy of Sciences, Dec. 18, 1871.—M. Chasles read a continuation of his theorems relating to the harmonic axes of geometrical curves, and presented a note by M. Halphen on right lines which fulfil given conditions.—M. H. Resal presented a memoir on the conditions of resistance of a fly-wheel, and M. Combes a note by M. Haton de la Goupillière on the transformation of the potential by reciprocal radii vectors.—Telegrams received from M. Janssen, with regard to his solar observations at Ootacamund, were communicated to the Academy.—Several members referred to the prevalence of cold during the first half of the month of December 1871.—M. Delaunay called attention to the remarkable concurrence of a change of barometric pressure with an alteration in the temperature of different parts of Europe between the 6th and 9th of December, the latter date showing the maximum of cold at Paris. The great cold of the 9th of December was also the subject of a note by M. E. Becquerel, who gives a minimum temperature of $-25^{\circ}5\text{C}$. ($= -13^{\circ}9\text{F}$.) at Montargis, and of $-27^{\circ}5\text{C}$. ($= -17^{\circ}5\text{F}$.) near Courtenay in the department of the Loiret. M. C. Sainte-Claire Deville remarked upon the concordance of this statement of M. E. Becquerel's with the minimum of -26°C . ($= -14^{\circ}8\text{F}$.) recorded at Nemours. He also presented a table of minima obtained at various places in France from 7th to 15th December.—M. Becquerel presented a memoir on the influence of snow on the temperature of the soil at various depths, according as it is covered with turf or denuded, founded chiefly on observations made from the 5th to the 15th December. The authors found that the temperature under the turfed soil, within two or three centimetres of the surface, was always above 0°C . ($= 32^{\circ}\text{F}$.), and as constantly below that point in the naked soil.—M. Pasteur presented a note on a memoir by M. Liebig, relating to fermentation, in which he defended his views as to the nature of the phenomena of fermentation from certain criticisms upon them published by Prof. Liebig. Upon this subject M. Fremy also spoke at considerable length in opposition to M. Pasteur, who replied.—M. Bussy communicated a note by M. E. Bourgoïn on the complex nature of cathartine, in which the author states that this substance, regarded as the active principle of senna, is in reality composed of three distinct substances, namely, chrysophanic acid, a dextrogyrous glucose, and a new principle to which he gives the name of chrysophanine.—M. Daubrée communicated a note by M. F. Gonnard, on the dolerites of the Chaux de Bergonne and the zeolites which they contain. In this paper the author ascribes very peculiar magnetic properties to the solid dolerite of this locality, and states that the cavities of its lower amygdaloidal parts contain three zeolites (christianite, phacolite, and mesole).—M. Trécul presented a note on the remarkable arrangement of the stomata in various plants, and especially in the petiole of ferns, in which he mentioned the occurrence of stomata upon the pilliform appendages of the petiole in *Philotendron Lindenianum*, and noticed their existence in unusual positions in many ferns.—A note by M. P. Bert, on the influence of different colours on vegetation, was communicated by M. Milne-Edwards. His general results are as follows:—green is nearly as fatal to plants as total darkness, red is very injurious, and yellow less so than red, but more so than blue, but any colour taken isolatedly is injurious to plants.

December 26, 1871.—A note by M. Brioschi, on the equation of the fifth degree, was read.—A note was read on the tension of the vapour of mercury at low temperatures, by M. Regnault,

in which he claims to have proved long ago that mercury gives off vapours even below the freezing point of water. Upon this paper M. Boussingault made some remarks.—M. P. A. Favre presented a paper "On the Electrical Conductibility of Liquids without Electrolysis," in which he gives the details of certain experiments which seem to show that liquids have a conductivity of their own.—M. S. Meunier read a note on the co-existence of two lithological types in the same fall of meteorites. The author stated that the specimens in the Museum at Paris, from the falls of Sigena in Spain, on November 17, 1773, and of Trenzano in Italy on November 12, 1856, each includes two forms of rock, one, the Indian meteoric stone, described by Maskelyne under the name of *bustite*, the other identical with *parnallite*. He remarked upon the singularity of this phenomenon, which, he thinks, indicates that the stones which fell at Trenzano and Sigena were derived from the same deposits, and that *bustite* and *parnallite* have been stratigraphically related.—M. W. de Fonvielle presented an explanation by means of the theory of fringes of the appearance of luminous halos observed during balloon ascents.—M. Berthelot communicated a further series of thermo-chemical investigations upon the state of bodies in solutions, in which he discussed his researches upon the double decomposition of certain metallic salts.—A note was read on an apparatus for measuring the temperature of alterations and detonations of explosive compounds by MM. L. Leygue and Champion. This apparatus consists of a bar of metal to be heated at one end, upon various parts of which the explosive compounds may be placed.—M. F. Pisani communicated an analysis of the ambygonite (*montebraite*) of Montebrias, showing that the only difference between this mineral and the ambygonite of Arnsdorf consists in its containing a little less soda.—M. A. Trécul read an important memoir on the origin of the lactic and alcoholic yeasts, upon which M. Pasteur made some remarks.—M. H. Sainte-Claire Deville presented a note by M. F. Cailliet on the origin of the carbon fixed by plants containing chlorophyll, which he regards as wholly derived from the carbonic acid of the atmosphere; and M. Béclard referred to memoirs presented by him in 1858 on the influence of violet light upon vital phenomena.

BOOKS RECEIVED

ENGLISH.—Researches of the Calculus of Variations: J. Todhunter (Macmillan and Co.).—Volcanoes, the Characters of their Phenomena: J. P. Scrope (Longmans).—A Vision of Creation, a Poem: C. Collingwood (Longmans).—Hymns for Modern Man: H. Noyes (Longmans).

FOREIGN.—Principes de Biologie appliqués à la Médecine; Dr. Ch. Girard (Baillière et fils).

PAMPHLETS RECEIVED

ENGLISH.—Journal of the Iron and Steel Institute, Vol. II., No. 4.—Quarterly Journal of Amateur Mechanical Science, No. 4.—Science Directory of the Department of Science and Art.—Meteorological Notes for use in Science Classes; J. H. Collins.—Remarks on certain Oceanic Explorations: W. L. Jordan.—On Ocean Currents, Part 3: Jas. Croll.—The Quarterly German Magazine for November.—Inaugural Address before the Scottish Arboricultural Society: R. Hutchison.—Public School Reforms: M. A. B.—The Fauna of Devon, Part 7: E. Parfitt.—On the Boring of Molluscs, &c.: E. Parfitt.—Transactions of Engineers and Shipbuilders in Scotland.—Eight Days with the Spiritualists: Jas. Gillingham.—Report of the Board of Visitors to the Royal Observatory, Edinburgh.—Figures of Characteristic British Fossils, Part 3: W. H. Baily.—Method of Teaching Arithmetic: J. G. Fitch.—On the Relation of Therapeutics to Modern Physiology: R. Madden.—On the Method of Measuring the Lateral Diffusion of a Current: J. G. H. Gordon.—The Power above Matter: D. de B. Hovell.—Annual Report of the Council of the Institution of Civil Engineers.—Mining Magazine and Review, No. 1.—Ordinary Meetings of the Newcastle-on-Tyne Chemical Society, 1871-72.—Annual Report and Transactions of the Plymouth Institute, Vol. II., Part 2; Vol. III., Parts 1, 2; Vol. IV., Parts 1, 2.—Denudation in relation to Sedimentary Stratification: G. Race.—List of Members of the Royal Microscopical Society, 1871.

AMERICAN AND COLONIAL.—Notes of some Cretaceous Vertebrates: E. D. Cope.—Preliminary Catalogue of the Bright Lines in the Spectrum of the Chromosphere: C. A. Young.—Monthly Notices of Papers and Proceedings of the Royal Society of Tasmania, 1870.—A Catalogue of the Birds of New Zealand: F. W. Hutton.—Remarks on the Adaptive Colouration of Mollusca: E. S. Morse.—Transactions of the Entomological Society of New South Wales, Vol. II., Part 3.

FOREIGN.—Oversigt af kongl. Vetenskaps Akad. Förhandlingar, Nos. 3, 4, 8, 9, 10.—Zeitschrift für Ethnologie, No. 5.—Zeitschrift für Meteorologie No. 23.—Giornale di Sicilia, No. 268.—Nova plantarum species: A. Kerner.—Können aus Bastarten Arten weraen: A. Kerner.—Ueber Iris Cengialti Ambrosi: A. Kerner.—Ueber den Einfluss der Winde auf die Verbreitung der Samen: A. Kerner.—Association Scientifique de France, No. 218.—Gazzetta Chimica Italiana, No. 9.—Sul bromuro di etilidene: E. Paterno.—Sintesi due nuovi clorobromuri di carbonio: E. Paterno.—Azione del bromocloruro di fosforo al clorales: E. Paterno.

DIARY

THURSDAY, JANUARY 4.

LONDON INSTITUTION, at 4.—The Philosophy of Magic. 3. The Magic of the Mediums: J. C. Brough, F.C.S.

FRIDAY, JANUARY 5.

GEOLOGISTS' ASSOCIATION, at 8.—On the Overlapping of Several Geological Formations on the North Wales Border: D. C. Davies.

SATURDAY, JANUARY 6.

ROYAL INSTITUTION, at 2.—On Ice, Water, Vapour, and Air: Dr. Tyrdall. (Juvenile Course.)

SUNDAY, JANUARY 7.

SUNDAY LECTURE SOCIETY, at 4.—On Atoms; being an explanation of what is definitely known about them: Prof. W. K. Clifford, M.A.

MONDAY, JANUARY 8.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—On Bunder Murayah, Somal Land: Capt. S. B. Miles.—On a Journey to the Murut Country in Northern Borneo: Lieut. De Crespigny.—On a Description of Fernando Noronha: Dr. A. Rattray.

VICTORIA INSTITUTE, at 8.—Chance Impossible: Dr. J. H. Wheatley.

TUESDAY, JANUARY 9.

PHOTOGRAPHIC SOCIETY, at 8.—On Photography in the Printing Press: J. R. Sawyer.

WEDNESDAY, JANUARY 10.

GEOLOGICAL SOCIETY, at 8.—On the Foraminifera of the family Rotulines (Carpenter) found in the Cretaceous formations, with Notes on their Tertiary and Recent Representatives: Prof. T. Rupert Jones, F.G.S., and W. K. Parker, F.R.S.—Notes on the Geology of the Plain of Morocco and the Great Atlas: Geo. Maw, F.G.S.—Further Notes on the Geology of the Neighbourhood of Malaga: M. D. M. d'Ornela.

THURSDAY, JANUARY 11.

ROYAL SOCIETY, at 8.30.

SOCIETY OF ANTIQUARIES, at 8.30.

MATHEMATICAL SOCIETY, at 8.—On the Surfaces the loci of the vertices of cones which satisfy six conditions: Prof. Cayley.—On the Constants that occur in certain summations by Bernoulli's series: J. W. L. Glaisher.—On the Construction of large tables of divisors and of the factors of the first differences of prime powers: W. B. Davis.—On the Parallel Surfaces of Conicoids and Conics: S. Roberts.

LONDON INSTITUTION, at 4.—The Philosophy of Magic. 4. The Magic of the Laboratory: J. C. Brough, F.C.S.

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