

s'antaneous micro-photography," and exhibited pictures of live animalculæ in water.—Dr. E. J. Gayer also read a paper "On a cause of fading in albumenised pictures."

## PARIS

Academy of Sciences, Jan. 6.—This was the annual general meeting of the Academy, and M. Faye, after delivering an address mainly devoted to the transit of Venus expeditions, vacated the chair, where he was succeeded by M. de Quatrefages.—M. Le Baron C. Dupin read a note on the French population, which, allowing for the ceded provinces, shows a decrease of 1,279,451. The decrease the Baron asserts to have been directly and indirectly caused by the late war.—M. Boussingault gave an account of his experiments on the formation of nitric compounds by the soil. He finds that these bodies are not formed from the nitrogen of the air, as he had been inclined to think.—M. A. de Caligny read an interesting paper on the effects of certain kinds of waves on sand-banks.—Further observations of 128 by M. Borrelly were received, and also M. Bossert's Elements and Ephemerides of the same planetoid.—A paper on orthogonal surfaces, by M. G. Darboux, was then read, and followed by an answer to M. Gernez's criticisms by M. G. Van der Mensbrugge, who defends his and Mr. Tomlinson's theory of the action of films on saturated solutions.—A note on certain phosphorus compounds, in which that body appears to exist in the amorphous (red) form, by M. A. Gautier followed.—M. A. Houzeau sent a paper on the estimation of ammonia in coal gas.—MM. Estor and Saint-Pierre sent a short note on respiratory combustion. They have made experiments which prove intra-arterial as against pulmonary combustion.—M. Sanson sent a paper on the horse of the quaternary fauna, which was followed by a note by M. Diamilla Müller on the absolute magnetic declination at Tiflis, at Sevrova, and at Paris.—M. de Rouville sent a paper on the upper Jurassic formations of the department of L'Herault.

January 13.—M. de Quatrefages, president, in the chair. M. Jamin presented his fourth note on a magnetic condenser, a description of an apparatus he has contrived, by which the power of magnets is much increased.—M. E. Mouche read a note on the rising of the Algerian Coast.—M. H. Resal sent a note on Savart's observation of the mutual influence of two pendulums.—MM. Troost and Hautefeuille read some researches on the Allotropic forms of phosphorus; they point out the similarity of the changes of vapour density in phosphorus when undergoing allotropic modification to those of cyanic; they also state that the sudden development of heat in the case of phosphorus when at the point of change has an exact analogy in the case of the acid mentioned.—MM. F. Bagault and Roche sent a note on a new process for the manufacture of steel. The process consists of decarbonising cast iron by means of rich iron oxide ores.—An interesting mathematical paper on orthogonal surfaces was received from M. G. Darboux.—M. Gernez controverts some assertions of Van der Mensbrugge as to the effects of liquids of high surface tension on liquids of low tension. Van der Mensbrugge asserts that when such liquids are in contact, if the first contains a dissolved gas it is compelled to liberate it.—M. Melsen sent a note on sulphurous and chlorosulphuric acid and on the combination of chlorine and hydrogen in darkness. The author saturated charcoal with chlorine, and then introduced it into an atmosphere of hydrogen. The two gases completely and quietly combined in absolute darkness.—M. Prenier sent a note on "Polypropylenic Carbides." These bodies are formed by acting on propylenic bromide by nascent hydrogen; their general formula is  $C^{2n}H^{2n}$ .—M. J. Chaulard sent a note on the spectroscopic examination of the chlorophyll in residues of digestion. This body does not seem to be broken up in the stomach, as its absorption bands are distinctly recognisable in the excrements of animals fed on vegetables.—M. Stan. Meunier sent a note on "The increase of mechanical forces in the star (now destroyed), from whence the meteorites are derived.—M. P. Fischer sent a note on the Jurassic formations of Madagascar.—M. Pisani sent a paper on the analysis of Lanarkite from Leadhills, Scotland; he asserts that the mineral is a basic lead sulphate.—M. Chapelas's note on the aurora of January 7, was then read, and followed by a note from M. Poirée, on the levelling of the zero of the flood gauges of the Seine.—A letter from M. P. Bert to the President concerning M. Faye's recent defence of the Bureau des Longitudes was next read. M. Bert says that he did not propose the total suppression of the Bureau, but that he said that as it had not answered the expectations of science, it ought to be replaced by

a bureau whose duty (like that of the "Nautical Almanac" office in England), would be to publish the *Connaissance des Temps*, and this office should receive not more than 40,000 francs (per annum?)

## DIARY

## THURSDAY, JANUARY 23.

ROYAL SOCIETY, at 8.30.—Contributions to the History of the Orchids: Dr. Stenhouse.—On the Fossil Mammals of Australia: Prof. Owen.—Notes on the Wide-slit Method of Viewing Solar Prominences: W. Huggins.  
ROYAL SOCIETY CLUB, at 6.  
ROYAL INSTITUTION, at 3.—On Oxidation: Dr. Debus.  
SOCIETY OF ANTIQUARIES, at 8.30.—Implements of the Bronze Period: John Evans.

## FRIDAY, JANUARY 24.

ROYAL INSTITUTION, at 9.—Analogies of Physical and Moral Science: Prof. Birks.  
PHILOLOGICAL SOCIETY, at 8.15.  
QUEKETT CLUB, at 8.  
OLD CHANGE MICROSCOPICAL SOCIETY, at 8.30.—On the Senses of Insects: T. Rymer Jones

## SATURDAY, JANUARY 25.

ROYAL INSTITUTION, at 3.—Comparative Politics: Dr. E. A. Freeman.  
ROYAL BOTANIC SOCIETY, at 3.45.

## SUNDAY, JANUARY 26.

SUNDAY LECTURE SOCIETY, at 4.—The Glacial Period; a Chapter in English Geology.—An Account of the Physical Changes which Great Britain has undergone since Tertiary Times: A. H. Green.

## MONDAY, JANUARY 27.

ROYAL GEOGRAPHICAL SOCIETY, at 8.30.—Sistan. With an Account of a Journey from Bander Abbas to Meshed, through that Province: Major Gen. Sir Frederick Goldsmid.—Note on the Comparative Geography and Ethnology of Sistan: by the President.  
ENTOMOLOGICAL SOCIETY, at 7.—Anniversary.  
MEDICAL SOCIETY, at 8.  
LONDON INSTITUTION, at 4.—Physical Geography: Prof. Duncan.

## TUESDAY, JANUARY 28.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, at 8.30.  
CIVIL ENGINEERS, at 8.

## WEDNESDAY, JANUARY 29.

LONDON INSTITUTION, at 7.—Musical Lecture.  
SOCIETY OF ARTS, at 8.

## BOOKS RECEIVED

ENGLISH.—The Gospel of the World's Divine Order: D. Campbell (Trubner).—Lectures on the Philosophy of Law: J. H. Stirling (Longmans).—The Botanist's Pocket-Book: W. R. Hayward (Bell & Daldy).—The School Manual of Geology. Second Edition A. J. Jukes-Browne (A. & J. Black).

## PAMPHLETS RECEIVED

ENGLISH.—Scottish Naturalist, Vol. ii. No. 9.—Food Journal, Vol. iii. No. 36.—American Journal of Science and Art, Nos 24, 25, for Dec. 1872 and Jan. 1873.—The Astronomical Almanac, 1873: W. H. Hollis (Simpkin and Marshall).—Zoologist, No. 88.—Entomologist, No. 112.—Sermons in Sonnets: W. Whale.—Proceedings of the Zoological and Acclimatisation Society of Victoria, and Report of the Annual Meeting of the Society, held March 1, 1873, Vol. i.—Fifth Annual Report of the Executive Committee of the Manchester National Society for Women's Suffrage.—Journal of the Royal Horticultural Society of London, Part 11, 12, Vol. iii. 1873.—Practical Magazine, No. 1. 1873.  
AMERICAN.—The Lens, Vol. i. No. 4.  
FOREIGN.—Rendiconti, Vol. v. No. 19.—Bulletin de la Société Impériale des Naturalistes de Moscou.

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