

SCIENTIFIC SERIAL.

American Journal of Science, September.—On the regular or specular reflection of the Röntgen rays from polished metallic surfaces, by O. N. Rood. Platinum foil at an angle of incidence of 45° reflects $\frac{3}{11}$ th part of the incident X-rays. About half the rays are reflected in a regular geometrical or specular manner, as proved by photographs of iron gratings obtained by means of the reflected rays, and compared with photographs obtained with the same mirrors by means of ordinary light, diffused or radiating from a point. But the proportion of regularly reflected rays is less than in the case of ordinary light. There is a greater proportion of diffused rays, but these are diffused, not as they would be by a dull surface, but as they would be by an imperfectly polished surface. Similar results were obtained with speculum metal and tinfoil.—An iodometric method for the determination of phosphorus in iron, by Charlotte Fairbanks. Phosphorus may be determined in iron by precipitating the ammonium phospho-molybdate according to the usual methods of iron analysis; then reducing the phospho-molybdate thus obtained with potassium iodide and hydrochloric acid; neutralising the residue with acid sodium carbonate, and reoxidising with standard iodine.—Is the land round Hudson Bay at present rising? by J. B. Tyrrell. The reasons advanced by Dr. Robert Bell for supposing that the land round Hudson Bay is still rising are not conclusive. The land at the mouth of the Churchill River has been unchanged for the last century and a half. Sloops Cove, where the sloops engaged on the Eskimo trade used to winter, has many inscriptions of the middle of the eighteenth century, whose position, when compared with their exact date, shows that they would not have been hewn into the rock at the level they occupy if the tides had at that time attained a higher level than they do now.—A visit to the Great Barrier Reef of Australia, by A. Agassiz. The expedition, supported by the United States, the British, and the Queensland Governments, was equipped for extensive pelagic fishing and topographical surveying inside and outside the Barrier Reef. Boisterous weather made pelagic fishing very difficult, and the explorers had to content themselves with an examination of the inner portions. The slope is greatest in the southern portion, where the channel is wider. There is evidence to show that the islands composing the reef formerly filled up the channel as well. The islands lining the continent were the last to disappear. The very moderate subsidence which has taken place in comparatively recent times cannot have shaped the outlines of the present Australian continent, and of its submarine extension. For this we must look back, first to the subsidence which took place in Cretaceous times, next to the subsequent elevation of the Cretaceous beds, and finally to the erosion and denudation to which these beds, since their elevation above the level of the sea, have for so long a period been subjected. It is on the upper part of these submarine slopes, dating back to an earlier geological period, but modified by erosion and denudation up to recent times, that during the present epoch corals have obtained a footing and built up the Great Barrier Reef of Australia.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, September 7.—M. A. Cornu in the chair.—Notice on the late Amé-Henry Resal, by M. Maurice Levy.—On the observations of the eclipse of the sun of August 9 last. Extract from a letter to M. Tisserand by M. Backlund, Director of the Observatory of Pulkowa. Although for some time preceding the eclipse the weather had been extremely unfavourable, the first contact was observed in a perfectly clear sky, and a dozen good photographs were obtained.—Memoir on the thermo-chemistry of the oxygen compounds of phosphorus, arsenic and sulphur, by M. Marcellin Langlois.—On the steering of aërostats, by M. Rozier.—On the employment of a fixed circle, derived from any group of seven tangents to a conic, to define, *à priori*, the circle derived from any seven right lines, by M. Paul Serret.—On the distribution of deformations in metals submitted to stresses, by M. L. Hartmann. A reply to some remarks by M. Charpy.—Discharge of electrified bodies by the X-rays, by M. E. Villari. The experiments described tend to show that the discharge of electrified bodies is not brought about by the X-rays themselves, but by the air rendered

active by their passage.—On the emission of the X-rays, by M. C. E. Guillaume. A theoretical proof of the laws of emission established experimentally by MM. Imbert and Bertin-Sans, and by M. Gouy.—On the general relation between the intensity of sensation and the duration of a luminous impression, by M. Charles Henry.—On some questions in celestial mechanics, by M. A. Karagiamides.—On nervo-psychosis, by M. Bouxteiff.

SYDNEY.

Royal Society of New South Wales, June 3.—Mr. J. H. Maiden, President, in the chair.—The following papers were read:—On periodicity of good and bad seasons, by Mr. H. C. Russell, C.M.G., F.R.S.—The Mika operation of the Australian Aborigines, by Prof. Anderson Stuart.—The absorption of water by the gluten of different wheats, by Mr. F. B. Guthrie.

July 1.—Mr. J. H. Maiden, President, in the chair.—Discussion upon the paper read by Mr. Russell at the preceding meeting.—Notes on recent developments of Röntgen rays, by Prof. Threlfall.

August 5.—Mr. J. H. Maiden, President, in the chair.—Papers read:—On the occurrence of a submerged forest with remains of the dugong at Shea's Creek, by Mr. R. Etheridge, jun., Prof. T. W. E. David, and Mr. J. W. Grimshaw (with exhibits).—On aromadendrin or aromadendric acid from the turbid group of *Eucalyptus kinos*, by Mr. Henry G. Smith.—On the cellular kite, by Mr. Lawrence Hargrave (with exhibit).—Note on a method of separating colloids from crystalloids by filtration (with demonstration); also an explanation of the marked difference in the effects produced by subcutaneous and intravenous injection of the venom of Australian snakes, by Dr. C. J. Martin.—Mr. H. G. Smith exhibited a specimen of Lapidolite (*Lithin mica*) from near Norseman, West Australia.

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