

1895, the date of the last report issued by the Bureau, in the provisions made in all countries for the education of this unfortunate class. Not only are the charitably disposed of European and American countries fully alive to the possibilities of assisting the deaf by suitable methods of instruction, but, as the report shows, there are schools in good working order in China, Japan, Algiers and other places not often associated with educational progress. It is interesting, too, to learn that upwards of thirty periodicals for the deaf are issued in Europe, and nearly sixty in America.

THE following list of successful candidates for Royal Exhibitions, National Scholarships and Free Studentships (science) has been issued by the Board of Education, South Kensington:—Royal Exhibitions: Charles Cook, Landport, Portsmouth; Gilmour E. Brown, Balloch, Dumbartonshire, N.B.; Charles J. Stewart, Fratton, Portsmouth; George H. Childs, Portsmouth; William Welch, Fratton, Portsmouth; Edward L. Macklin, Buckland, Portsmouth; Alfred Jones, Crewe. National Scholarships for Mechanics: Herbert G. Tisdall, Beeding, Sussex; Joseph J. Holloway, Saltley, Birmingham; George H. Andrews, Sheerness; John Alexander, Glasgow; Christopher J. Lees, Oldham; Robert Royds, Oldham. Free Studentships for Mechanics: William E. Gardner, Edgbaston, Birmingham; Harold Fowler, Urmston, Manchester; Leonard E. B. Pearce, London. National Scholarships for Physics: Ambrose E. Woodall, Swinton, Lancs.; James H. Brinkworth, Chippenham; Herbert Moss, Leeds; Thomas F. Connolly, St. Albans; A. Henderson McKenzie, Salford, Manchester. Free Studentships for Physics: Evan J. Evans, Llanelly; Wilfrid M. Hooton, Sutton Bridge, Lincs. National Scholarships for Chemistry: Alfred F. Joseph, London; Alexander McDonald, Middlesbrough; Donald F. Blyther, London; James M. Hird, South Woodford, Essex; Howard H. Morgan, Rhayader, Wales; John W. Birkby, Leeds. Free Studentship for Chemistry: Robert G. Kirkby, Whitstable. National Scholarships for Biology: William F. Collins, London; Thomas Southwell, Todmorden; Arthur E. Pratt, London. National Scholarships for Geology: George Haworth, Burnley; Thomas Dewhurst, Burnley.

SCIENTIFIC SERIAL.

American Journal of Science, August.—The terraces of the Westfield River, Mass., by W. M. Davis. Miller's theory of defending ledges gives a better explanation of these terraces than any other, the normal action of a meandering and swinging river sufficing to account for nearly all the details of terrace form.—Notes on the Cretaceous turtles, *Toxochelys* and *Archelon*, with a classification of the marine Testudinata, by G. R. Wieland.—The magnetic effect of electric displacement, by J. B. Whitehead, jun. After a short historical account and criticism of the previous work done in this field, new experiments are described, the net result of which is against the presence of the magnetic effect of electric displacement in an amount given by Maxwell's expression. Only once was a positive result obtained, and this is regarded as being liable to question.—Certain relations of plant growth to ionisation of the soil, by A. B. Plowman. The experiments described show that negative charges stimulate and positive charges paralyse the embryonic protoplasm of plants.—The demagnetising effects of electromagnetically compensated alternating currents, by Z. E. Crook. An experimental study of the effects of the alternating current on the magnetic properties of iron and steel, with special reference to the effect due to the current independently of that produced by the circular magnetism.—Nepheline and other syenites near Port Coldwell, Ontario, by A. P. Coleman.—The double ammonium phosphates in analysis, by M. Austin. A study of the best conditions for the determination of zinc and manganese as double ammonium phosphates.—On the electrical resistance of glass, quartz, mica, ebonite and gutta-percha, by O. N. Rood.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, August 11.—M. Bouquet de la Grye in the chair.—Reflection and refraction by a body undergoing a rapid translation, by M. J. Boussinesq.—On the law of pressures in cannon, by M. E. Vallier. As the expression originally proposed by the author necessitates complicated inter-

polations, an empirical formula of a simpler nature is suggested which is sufficiently exact.—On entire functions of finite order, by M. Ernst Lindelöf.—On the mode of formation of cathode and Röntgen rays, by M. Th. Tommasina. The study of the unipolar production of the X-rays by M. Jules Semenov led him to the conclusion that the antikathode gives off rays only if it carries an electric charge, and if connected to the earth it gives off practically no rays. Having regard to the theoretical importance of this fact, the author has submitted it to further experimental study. The following conclusions are stated:—The diffuse reflection of the anode flux alone is sufficient to give rise to cathode rays and to Röntgen rays; the phenomenon takes place even when the antikathode is connected to the earth, and the multiple reflection by the walls of a vacuum tube suffices to produce the partial transformation of the anode flux into both cathode and Röntgen rays.—Phenomena observed at Zi-Ka-Wei, China, during the Martinique eruption, by M. de Moidrey. A magnetic disturbance was observed, as at Paris and at Lyons, at a time corresponding with the explosion of Mont Pelée, together with an earth tremor which lasted about eight hours.—New contributions to the physiology of the leucocytes, by MM. H. Stassano and F. Billon.—Hæmoglobinuria of muscular origin, by MM. Jean Camus and P. Pagniez.—On the existence of a kinase in snake poison, by M. C. Delezenne. Snake poison contains a diastase possessing the same properties as enterokinase or the microbial kinases. It has not yet been determined whether it is distinct from the poisonous principle of the snake venom.—The toxin of tetanus. Observations of the electrical resistance and of the index of refraction, by MM. Dongier and Lesage.—The distribution of the suprarenal bodies of the Plagiostomes, by M. Ed. Grynfeldt.—Observations on the germinative duration of seeds, by M. Jules Poisson. The seeds of plants growing in moist soils preserve their vitality longer than others provided that they do not leave their moist situation.—The verification of the law of barometric heights, by M. W. de Fonvielle.

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