

money available under the Local Taxation (Customs and Excise) Act for technical education in England (excluding Monmouthshire), or, as the grant is usually called, the "whisky" money, was during the same period 924,360*l.*, but only a part was appropriated to educational purposes, 60,513*l.* going to the relief of rates, the London County Council recognising this unenlightened policy to the extent of 32,711*l.* It is gratifying to find, however, that nine only of the forty-nine county councils included in the return devote part of their funds available for education to the relief of rates, and only six of the sixty-two county borough councils allow any such diversion of funds. More than this, two county councils, twenty-four county borough councils, ninety-nine boroughs and 195 urban districts are making grants out of the rates under the Technical Instruction Acts. In Wales and Monmouth, the whole of the "whisky" money is devoted to education, and in addition to this sum about 24,000*l.* raised by rates was expended for the same purpose during the period under review.

ON August 23, Prof. Geddes presided over the Nature-Study Conference organised in connection with the University Extension Meeting at Cambridge, and Mr. Willfred Mark Webb gave an address on his "Impressions of 'Nature-Study.'" Mr. Webb showed the importance of the three branches of nature-study which he recognises with reference to four of its non-utilitarian aims. "Scientific teaching will often provide," he said, "a definite hobby or interest in life." Going to the other extreme, simple "nature-love"—studied out of doors—may be expected to add to "the mere joy of existence," to produce "an appreciation of the country and its pursuits," and in correlation with "unsystematised nature-knowledge"—acquired in school as part of general education—to cultivate "habits of investigation by directing natural curiosity into rational channels." The necessity of emphasising outdoor work, the ease with which it may be undertaken off-hand by any teacher and the possibility of regarding it as nature-study in a restricted sense were touched upon. Mr. Macan's excellent suggestion that special nature-study training colleges should be inaugurated by groups of county councils was strongly commended. In the interesting discussion which followed, Miss Ravenhill showed how nature-study leads to the necessary consideration of man in his environment. Prof. Haddon hinted that the best naturalists, and therefore teachers of nature-study, were not necessarily those who had passed examinations. Mr. Oldham disagreed with those who would confine nature-study to animate objects and thus exclude the consideration of the earth itself. Miss Von Wyss described the voluntary biological work undertaken by all the students in the Cambridge Training College.

### SCIENTIFIC SERIAL.

*Journal of Botany*, August.—Continuing their descriptions of "Crassulas from South Africa," Mr. S. Schönland and Mr. E. G. Baker introduce twelve new species of the genus.—A bryological article, with illustrative plate, by Mr. E. S. Salmon is mainly concerned with a consideration of the genus *Thiamea*, C. Müll, which he is inclined to sink in the genus *Wilsoniella* of the same authority, and the description of a variety of *Syrrophodon Gardneri*, Schwaegr.—Other articles are:—Buchanan's *Avan* Plants, J. Britten; *Hieracium murorum* and *H. caesium*, F. N. Williams; West Lancashire Notes, C. E. Salmon and H. S. Thompson.

### SOCIETIES AND ACADEMIES.

#### PARIS.

Academy of Sciences, August 18.—M. Bouquet de la Grye in the chair.—The resistance to traction of mortar, by M. Considere. The experiments were carried out on prisms strengthened at the angles with iron wires. The results of the traction experiments were automatically recorded by the testing machine, and reduced facsimiles of these curves accompany the paper.—On the year's work at the observatory at the summit of Mont Blanc, by M. J. Janssen. The researches which are proposed for the present year include a study of the modifications which the hæmoglobin of the blood undergoes with muscular effort at varying altitudes, the relations between the altitude

and rarity of the atmosphere, and the richness of the spectrum in violet and ultra-violet rays, studies on atmospheric electricity, and the effect upon the composition of the blood and the respiratory exchanges of altitude alone or combined with muscular effort.—On the assemblage of two bodies, by M. G. Krœnigs.—On some organic addition compounds, by M. P. Lemoult. A description of the preparation and properties of some addition compounds of chlorodinitrobenzene with some diamines.—Experimental researches on the conservation of muscular potential in an atmosphere of carbon dioxide, by M. Lhotak de Lhota. Carbonic anhydride accelerates the fatigue of a muscle by stopping the disengagement of energy. On account of this the muscle cannot be used up; the energy may be given off after the removal of the carbon dioxide, and hence this gas constitutes a favourable factor in preserving muscular energy.—The comparative study of the organic fluids of the sacculina and the crab, by MM. Louis Bruntz and Jean Gautrelet.—On some fossil pollens, male prothallia, pollen tubes, &c., in the Coal-measures, by M. B. Renault. Many pollen grains of the coal epoch contain a perfectly well-marked male prothallus, the compartments of which contain the mother cells of the antherozoids. This prothallus may emit a pollen tube, as in *Stephanospermum*, or allow the antherozoids to escape directly from the pollen chamber, as in *Aetheotesta*.—The influence of cream separation on the principal constituents of milk, by MM. F. Bordas and Sig. de Kaczkowski. The removal of the fat to the extent of 98 per cent. takes away at the same time 69 per cent. of the lecithin. In the authors' opinion, this is sufficient to explain the high death-rates through gastro-intestinal troubles in those towns where the sale of skimmed milk is allowed. It also accounts for some diseases in infants fed exclusively on sterilised milk.—On the physical geography of the Western Yaila, Crimea, by M. E. Daniloff.

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