

that a claim should be made for the usual grant towards carrying on the work of the Corresponding Societies Committee, and the Conference adjourned.

SECOND CONFERENCE.—August 9.

The Corresponding Societies Committee was represented by Prof. R. Meldola (Chairman), and Messrs. Symons, Whitaker, Cuthbert Peek, Garson, Poulton, Rev. Canon Tristram, Sir Rawson Rawson, and T. V. Holmes (Secretary).

The Chairman made a proposal that in future some subject in which the delegates were generally interested should be brought as a short paper before the conference, such as the management of local museums, and the relations of County Councils to technical instruction, and the working of the Technical Education Acts. This was considered an excellent suggestion. Mr. Symons mentioned that he had arranged with Mr. Griffiths that delegates on the first day of the meeting of the British Association should be supplied with copies of the reports on subjects in which they were interested. This would give them longer time than they had at present to make themselves acquainted with the work which was being done. Mr. Robert Brown thought it would be a good thing if the printed report of the proceedings of the conference of delegates could be sent to the delegates earlier than at present. After some additional remarks from Mr. Cushing and the Chairman, the meeting proceeded to sectional work. In connection with the meteorological work in Section A, Mr. Symons spoke of the value of making observations on the temperature of underground waters, especially when new wells were being formed; and Mr. Whitaker remarked on the equally important point of the fluctuations of water in wells.

In Sections B and C there was nothing to bring before the Committee. When the work of Section D was reached an interesting discussion took place on the disappearance of native plants. Mr. Mark Stirrup began the discussion by reading a short note from an eminent Manchester botanist on the state of the district in that respect round Manchester. Mr. Sowerbutts, Manchester, said he believed the gentleman from whom the notes had been read was largely responsible for the eradication of rare plants round Manchester, inasmuch as he published a very charming book indicating where they were to be found. (Laughter.) Mr. Coates, Perthshire, said their Naturalists' Field Club, in publishing accounts of excursions or notices in papers of rare flora, only indicated generally where these were to be found. And Mr. W. Gray said that the Belfast Nat. Field Club acted in a similar way.

The Rev. Canon Tristram, Durham, next addressed the delegates on the question of making their field clubs more useful. He strongly advocated that these clubs should combine natural history, archæology, and geology; and that their function should be, not to destroy, but to preserve all that was rare and curious in a district. Lately their field excursions in many places had been too much of a picnic party. On the subject of local museums, the Canon argued that, as a rule, these should only contain objects of local interest, and he suggested that an approach should be made to the County Councils in order to get assistance for forming and keeping such museums in order. In regard to spoliation of districts of rare plants and ferns, the Canon advocated the formation of a public opinion on this question. On the question of the preservation from destruction of the eggs of rare birds, the Rev. E. P. Knubley, Leeds, moved the following resolution, which was seconded by Mr. E. Poulton, Oxford, and agreed to:—

"The conference of delegates, having heard of the threatened extermination of certain birds, as British breeding species, through the destruction of their eggs, deprecates the encouragement given to dealers by collectors through their demands for British-taken eggs, and trusts that the corresponding societies will do all that lies in their power to interest and influence naturalists, landowners, and others in the preservation of such birds and their eggs."

On this subject Canon Tristram also spoke, and put in a strong plea for the preservation of birds of prey—pointing to the case of the mice plague in Dumfries and Lanark shires as a result of destroying the balance of nature by wholesale killing of birds of prey. The resolution brought forward by Mr. Knubley was cordially adopted by the meeting.

In Section E Mr. Sowerbutts said that he should like to be able to communicate during the year with other delegates who were interested in geographical education.

In Section H Mr. E. W. Brabrook brought under the notice of the delegates the Ethnological Survey of the British Isles, which it was proposed to undertake by a committee of the Association on the suggestion of the Society of Antiquaries, the Folk-Lore Society, and the Anthropological Institute. Schedules would be sent down to societies, and he asked the co-operation of the delegates. Mr. Brabrook agreed with Canon Tristram in thinking that archæology should be one of the subjects of study of a field club. Mr. Whitaker said that in his district the Hants Field Club always did its best to protect antiquities; and Mr. Gray said that at Belfast the Field Club not only tried to preserve ancient remains, but also photographed them. Some of these photographs he exhibited. Canon Tristram mentioned the difficulties Field Clubs sometimes had with clergymen who were over-zealous in church restoration; and Mr. Tate (Belfast) alluded to the exertions of his society on that point; while the Chairman thought the clergy were not always as black as they were painted in this matter. Mr. Brabrook made some remarks on the best mode of making an archæological survey, pointing out the best sources of information, as regards the way of carrying it out.

Finally, Mr. Sowerbutts thought better terms might be obtained from the railway companies for delegates and others travelling to meetings of the British Association. The Chairman and Mr. Symons promised to represent the matter to the Council of the Association, and the conference adjourned.

SCIENTIFIC SERIALS.

THE *American Meteorological Journal* for July contains the following articles:—On the appearance and progressive motion of cyclones in the Indian region, by W. L. Dallas. The object of the inquiry is to see whether the cyclones of the Indian Ocean originate from the unequal distribution of temperature over and above the earth's surface. The author favours the assumption that cyclones are a production of the upper atmosphere, and thinks that the evidence, although far from conclusive, goes to show that (1) cyclonic storms descend from and retreat to the superior layers of the atmosphere; (2) the whirl may travel along in the upper atmosphere, giving only faint indications of its presence at the earth's surface; (3) the movements of cyclones agree generally with what may be supposed to be the movements of a superior layer of the atmosphere.—S. A. Hill, a memoir, by Edna Taylor Hill.—The eye of the storm (conclusion), by S. M. Ballou. The cause of the clearness of the eye is attributed by the author to the deficiency of the air at the outer edge of the calm, owing to the deflective force of the earth's rotation and the upward and outward movements of the air before reaching the centre; the deficiency being supplied by a gradual settling of the air over the whole area, thus dissolving the cloud stratum and showing the blue sky. The author admits that the discussion of the subject shows the need of more observations concerning the phenomenon.—Recent efforts towards the improvement of daily weather forecasts, by H. Helm Clayton. The author states in a clear and interesting form the various rules which have hitherto been established, and draws attention to a law of averages discovered by Francis Galton, which might with advantage be used in weather forecasting, for, although only applied by Mr. Galton to heredity, it is probably universal. For example, if a storm during a given twelve hours has moved with a velocity below the average, the probability is that it will move with a velocity one-third nearer the average during the next twelve hours.—The other articles are—on the sea breeze, by W. C. Appleton, and temperature sequences, by H. A. Hazen, being an inquiry as to whether, if the temperature has been high or low for a certain period, we may anticipate the contrary condition shortly. The inquiry does not seem to have led to any result which could be turned to practical use.

Bulletin of the New York Mathematical Society, vol. i., No. 10 (New York, the Society, 1892).—The opening article is a review (pp. 217-223) of "An Elementary Treatise on the Differential Calculus by Joseph Edwards" (2nd edition, Macmillan, 1892), by Miss C. A. Scott. Whilst the reviewer praises the "lucid and incisive style," the well-chosen words and the well-balanced sentences, she does not fail to make a slashing attack upon details, and to point out "certain specially vicious features." There is considerable force in Dr. Scott's

criticisms, and it is probable that a careful consideration of them will enable Mr. Edwards still further to improve his, in many respects, excellent treatise. The remaining short contributions are a note on resultants, by Prof. Haskell; and collineation as a mode of motion, by Dr. Bôcher (originally delivered as a lecture before N. Y. M. Society (pp. 225-231). The usual notes, new publications, and index close the first volume of this new mathematical venture.

In the *Botanical Gazette* for June, Mr. A. F. Foerste has an interesting paper, illustrated, on the Identification of trees in winter.—Mr. Charles Robertson continues his notes on the mode of pollination of American plants.—Mr. A. P. Morgan describes two new genera of fungi belonging to the Hyphomycetes, *Cylindrocladium* and *Synthetospora*.

In the *Journal of Botany* for July, M. G. Masee describes and figures a new marine lichen from the coast of Scotland, *Verrucaria latevivens*, and continues his description of new species of fungi from the West Indies.—Mr. W. H. Beeby argues in favour of the occurrence of natural hybrids among plants. In the number for August, Rev. E. S. Marshall supports the claim of *Cochlearia granlandica*, and the editor that of *Sagina Boydii*, to be considered as British plants; both are figured. In the continuation of his Notes on *Potamogetons*, Mr. Arthur Bennett describes two new species, *P. Delavayi* from China, and *P. tricarinatus* from Australia.

THE articles in the *Nuovo Giornale Botanico Italiano* for July are all geographical. Among them Dr. A. N. Berlese and Signor V. Pegliore give a monograph of the Micromycetes of Tuscany, 293 in number. The list includes several new species, and one new genus, *Phaeopeltosphaeria*, belonging to the Sphaeriaceae.—Signor S. Sommier commences a very interesting description of the physical features of the lower valley of the Obi in Siberia, with some account of its botany.

IN Nos. 5 and 6 of the *Bullettino della Soc. Bot. Italiana*, most of the articles are also of local interest. Signor A. Jatta describes a new genus of lichens, *Siphulastrum*, from Tierra del Fuego.—Signor E. Baroni gives a full description of the anatomy of the fruit and seeds of *Eugenia myrtilifolia*.—Signor L. Re contributes an account of the spherites found in *Agave mexicana* and other Amaryllidaceæ.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, August 22.—M. Duchartre in the chair.—Heat of combustion of some chlorine compounds, by MM. Berthelot and Matignon. The method of the calorimetric shell was employed for determining the heat of combustion of certain acid bodies. Monochloroacetic acid, $C_2H_3ClO_2$, gave + 174.2 calories at constant volume, and + 173.9 at constant pressure, as the result of two combustions with camphor in presence of arsenious acid. The values obtained for trichloroacetic acid, $C_2HCl_3O_2$, were + 106.3 at constant volume, and 105.4 at constant pressure. Trimethylene chloride, $C_3H_4Cl_2$, burnt in the presence of an equal quantity of camphor, gave a mean of 3900 calories per gramme of the substance.—On glyoxylic or dioxyacetic acid, by the same.—M. Pasteur, in presenting to the Academy a work by Dr. Daremberg on Cholera, its Causes, and Means of Guarding against it, called attention to the following points: "Dr. Daremberg, in one of the principal chapters of his book, protests with great force against the pollution of the water-courses by drain-waters, and equally against the pollution of the soil by the distribution of these waters on the land under cultivation. He thinks that the germs of cholera, in the form of the bacillus which produces it, can remain living and virulent in the soil for several years, and eventually lead to the spread of the disease. Thus the cholera in the environs of Paris would have originated in cholera germs preserved since the last epidemic in 1884."—Thermo-chemical study of certain organic bodies with mixed functions, by M. Léo Vignon.—Quantitative determination of peptone, by precipitation in the state of peptonate of mercury, by M. L. A. Hallopeau. This method is claimed to be superior to the polarimetric, the calorimetric, and the absolute alcohol methods as being a complete precipitation admitting of more trustworthy measurements than the first, and less difficult than the second. A solution of peptone, which must be neutral or very slightly acid, is precipitated by a large excess of mercuric nitrate.

The precipitate of mercuric peptonate, white, flocculent, and bulky, falls almost immediately to the bottom of the vessel. It is allowed to settle, and then poured on to a filter of known weight, washing with cold water until no precipitate is produced by sulphuretted hydrogen. The increase in the weight of the filter, dried at 100° to 108° , represents the weight of the peptonate of mercury; multiplying this by 0.666 gives the amount of peptone present. The mercuric nitrate is readily obtained from the "pure" commercial nitrate. Since this contains an excess of free nitric acid, which partially redissolves the peptonate of mercury, the acid must be removed by heating the nitrate with ten times its weight of water for fifteen or twenty minutes, filtering and heating to near boiling in a porcelain capsule. Then stir and add a few drops of carbonate of soda until the precipitate of oxide of mercury is no longer dissolved.—Etiology of an enzootic disease of the sheep, called Carceag in Roumania, by M. V. Babes. In the very fertile and often submerged islands of the Danube, where the shepherds from Roumania and Transylvania congregate, and where there are always hundreds of thousands of sheep, a disease occurs among them, especially in May and June, to which often a fifth of the herd will succumb, especially if it should have been brought thither from a distant pasture. It is an acute malady of a febrile nature, combined with hæmorrhage and œdema, and always with hæmorrhagic and sometimes necrotic inflammation of the rectum. In the red corpuscles of the blood are found round, immovable cocci, often undergoing subdivision. They are very similar to those observed in the corresponding cow-disease known in America as the Texas fever.—On a new chemical function of the comma-bacillus of Asiatic cholera, by M. J. Ferran. The growth of this microbe is always rapid and luxurious in the ordinary culture solutions; if they contain milk-sugar, it is incomparably more so; but the growth ceases entirely as soon as the solution becomes acid by the development of lactic acid, and the vitality of the microbe is extinguished. It seems reasonable to employ lactic acid in lemonade against cholera, and to aid its action by the anæxosmotic power which morphin offers us; this substance would perhaps hinder the absorption of the toxic substances, and would prolong the action of the lactic acid by opposing its rapid elimination.

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