grants and rural agricultural instruction. The programme for the year also makes the following provisions :—For dairy instruction, £250; for manual instruction in woodwork, £228; for nursing, ambulance, and general hygiene, £190; for dressmaking, £100; for instruction in poultry-keeping, £35; for hedging and thatching, £25. We are very sceptical as to the wisdom of so diffuse a syllabus of work, and would again point out that no efforts should be spared to coordinate and systematise all the educational projects of a County Committee.

A PROSPECTUS referring to the Faculty of Applied Science of McGill University, Montreal, announces that, through the munificence of Mr. W. C. McDonald, a Department of Architecture has been established in the Faculty, and the regular work of the new department will commence with session 1896–97. During the summer, a Professor of Architecture is to be appointed, and the efficiency of the Drawing Department is to be much increased by the addition of a lecturer in freehand drawing and descriptive geometry. The same benefactor has also rendered it possible for the University to place the Departments of Chemistry and Mining in a thoroughly efficient condition. The erection of a large building is to be proceeded with immediately, and the building will be equipped in the most approved manner, including not only provision for the several branches of chemistry, but also for mineralogy, mining, and metallurgy. The Mining and Metallurgical Laboratories alone will have a floor space of about 10,000 square feet, and will be supplied with the most recent appliances for the milling and metallurgical treatment of ores, &c. A Professor of Mining will be appointed during the summer, and other important changes in the staff, all leading to increased efficiency, are to be made.

SCIENTIFIC SERIALS.

Symons's Monthly Meteorological Magazine, May.—The worst gale of the nineteenth century in the English midlands. This storm occurred on March 24, 1895, and has not been fully discussed, although some local scientific societies have published short papers upon it. The present number contains part of the list of damage done in various countries; in the next number it is proposed to complete it, and to offer some general remarks upon the subject. Mr. Symons considers that the damage done is without parallel since "the great storm" of 1703. It is a curious coincidence that it occurred on the same day of the year, and nearly at the same hour, as that of the *Eurydice* squall in 1878, in which, it will be remembered, Her Majesty's ship was lost. This latter storm was discussed by the late Mr. W. C. Ley.—Fog, mist, and haze, by "F. R. Met. Soc." In the hope of initiating a discussion upon the existing absence of unanimity as to the meaning attached to the different words in general use, the author has suggested certain definitions, which are briefly as follows :—Fog; an obscuration due to condensation of aqueous vapour when the particles are too small to be seen with the naked eye. Mist; when the particles are large enough to be seen with the naked eye. Smoke-fog; obscuration without water particles. Haze; an obscuration of distant objects, so slight that the cause is not visible to the observer.

SOCIETIES AND ACADEMIES.

LONDON.

Chemical Society, May 7.—Mr. A. G. V. Harcourt, President, in the chair.—The following papers were read :—Carbon dioxide, its volumetric determination, by W. H. Symonds and F. R. Stephens. The authors describe a trustworthy method of estimating carbon dioxide in air.—On certain views concerning the condition of the dissolved substance in solutions of sodium sulphate, by R. F. D'Arcy. Experiments on the viscosity of strong solutions of sodium sulphate confirm the generally accepted view that the condition of sodium sulphate in aqueous solution is always the same, whether the solutions are prepared from the anhydrous salt or one of its two hydrates.—Luteolin, II., by A. G. Perkin. The results of the further examination of luteolin are given; it is isomeric with fisetin, and probably has the constitution $\begin{matrix} C(OH).CH{:}C.CO \\ \| \quad\quad | \quad\quad \| \\ CH.C(OH){:}C.C(CO).CH \end{matrix}$—Morin, Part I., by H. Bablich and A. G. Perkin. Morin, a yellow colouring matter occurring in old fustic and in Jackwood, is isomeric with, and has a very similar constitution to quercitin.—Synthesis of pentacarbon rings. Part I. Anhydracetonebenzil and its homologues, by F. R. Japp and G. D. Lander. Anhydracetone benzil has been fully investigated, and is shown to be a diphenyl-hydroxycyclopentane of the constitution $\begin{matrix} CPh{=}{-}{-}{=}CH \\ | \quad\quad\quad\quad \diagdown \\ CPh(OH).CH_2 \quad\quad CO \end{matrix}$.—Synthesis of pentacarbon rings. Part II. Condensation of benzil with acetonedicarboxylic acid, by F. R. Japp and G. D. Lander. The behaviour towards reagents of anhydracetonebenzilcarboxylic acid, which is obtained by the condensation of benzil with acetonedicarboxylic acid, is described.—Reduction of desyleneacetic acid, and the constitution of Zinin's pyroamaric acid, by F. R. Japp and G. D. Lander. Desyleneacetic acid yields Meyer and Oelker's desylacetic acid on reduction and βγ-diphenylbutyric acid on boiling with hydriodic acid and phosphorus; this acid is identical with Zinin's pyroamaric acid.—Electrolysis of potassium allo-ethylic camphorate, by J. Walker and J. Henderson.—Flourene and acenapthene, by W. R. Hodgkinson. The red substance obtained by the oxidation of flourene and acenaphthene is not a hydrocarbon, but contains oxygen; no coloured hydrocarbon can be prepared by oxidising these substances.

Mathematical Society, May 14.—Major MacMahon, R.A., F.R.S., President, in the chair.—Mr. H. F. Baker spoke upon the bitangents of a plane quartic curve and the straight lines of a cubic surface.—A paper by Prof. E. W. Brown, on the application of the principal function to the solution of Delaunay's canonical system of equations, was taken as read.—Short communications were made by the President, Colonel Cunningham, Prof. Hill, F.R.S., Mr. Hammond, and Mr. Tucker.

CAMBRIDGE.

Philosophical Society, May 11.—Prof. J. J. Thomson, President, in the chair.—Note on the formation of the layers in Amphioxus, by Mr. E. W. MacBride.—Note on the continuity of the mesenchyme cells in Echinoderms, by Mr. E. W. MacBride.—Mr. F. C. Shrubsall read a paper on crania from Teneriffe, embodying the measurements of sixty-one skulls and two hundred long bones. The average height of the islanders, calculated from the latter, was for males 1642 mm. and for females 1552 mm.

EDINBURGH.

Royal Society, May 18.—Prof. Chrystal in the chair.—Mr. W. G. Robson, St. Andrews, exhibited some X-ray photographs, and described the progress of the study at St. Andrews University. Some of the exposures were long compared with what has been done recently, notably by Dr. Macintyre; but the photographs were all very good, and the definitions remarkably clear. Some of the pictures shown were very interesting. A photo of a mummy's foot was exhibited, and Mr. Robson remarked that the rays must have had some effect on the skin, for, at the end of the experiment, it was found to be quite soft. A photograph of what looked at first sight like some insect, but turned out to be a St. Andrews "bulger" with the lead showing very clearly, caused some amusement. Prof. Chrystal thought that uranium would be of great use in intensifying X-ray photographs.—Prof. D'Arcy Thompson made a short preliminary communication on the bird and beast names in Albertus Magnus. There were very many barbarous-looking names for beasts and birds in Albertus Magnus, which have a certain resemblance to words in Aristotle. The Dominican friar did not know Greek, but used an Arabic translation of Aristotle. If the Greek words were transliterated into Arabic, they were found to be parallel with the words used by Albertus when treated in the same way.—Prof. Thompson also read a paper on the Σ of Diophantus. Diophantus used Σ for an unknown quantity. Most commentators take this to be the *s* of *ἀριθμός* ("*ὁ ἀόριστος ἀριθμός*"), but there are difficulties attached to this interpretation. Sometimes the Σ has the sign of the genitive or plural written in small letters beside it, pointing rather to the fact of its being an initial letter. Prof. Thompson suggested *σωρός*, a heap, connected with the heap-calculus of the Egyptians, and gave various reasons for his suggestion. If true, this hypothesis, in linking Diophantus on to the Eastern culture, deprived him of his position as the father of mathematics, and helped to prove that many of his problems, as was conjectured long ago by Morgan and Bonnycastle, were not original but were collected from