(1) As a means of giving general scientific information and practical education in the county, and as a local centre of nstruction for Chelmsford and its neighbourhood.

(2) As a place for instruction in the higher branches of any subject for advanced pupils, and as giving opportunities for individual practical work; the laboratories and class-room would also be of general advantage as an examination centre for any science or technical classes held in the county, whether under the Club's scheme or otherwise.

(3) It is submitted also that the museum, laboratories, and library at Chelmsford will be of considerable utility to the inhabitants of the county at large, to farmers, gardeners, fishermen, &c., and to members of the County Council, county officers, and others desirous of obtaining accurate information about Essex, its natural productions and industries, and also as affording facilities for any special technical investigations in the subjects above mentioned.

The Club would become affiliated to the Science and Art Department, so that Government examinations could be held, prizes and payments on results earned, and grants claimed towards the building fund, and for the purchase of apparatus, examples, &c. This affiliation would bring the Club clearly within the terms of the Technical Instruction Act, 1889.

In the work of carrying out the above scheme, the Essex Field Club would have special facilities; it would be in fulfilment of one of the highest objects of the Club, and the Council and members would have every incentive to carry out the scheme well and energetically. The ordinary meetings, serial publications, and circulars of the Club would also aid much in making the work widely known and appreciated, and in attracting students likely to receive benefit from the teaching afforded.

The grants from the County Council would be supplemented by (*a*) local contributions; (*b*) fees from students; (*c*) grants earned from the Science and Art Department; (*d*) special aid, both in money, specimens, and assistance by the Club and its members, the scheme being really complementary to the existing work of the Club.

The management of the classes would be in the hands of a special committee or committees, appointed by the Council of the Club, not necessarily chosen from the members, which committee or committees would have control over the apparatus during the continuance of the grants, and the Council of the Club would undertake, on its part, to carry out the above stipulations also during the continuance of the grants.

The Council claims that the scheme above set forth is of a wide-reaching character, embracing the whole county and not any particular district; that it will supplement in a very useful way the work of existing educational centres; and that it is calculated to be particularly serviceable in those districts not provided for by urban educational institutions. It has been formulated under the advice of some eminent practical educators; it is in accordance with the recommendations of the National Society for the Promotion of Technical and Secondary Education, and above all, it is perfectly workable provided sufficient funds are available for the purpose.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—The following is the speech delivered by the Public Orator, *Dr. Sandys*, Fellow and Tutor of St. John's, in presenting for the complete degree of M.A. *honoris causâ* Mr. J. A. Ewing, B.Sc. (Edinburgh), F.R.S., recently elected to the Professorship of Mechanism and Applied Sciences, vacated by the resignation of Professor Stuart, M.P. :—

Dignissime domine, domine Procancellarie, et tota Academia :—

Uni e professoribus nostris, Britanniae senatoribus adscripto, nuper valediximus, cuius merita de Academiae praesertim finibus Britanniae in oppidis magnis late prorogandis, animo grato in perpetuum recordabimur. Successorem autem eius hodie salutamus, qui, vitae humanae spatio dimidio vixdum decurso, quindecim iam annos, primum solis orientis inter insulas, deinde patriae septentrionalis in litore, professoris munere egregie functus est. Interim opera eius insignia, partim machinis vapore actis explicandis, partim scientiae magneticae investigandae dedicata, non modo doctrinae Britannicae inter thesauros, sed etiam Societatis Regiae inter annales relata sunt. Quid dicam de pulcherrimo eius invento, quo terrae motus etiam levissimi accuratissime indicantur? Nonnulli certe vestrum audivistis orationem eximiam, quâ nuper, munus suum auspicatus, scientiae machinali Academiae inter studia locum vindicavit, supellectilem ampliorem ei deberi arbitratus. Croesi divitiis si forte frueremur, Archimedis scientiam apparatu amplissimo libenter ornaremus. Interim civium munificorum liberalitatem exspectantes, his studiis in hac arce doctrinae denuo instaurandis (ut Vergili utar versu) *Dividimus muros et moenia pandimus urbis.* Quod si quis hodie loci eiusdem verbis male ominatis abuti velit, *Scandit fatalis machina muros;* omen illud in melius statim convertimus, recordati ex equo Troiano viros fortes, meros principes, exstitisse. Tali igitur viro, scientiae tantae inter principes numerato, non iam manus nostras velut devicti dedimus; foedere potius novo utrimque devincti, dextram dextrae libenter iungimus. Duco ad vos Professorem Ewing.

The Council of the Senate report that, in view of the dissent of ten of the Colleges therefrom, they have resolved to proceed no further with the proposed statute for relieving distressed Colleges from the contribution to the University funds.

E. A. T. Wallis Budge, M.A. of Christ's College, the distinguished Egyptologist of the British Museum, has been approved for the degree of Doctor in Letters.

A portrait of Prof. A. Newton, F.R.S., painted by Mr. C. W. Furse, has been presented to the University by the subscribers, and will probably be hung in the New Museum.

Mr. S. J. Hickson, M.A., the author of a recent work on Celebes, has been appointed to the Lectureship in the Advanced Morphology of Invertebrates, vacant by the resignation of Prof. Weldon, F.R.S., now of University College, London.

Mr. G. F. C. Searle and Mr. S. Skinner have been appointed Demonstrators of Experimental Physics at the Cavendish Laboratory.

Dr. Anningson, University Lecturer in Medical Jurisprudence, and Medical Officer of Health for Cambridge, announces a course of lectures and demonstrations in public health, suitable for candidates for the University diploma. The course will be given in the Long Vacation.

The Annual Reports of the Fitzwilliam Museum Syndicate and of the Antiquarian Committee contain long lists of valuable gifts and acquisitions of archæological and ethnographical interest received during the past year.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, January 22.—"The Passive State of Iron and Steel. Part II." By Thos. Andrews, F.R.SS.L. and E., M.Inst.C.E.

The experiments of Series III., in this paper, relate to the effect of temperature, and the observations of Series IV. refer to the influence exerted by nitric acid, of varied concentration, on the passive condition of iron and steel.

Series III.—Effect of Temperature on the Passivity of Iron and Steel.

The bars selected for these observations were unmagnetized polished rods, which had been previously drawn cold through a wortle; a pair of bars of each metal were cut adjacently from one longer bar, and then placed securely in the wooden stand; each bar was 8¼ inches long, 0·261 diameter. The **U** tube, containing 1¼ fluid ounce of nitric acid, sp. gr. 1·42, was rigidly placed in an arrangement as shown on Fig. 3 in the paper. One limb was surrounded by a tank containing water, the other limb by a tank of the same capacity containing powdered ice; the arrangement was such that the water-tank could be heated by a Bunsen burner, and its temperature slowly raised, whilst the ice-tank was kept full of powdered ice.

The bars were in circuit with the galvanometer, and soon after immersing them in the nitric acid heat was applied to the water-tank, and the temperature of the nitric acid in that limb of the **U**-tube slowly raised to the temperatures required, whilst the acid in the other limb of the **U**-tube was meanwhile maintained at a temperature of 32° F.

The arrangement will be understood on reference to Fig. 3 in the paper, and the electro-chemical results obtained are graphically recorded on diagram I.