

behindhand in the application of electricity to ammunition hoists and other purposes in our navy. The President pointed out that in matters of this kind the opinions and the wishes of those who have to work the appliances must be taken into account.

The concluding day was devoted to several papers of extreme interest. The business was begun with the consideration of a paper by Mr. Thornycroft on recent experiences with steam on common roads. After dealing with the impediment to progress due to the Locomotives on Highways Act of 1896, and making suggestions as to the steps which should be taken to remove these obstacles in future legislation, the author gave an extremely valuable *résumé* of his own work in this field of mechanical science. He described the different types he has built since 1896, and the chief changes in the mechanical details which experience has convinced him to be necessary. He has built vehicles both for heavy goods traffic and for passenger traffic, and has adopted a method of chainless transmission in his most recent type. The author in conclusion pointed out that, after all, in motor work a good deal depended upon the care and intelligence of the driver employed.

A paper by Mr. Edward Case, who, we regret to say, died only a few days after the paper had been read, descriptive of the Dymchurch sea-wall and the reclamation of the Romney marshes, was next taken. These reclamation works are of great antiquity; in modern times the erection of high groynes for the protection of the wall brought about that which they were expected to prevent, namely, the undermining of the wall. Mr. Case decided, when he took over control in 1890, to adopt an entirely different system, and since 1894 a number of low groynes have been run out; the result of which has been to raise the level of the fore-shore as much as 8 feet at the east end of the wall. These groynes have been constructed in such a way that they can be gradually raised as the level of the beach gets higher, at a very trivial expense and with very little difficulty.

The Section meeting was, as has been stated before, an extremely successful one: the quality of the papers being high, the discussions good, and the attendance throughout thoroughly satisfactory. There can be no doubt that a great deal of this was due to the energy and the interest taken by the President in the work of the proceedings. It is too often forgotten by Presidents of Sections that the success of any particular Section is almost entirely in the hands of its President.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—The 204th meeting of the Junior Scientific Club was held in the University Museum on Friday, October 20. Mr. Hartley (Balliol) read an interesting paper on the history of the discovery of the law of isomorphism.—Owing to the length of important private business Mr. Gibson (Ch. Ch.) was unable to read his paper on the retention of food by plant soils, as announced. The following are the officers for the ensuing term:—J. T. Mance (Balliol), pres. H. E. Stapleton (St. John's), chem. sec. C. H. Barber (non-coll.), biol. sec. F. W. A. Fleischmann (Magd.), treasurer. F. W. Charlton (Merton), editor.

The examiners have notified to the Vice-Chancellor that they recommend for election to the Burdett Coutts scholarship, which is of the annual value of about 115*l.* and tenable for two years, Mr. J. B. Scrivenor, Commoner of Hertford College. They also recommend that Rev. E. C. Spicer, Commoner of New College, be appointed an extra scholar, to retain his scholarship for one year.

CAMBRIDGE.—St. John's College has once more shown its appreciation of scientific merit by electing to fellowships Mr. J. J. Lister, University Demonstrator of Comparative Anatomy, and Mr. A. C. Seward, University Lecturer in Botany. Mr. Lister, who has done important work on the *Foraminifera* and other groups, is a nephew of the President of the Royal Society, and son of Mr. Arthur Lister, who was last year elected a Fellow of the Society. Mr. Seward is a Fellow of the Royal and Geological Societies, and has attained a high position as an authority on fossil plants. The first volume of his treatise on this subject was reviewed in NATURE (December 15, 1898). He has held the Harkness Studentship in Palæontology, and

gained the Sedgwick Geological Prize in 1892. Both gentlemen are Masters of Arts of the College of some years' standing, and have been elected out of the ordinary course.

Mr. J. L. Tuckett, Fellow of Trinity College, has been appointed an additional Demonstrator of Physiology by Sir M. Foster.

Prof. G. Sims Woodhead has been elected to a Fellowship at Trinity Hall.

THE details of the reorganisation of the Education Department and the transference of its duties to the new Board of Education are under consideration by a departmental committee; and the committee of the City and Guilds of London Institute have signified their willingness to give any help which may be needed to secure the proper recognition of technological teaching in the arrangements about to be made. Reference to this matter is made in the report of the examinations department of the Institute issued a few days ago. It is remarked that, having regard to the Institute's close connection with technical teaching in all parts of the country, no organisation of education can meet existing requirements which does not take into consideration the educational work now under the immediate direction of the Institute. The report further states that the committee fully recognise how desirable it is to avoid, as far as possible, any overlapping in the organisation of the classes and examinations directed respectively by the Science and Art Department and by the Institute; and they are of opinion that, with the view to the due encouragement of practical instruction in the technology of the different trades in which artisans are employed, the teaching of technology should be placed on the same basis, with respect to State aid, as that of science or art.

MR. A. E. BRISCOE, the principal of the West Ham Municipal Institute, sends a few particulars of the loss caused by the disastrous fire which occurred a few days ago. The whole of the upper floor of the building, including the chemical, art and women's departments, the engineering and physical lecture theatres, the drawing office and the engineering laboratories have been completely gutted. The chemical and art departments are the greatest sufferers, but there is not much to choose between them and what has happened to the others. The electrical and physical laboratories were flooded by the water, and a great many expensive instruments have been damaged by water; but the galvanometers and some of the other expensive things were on shelves covered by dust-covers, so that they have escaped damage. The expensive machinery in the engine and dynamo laboratories and in the engineer's workshop has not suffered by fire, but, of course, tons of water have fallen upon it, and a very great amount of damage has been done. The institute was covered by insurance to the extent of 47,000*l.*, and it is believed the total damage will not reach this amount. Of course, nothing can compensate for the large amount of work that has been done by the staff in the equipment of the institute, and will now have to be done all over again. Though the borough is not a rich one, it is satisfactory to know that the institute will be rebuilt and probably enlarged, as the classes were already too great for the accommodation. The fire commenced in the advanced chemical laboratory, but the origin is absolutely unknown. The building had not been used for thirty-six hours prior to the outbreak.

SCIENTIFIC SERIALS.

Symons's Monthly Meteorological Magazine, October.—Meteorological extremes. II. Temperature. Mr. Symons has collected a large amount of useful information upon this subject from all trustworthy sources. For yearly mean temperatures preference is naturally given to Dr. Buchan's isothermic charts published in the *Challenger* volume, "The Circulation of the Atmosphere." The highest yearly isotherms are 85°, and these occur only in three localities, the largest covering a portion of Central Africa, bounded on the north by latitude 18° N. Two smaller areas exist, one in Central India and the other in the northern portion of South Australia, respectively in latitude 15° N. and 15° S. The absolute range of the shade temperature in the northern hemisphere, and probably in the world, is 217°·8, depending on the absolute maximum of 127°·4 in Algeria, July 17, 1879, and the absolute minimum of -90°·4 at Verchoiansk, Siberia, January, 15, 1885. The hottest region is