

*Royal Sovereign* was finished. There was nothing very startling in Mr. Deadman's paper, which was none the less a useful record of facts. During the discussion, however, Mr. Crompton sounded a very stirring note. He roundly told the whole body of important dockyard officials and Admiralty officers present, including even the Director of Naval Construction, that they were altogether behind the age in the matter of electricity, that the French and German navies were far ahead of them, to say nothing of other powers, and that generally the English Government was the most benighted and non-progressive Government in all the world, so far as the matter of electricity was concerned; for they paid twice as much as they ought to do for an article that was not half as good as it should be. That was the purport of Mr. Crompton's speech, if not the exact words he used, and one cannot but acknowledge that he did not speak altogether without a text. It is hard to fully account for the want of enterprise in the Royal Navy, but there is one point to which we might draw attention. The paper read at the meeting was by a naval constructor, and electricity is, we understand, within the Constructor's department. Now electrical engineering is essentially an engineering question, and its consideration requires engineering knowledge and ability of a very high order. In the early days nothing kept electric lighting back more than the bad engineering that was associated with it; and thus it will always be so long as engineers are not employed in carrying out the plans which are founded on the researches of those more highly scientific investigators, upon whose experiments and deductions the practical applications are founded.

The next paper read was Mr. Corner's contribution, in which he described the lighting and hauling apparatus used at Portsmouth. These may be divided into the hydraulic installation, the compressed-air appliances, and the ordinary steam cranes. There are in the dockyard ninety-six boilers, which burn about 10,000 tons of coal per annum, but what proportion of this is used for lifting and hauling we do not know. In the hydraulic department there are nearly two miles of pressure pipes varying from 1½" to 4" in diameter. There are also some independent installations, as well as the coaling arrangements for the fleet at coaling point. There are here ten 30 cwt. cranes, and three 10 ton tips, with necessary capstan weigh-bridges. The more modern lifting and hauling appliances are by compressed air, the air being compressed to 60 lbs. With this pressure there is little or no trouble with frost, only a little forming at the exhaust in very damp weather, and altogether the pneumatic system seems to be preferred to the hydraulic. It must be remembered that the power required is variable, and this of course brings the advantage of the pneumatic system, in the matter of working expansively, to the fore. We understood Mr. Corner to say, during the discussion, that when the hydraulic motors and the air-engines were both worked at their full power the water system was the most economical, but working linked up, under the prevailing conditions, the air system was the best. The condensation of steam in the pipes is the objection to the steam motor when situated at some distance from the boiler, otherwise steam would be the best vehicle. The other papers read do not call for any special notice at our hands, their titles giving a sufficient indication of their scope, and there being no features of especial novelty in the matters they described.

A number of excursions had been arranged, and were carried out in a very satisfactory manner. On the first day, Tuesday, the 26th ult., the members visited the Dockyard, and were welcomed by the Admiral Superintendent in person. On Wednesday the Portsmouth Sewage Works were visited, and a trip was made to the Clarence Victualling Yard at Gosport. On Thursday a trip was made to Southampton, where the Docks were inspected, and a visit was paid to the Union Steamship Company's new engineering shops. There was an alternative visit to the Ordnance Survey Office. In the afternoon a visit was paid to the London and South Western Railway Company's new carriage and wagon shops at Eastleigh. Friday was devoted wholly to frivolity, the only item on the programme being a steamer trip round the Isle of Wight. On Saturday a good many of the members went to Brighton to visit the locomotive works of the London, Brighton and South Coast Railway. Largely owing to the exceptionally fine weather the meeting was a great success, and, for pleasantness, may rank with the Dublin meeting of three or four years back.

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### UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—The fifth summer meeting of Oxford University students commenced on July 29, and will continue till August 27. The general outline of the programme has already been noticed in these columns, but we may notice here that the popularity which has attended these gatherings shows no signs of diminishing. It was announced by the Provost of Queen's College, who presided at the inaugural lecture given by Mr. John Addington Symonds, that upwards of 1250 students had come to attend the lectures it was proposed to deliver. In welcoming the students to the meeting, Dr. Magrath remarked that last winter 60,000 students (including 10,000 artisans) regularly attended the extension lectures of the various universities engaged in the work. There had been 312 courses of Oxford lectures. He also commended the co-operative societies of the North, and particularly the Co-operative Union, and mentioned the individual liberality of Mr. Dixon Galpin, who had founded scholarships for students from Dorset to attend this summer meeting. The munificence of Mr. Galpin had been supplemented by the Dorset County Council. A University Extension College had been recently established at Reading, under the presidency of Mr. MacKinder, an example which he hoped would be followed at other centres.

On Monday a conference was held in the Union Debating-room, under the presidency of Mr. J. G. Talbot, M.P., to consider the relations between the County Councils and the University extension movement. The president invited the lecturers under various County Councils to express their opinion as to the advantages, prospects, and difficulties which they had met or encountered in the course of their peripatetic teaching. His own opinion was that one very successful result of these lectures would be the amalgamation of the classes and the masses, and he noticed that one of the candidates to whom a County Council had awarded a scholarship was in the position of an agricultural labourer.

Mr. Hall, who had been a University Lecturer under the Surrey County Council, cautioned the meeting against entertaining any exaggerated views of the actual information that he had been able to convey to the agricultural labourers. He himself was satisfied if he could awaken a desire for knowledge in the rural mind and convince the extremely conservative agriculturist that he had something to learn.

Mr. Sells, of the Yorkshire College, Leeds, described the activity of that portion of the Victoria University, and believed that in the North they were in advance of the Oxford movement in meeting the actual and practical wants of the labouring section of the community. Coal-mining was taken up by them with eagerness, and the agricultural lecturers carried about with them the actual implements of husbandry in order to bring the matter practically before their audience. The discussion was continued by Mr. Sadler, secretary to the Delegacy, who said that alliances had been entered into with twelve large counties in the past year, and they should be proud of the achievement. In his opinion they ought to give a stimulus to learning to the masses, and for this reason they ought also to combine with the elementary teachers. Help should also be given to individuals, and it was necessary to secure the services of good men, by enabling the scheme to compete with other professions in the matter of the remuneration offered.

Mr. MacKinder (University Extension Lecturer) and Dr. Magrath agreed in deprecating any fixed cut and dried plan for the whole country, but thought that the scheme should be varied to meet the different circumstances of the various County Councils. At the same time, each County Council should have a definite policy.

### SCIENTIFIC SERIALS.

THE *Quarterly Journal of Microscopical Science* for March 1892, contains:—On a new branchiate Oligochaete (*Branchiura soverbyi*), by Frank E. Beddard, M.A. (plate xix.). This annelid, found in mud from the "Victoria regia tank" in the Royal Botanical Gardens, Regent's Park, London, is remarkable for the unusual contractility of its body, which suggested a leech or flat worm rather than a Chaetopod. It consists of about 120 segments. When magnified the orange-coloured digestive tract traversed by the bright blood vessels is seen, and