

THURSDAY, MAY 30, 1889.

INTERMEDIATE EDUCATION IN WALES.

IT does not often happen, in these days of slow Parliamentary progress, that two educational measures, having an important bearing on the industrial and the intellectual welfare of the country, are read a second time within a week of each other. In our last issue we gave some account of Sir Henry Roscoe's Bill for the provision of technical education, and expressed our strong hope that it would pass through the remaining stages this session. No less heartily do we wish success to Mr. Stuart Rendel's Bill for providing intermediate and technical education in Wales, which was read a second time on May 15, after a debate which practically resolved itself into a chorus of approbation. It is, indeed, high time that something should be done. Secondary education, both in England and Wales, stands sadly in need of organization, but the claims of the Principality (to which the present measure is confined) are far stronger than those of England, so far as the necessity of immediate action is concerned.

The main grounds on which the special treatment of Wales in this matter is based are to be found stated in the Report of Lord Aberdare's Committee on Intermediate and Higher Education in Wales, which was published in 1881. It is there pointed out that the aggregate income of the educational endowments of Wales and Monmouth amounted to little over £14,000, against a total of more than £600,000 for England (excluding Monmouth). Nearly a third of these scanty endowments were to be found in Monmouth. In the matter of these endowments Wales is no better off now than it was then. Since 1881, it is true, the educational resources of Wales have been increased by the grant of £12,000 a year to the three University Colleges of Aberystwith, Bangor, and Cardiff. But even including this sum, which is really intended for higher education, the educational income of Wales is not nearly so great in proportion to the population as in the case of England, and what there is is so unequally distributed as not to be available where the need is greatest.

The result is that in many counties of Wales intermediate education can hardly be said to exist. The Schools Inquiry Commission estimated that about sixteen boys in every thousand ought to be receiving intermediate or higher education. The following quotation from the Report to which we have referred will show the destitution which existed in Wales in 1881, and which unfortunately still exists to a great extent to-day:—"Taking the population of Wales and Monmouthshire to be about 1,570,000, and reducing the estimate in consideration of the exceptional conditions of Wales from sixteen to ten per 1000, intermediate school accommodation should be provided for 15,700 boys, and that number ought to be in attendance. In contrast to this, our returns show *accommodation* in the public schools for less than 3000, and that accommodation to a great extent unsatisfactory. They also show an *attendance* of less than 1600."

This estimate only applies to *boys*, and the state of the

case as regards girls' education is still worse. Only from two to three hundred girls were in 1881 in schools under any kind of public supervision, and the Committee naturally found great difficulty in devising recommendations which should adequately meet a case where, as they say, "the unsatisfied requirements are so great and the available resources apparently so meagre." Probably, on the whole, intermediate school accommodation ought to be provided for at least fifteen children per 1000 of the population, making a total of 23,500 school places. Less than a fifth of this number were provided in 1881 in schools under any kind of public supervision or control.

So much for the state of the case. Lord Aberdare's Committee reported in favour of aid being given to Welsh intermediate education both from rates and Imperial grants. Progress, however, in these matters is so slow in England that nothing has hitherto been done to carry out these recommendations except the drafting of a Bill by Mr. Gladstone's Government in 1885. This measure was essentially the same as Mr. Stuart Rendel's Bill which is now before the public.

The Bill embodies most of the recommendations of Lord Aberdare's Committee. It proposes to create a Board of Education for Wales, consisting of representatives of County Councils. To this Board schemes are to be submitted by the Council of each county, to meet the educational needs of that district. The plans may include the establishment of new schools, the reorganization of endowments, and the provision of scholarships. The Board may approve or alter the plans, and the funds required to carry them into effect are to be raised by a rate not exceeding one halfpenny in the pound—a sum, by the way, which will produce about £14,000 a year for the whole of Wales. This sum may be met by a Parliamentary grant not greater than the amount raised from the rates, subject to favourable reports upon inspection. Powers are given to reorganize and utilize existing endowments, and there may no doubt be some difference of opinion as to the extent and nature of the powers in relation to this matter which the Bill proposes to give to the new Board of Education.

There are a few criticisms which may be made on points of detail. The Board of Education ought undoubtedly to include not only representatives of the County Councils, but a certain number of educational experts. The County Councils should likewise be empowered to co-opt men of special knowledge to help in the preparation of their schemes. But on such points the representatives of Wales—a country where, as all who know it well will admit, there is a sincere zeal for educational progress—will not be likely to offer unreasonable opposition.

On the whole, the Bill is a most important step in advance, leading, as we may hope, ultimately to the organization and supervision of secondary schools throughout the Kingdom. All interested in the advance of scientific and technical teaching know how higher institutions are crippled by want of better teaching in secondary schools. The teachers in technical schools and higher colleges in England constantly complain of the want of preparation of those who come to their institutions from private schools. In Wales much of the work which the University Colleges are now compelled to do ought to

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be done in intermediate schools. We hail the fact that the Bill was read a second time as a sign that the public are waking up to the very great importance of this side of the educational problem.

FLORA ORIENTALIS.

Flora Orientalis, sive Enumeratio Plantarum in Oriente a Græcia et Ægypto ad Indiæ Fines hucusque Observatarum. Auctore Edmond Boissier. Supplementum, editore R. Buser. (Genevæ et Basileæ apud H. Georg, Bibliopolam, 1888)

A BRIEF notice of the eminent author of the monumental work which the present volume brings to a close appeared in NATURE (vol. xxxii. p. 540), a day or two after his decease, and it is there mentioned that he had for some time been engaged on a supplement to his "Flora Orientalis," the body of which was completed in 1881. That supplement is now fortunately in the hands of botanists, and an opportunity is offered for a more comprehensive notice of the author and his work, as a whole, than has hitherto been published in this country. Apart from the value of the work to the systematist and phytogeographer, it possesses an interest for a wide circle, inasmuch as it deals with the vegetation of those countries of the greatest historical attractions. As the title indicates, the eastern limit of the area of the "Flora Orientalis" is India, and now there are other works actually in progress, which, although they will not by any means exhaust the flora of the rest of Asia, will add vastly to what is known. Sir Joseph Hooker's "Flora of British India" has reached the sixth volume, and the indefatigable author is now engaged on the Orchideæ (the largest order in the British Indian flora, represented by upwards of 1000 species); and we may reasonably hope, now that he is free from official duties, that he will finish it in the course of four or five years. But the energy and perseverance required to get through such an amount of descriptive botany as that accomplished by such men as Bentham, Boissier, and Hooker, can be estimated by few except those similarly engaged.

Regel and Maximowicz's elaboration of the collections of Russian travellers in Central and Eastern Asia, Franchet's "Plantæ Davidianæ" and "Plantæ Yunnanenses," and Forbes and Hemsley's "Index Floræ Sinensis," are jointly bringing together the materials for a flora of Central Asia and China, so that it will soon be possible to survey and analyze the composition of the vegetation in its various aspects from the Atlantic across Europe and Asia to the Pacific.

The "Flora Orientalis" consists of five octavo volumes, with an aggregate of 5387 pages, independently of the present supplement of 499 pages, making a total of 5886 pages; and, on the authority of Dr. H. Christ, the author of a notice of the life and works of Boissier appended to the supplement, the number of species described amounts to 11,876! To these descriptions are added the localities of the plants within the limits of the "Flora," and the geographical area of each species. In giving the former, the author takes the countries in the following order: Greece, Macedonia and Thrace, Asia Minor and Armenia, Egypt and Arabia, Palestine, Syria, and

Mesopotamia, Crimea and Caucasus, Persia, Turkestan, Afghanistan and Baluchistan.

Before proceeding to a further examination of the nature and quality of Boissier's "Flora Orientalis," I will extract some particulars of his life from Dr. Christ's memoir, more especially such as relate to his botanical career.

Pierre Edmond Boissier, a descendant of a Huguenot family, was born at Geneva in 1810, and early developed a love for botanical pursuits. This inclination was stimulated and cultivated by the eminent Augustine Pyramus De Candolle, whose admirable teaching resulted in Boissier's life-long devotion to botanical research. Boissier was a man of great mental attainments, of a most amiable disposition, and at the same time of noble stature and fine physique.

Botanizing in the field, which is undoubtedly the best of all training, was his great delight, and his home excursions subsequently extended into distant travels. He was a good walker and a good mountaineer, and retained his great physical power until quite late in life. On his first visit to the Maritime Alps in 1832, he walked the whole distance, some forty miles, from Nice to Tenda in a single journey, and as lately as 1871 he accomplished in one day on foot the longer and much more difficult journey from La Madone delle Finestre to Tenda. The distance is estimated at about forty-five miles, and entails an ascent from 1900 to 2336 metres, then a descent to 1500 metres, upwards again to 2600, and finally down to 750 metres. And this exertion was undertaken to rediscover the rare and singular *Saxifraga florulenta*, originally discovered by an English tourist. This, Boissier's fourth excursion for this object, proved successful.

After finishing his studies at Geneva, Boissier went to Paris, where he met with our countryman Philip Barker Webb, who had botanized extensively in Spain, chiefly in the Kingdom of Granada, though he had published almost nothing thereon. It is supposed that Webb influenced Boissier in his determination to make Spain the field of his next botanical work, and it is certain that he gave him the whole of the materials he had collected, having himself made the Canary Islands the scene of his future labours. Boissier went on his first voyage to Spain in 1836, and continued his investigations for several years, aided more or less by several persons, and greatly by his friend Reuter. Following several preliminary contributions to the botany of Spain, the first part of Boissier's "Voyage botanique dans le midi de l'Espagne" appeared in 1839; and this admirable publication was completed in 1845. It is a botanical work of the first rank, and an enduring monument of the industry and munificence of the author. It consists of two quarto volumes containing a most interesting narrative of his travels; an essay on the geographical distribution of the plants of the region under consideration; descriptions of all the plants, and last, though by no means least, upwards of 200 beautifully drawn, hand-coloured plates by Heyland, one of the most accomplished botanical artists of his time.

Previous to the appearance of this work, the flora of no country of Europe was so little known as that of Spain. The enumeration numbers nearly 2000 species, about one-eighth of which were previously unknown. Since its appearance the flora of the whole of Spain has