

energy expended in their capture, not because any noteworthy change has occurred in their numbers.

To sum up the international work, then, it would seem that considerable waste of energy and funds is caused by the re-publication of papers, and by the manner in which several of these overlap. Moreover, it is beyond the scope of science to enter into a disquisition on the fluctuations of the market-price of fishes. It is also noteworthy to find that, after seven years' work, the council now see the magnitude of their task and the absence of finality in their labours. There is no sign of "impoverishment"; on the contrary, their cautious words lean to the opposite view. The committee recommend continuation of their labours, basing this on the fact that various nations share in the North Sea fishing, and that no action could be taken without the consent of the other countries; but as to any important result to be gained by the fisheries there is silence, for it cannot be supposed that hydrography, the collection of fish-food and bottom deposits, can do duty any longer as necessary measures for the welfare of the North Sea fisheries.

W. C. M.

#### THE ASSOCIATION OF TEACHERS IN TECHNICAL INSTITUTIONS.

AT the fifth annual meeting of the Association of Teachers in Technical Institutions, held on Saturday, November 6, Mr. J. Wilson, of the Battersea Polytechnic, president of the association, in moving the adoption of the annual report, reviewed the year's work. In the course of it he laid special stress upon the very important step taken by the association, at its conference at Liverpool, in putting forward a definite series of resolutions relating to educational reforms which appear to them as teachers to be essential to the continued progress of technical education. In these resolutions the association expresses its opinion that it is necessary to raise the school-leaving age to fifteen years; it asks that special attention be given to the teaching, in primary schools, of elementary science, practical arithmetic, and manual training; it calls for complete coordination of the work of the evening continuation schools with that of the evening technical schools; it asks for the provision of technical-secondary schools, including trade schools, with a generous system of scholarships, including allowance for maintenance; and, finally, it endorses the recommendations of the Minority Report of the Poor Law Commissioners respecting compulsory attendance of boys for technical instruction for not less than thirty hours per week. Thus a very definite policy in some important educational problems affecting technical education has been taken up by this association.

Another important, and in this case non-controversial, action is now being broached by this body of teachers. It suggests the desirability of holding a series of "round table" conferences between accredited representatives of primary, secondary, and technical teachers, with the object of discussing the possibility of reforms in the curricula and methods of work in the schools, from the point of view of the needs of the pupils who at a later stage pass on to the technical schools. Most urgent is the necessity for such conferences in the case of the primary and technical teachers, in order that they may arrive at a mutual understanding of the needs of the pupils and the possibility of meeting them, because in the majority of cases where pupils receive any formal teaching after the primary-school work, it is to the technical teachers that they come for it. Such conferences abound with immense possibilities for the benefit of education in all its phases. Broader and more complete knowledge of each other's branch of work and its needs and possibilities must necessarily result, and as a consequence many apparent difficulties in the way of making the educational work in the two or three types of school truly continuous, without unnecessary overlapping, will be removed. The better knowledge of each other's work will remove some prejudices and bring about the necessary unanimity of action in those matters which affect the teachers individually and as a class, such as conditions of service, security of tenure, and superannuation for all classes of teachers; these views being held by the association, it is all but unnecessary to

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point out to any other class of teachers, who have the duty, responsibility, and honour of teaching the pupils in their earlier years, that criticisms made by this association on the preparation of those pupils for later technical studies is not directed at the teachers, but at the systems imposed upon them, in which ideas, good in themselves, are allowed such sway as to mask the greater essentials of elementary-school work.

In 1888 Parliament passed a Technical Education Act, and for the past twenty-one years progress has been vigorous and rapid. Nevertheless, technical education has touched only a very small fraction of the enormous mass of material represented by the workers of all grades in the industries of the country. We can only regard it as having entered upon its duties, and must look forward to dealing with much larger numbers of students and to a greater range of work. There are two chief factors which may assist in bringing in much larger numbers of the young workers. The first of these is the increasing interest and help of the employers. Efforts in this field have so far produced but scanty results, and the association as a body is not very hopeful of this field. The second factor, to which the association looks with greater hope, is some form of organised effort by the State to achieve the following ends:—

- (a) Elementary education to be made more real and practical; less "bookish," without diminishing its cultural value.
- (b) The establishment of some system of compulsory attendance for continued education for all between the ages of fourteen and seventeen years.
- (c) The linking together of the three main grades of educational effort.
- (d) The complete coordination of the work of the evening continuation schools with that of the evening technical schools.

It is agreed by many observers, within and without our technical institutions, that technical education is rapidly approaching a crisis in so far as its higher work is concerned in the London polytechnics. The special feature of the moment is the relation of technical institutions to the university colleges. The association holds the opinion that there is room and to spare for the activities of both in those phases of their work which are common, and fully recognises that each has its own special function. It claims that the opportunity for complete study should be within the reach of every capable student, and that, too, in a sympathetic atmosphere. There is visible at the present time, both in London and the provinces, a tendency, under the guise of coordination, to curtail this higher work in both science and technology in these technical institutions, and thus to reduce seriously the students' opportunity. This tendency, if carried into effect, would be disastrous, under present social conditions, to the highest interests of national education, especially as regards the evening students.

H. ADE CLARK.

#### AN ORNITHOLOGIST IN QUEENSLAND.

IN June last the editors of the *Emu* issued a special number (vol. viii., part v.) containing a very interesting account, by Mr. S. W. Jackson, of a trip to northern Queensland in search of the nest and eggs of the tooth-billed bower-bird (*Scenopaestes dentirostris*). The expedition was undertaken on behalf of Mr. H. L. White, and appears, in spite of many difficulties, to have been eminently successful in the attainment of its object. The exploration of the tropical forests of Australia is by no means devoid of danger. Mr. Jackson himself was laid up for a week with "Johnstone River fever," which he regards as the almost inevitable price of his wanderings in the moist, fever-stricken scrubs, and one of his natives was killed by the falling branch of a tree, while the "scrub-itch mites" appear to constitute a plague of no mean order. It was a long time before he succeeded in obtaining the nests and eggs of the tooth-bill, though the playing-grounds were met with in great abundance.

A detailed, though unfortunately somewhat disconnected, account is given of the habits of these truly remarkable birds. They were first observed shortly before the commencement of the breeding season, each one occupying his

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own particular playing-ground without a mate. The play-grounds are cleared from dead leaves and other débris, and decorated with large fresh leaves placed face downwards. The leaves used are of various kinds, though sometimes only one kind may be found in a particular play-ground. The work of decoration is carried out afresh every morning, the leaves of the previous day being thrown on one side and new ones substituted. "Up to 6 a.m. they appeared to be hard at work clearing their bower floors of the old leaves and re-carpeting them with fresh ones, and until this early house-work was done they appeared to be in little mood for song or mimicry. I came across them hard at their re-furnishing, and carrying the long, heavy leaves in their bills *by the stems*, and just as they had severed them from the trees." The birds feed upon a kind of red berry, not yet identified, and the author is inclined to think that the serration of the beak has nothing to do with the collection of food. It is, however, apparently of use in cutting or sawing off the leaves for the decoration of the playing-ground, as was actually observed.

The tooth-bills are wonderful mimics, and Mr. Jackson gives a graphic account of their vocal performances. They seem able to imitate almost all the characteristic sounds of the forest, from the distinctive notes of other birds to the "pulsating rattle of a captured cicada."

After many disappointments the nests were at length found in very tall trees, very loosely constructed of twigs and containing only two eggs of a uniform brown colour. The character of these eggs leads the author to the conclusion that the tooth-bill is really a cat-bird, and not a true bower-bird at all. We cannot refrain from quoting the description of the finding of a pair of these eggs:—"The nest is placed fully 90 feet from the ground, in a mass of dense vegetation at the top of a bean or scrub chestnut-tree (*Castanospermum australe*). The climb is an awkward one, and our best black, who had examined the nest in the first instance, is again chosen to tackle the task. Strapping the egg-pouch around his waist, I say 'Good luck!' and up he goes. Placing the perpendicular and suspended vines between the first and second toes of each foot, he simply walks up, with marvellous and un-firing agility. Making his way through the masses of vines and foliage near the top, he at length gains the rare nest, and suddenly exclaims, 'Two pfeffer heg sit down!'"

Although the tooth-bill was the main object of the author's quest, the account of his wanderings contains much interesting information about other birds and some very good photographs, and is well worthy of perusal by all field naturalists.

#### INTERCHANGE OF UNIVERSITY STUDENTS.

IN July last (vol. lxxxi., p. 55) we directed attention to a scheme, which is in course of development, to provide an interchange of university students between the United Kingdom, Canada, and the United States. It was pointed out on that occasion that the objects in view are to enable as many as possible of the educated youth of the countries named to obtain some real insight into the life and customs of other nations at a time when their own opinions are forming, with a minimum of inconvenience to their academic work and the least possible expense. The scheme will afford technical students facilities to examine into questions of interest to them in manufactures and so on, by observation in other countries, and will allow men of one part of the Empire to realise the needs and potentialities of the others.

Among the immediate needs of the executive committee in charge of the scheme, it may be mentioned that, to cover the estimated expenses of twenty-eight annual travelling scholarships, and of two students' travelling and information bureaux (one in Great Britain and one in America) for a provisional period of three years, in which the value of the scheme can be successfully demonstrated, a total sum of 13,000*l.* is needed. This is to be raised in three amounts, proportionate to the expenses incurred:—from the United States, 4500*l.*; from Canada, 1800*l.*; and from the United Kingdom, 7500*l.* There is not likely to be any difficulty in raising the money required in Canada and the United States. British students will incur more expense

than others on account of the distances to be covered on the other side by the scholars, who will travel through Canada to the Pacific coast and return *via* the United States.

The committee hopes to be able to complete the organisation so that exchanges may be effected for 1910. To enable this to be accomplished, the treasurer (Lord Brassey) should receive promises to the amount of 7500*l.* within the next month.

Thanks largely to the practical support of the president of the movement (Lord Strathcona), who combines the Chancellorships of Aberdeen and McGill Universities with his work as High Commissioner of Canada, a central office has been established at Caxton House, Westminster. The travelling students will have the advantage of reduced rates of travel, of the special information which the bureau will be able to afford, and of the privilege of being brought, so far as possible, into contact with the actualities of those countries to which they go, whether persons, places, or institutions. A publication of great utility in connection with the movement will be compiled by the bureau.

The arrangements for the other side of the Atlantic also have made good progress. There is to be a bureau in New York under the direction of an American secretary, while at either Montreal or Toronto there will be a representative of the Central Bureau established in London, which forms the headquarters of the movement and the centre for the British Empire. In this connection, also, it may be mentioned that hopes are entertained of the opening in London of a common room for the convenience of the students concerned. The movement has been taken up by prominent educationists and others in the United States and Canada. Under the direction and guidance of the bureau the scholars, selected in the manner previously described, will travel for ten weeks during the long vacation through the respective countries. In order to elicit close observation, a detailed report of the tour will be required from every scholar. Donation forms, and all further information, can be obtained from the honorary secretary, the International Interchange of Students, Caxton House, Westminster, S.W.

#### UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

WE learn from the *Revue scientifique* that the inauguration of the new Swiss university at Neuchatel took place on October 19. The University has grown out of the Neuchatel Academy, which was founded in 1866 and was re-organised in 1894.

MAJOR CRAIGIE, the Gilbey lecturer at Cambridge in the history and economics of agriculture, will give two lectures on "The History of Canadian and Australian Development and its Effect on British Agricultural Conditions" on November 17 and 18, at 5 p.m., in the University Chemical Laboratory.

PROF. PERCIVAL has resigned the directorship of the department of agriculture and horticulture of University College, Reading, and has been appointed to the post of professor of agricultural botany. Mr. Ronald V. O. Hart-Synnot has been appointed director of the department of agriculture and horticulture in succession to Prof. Percival.

THE trustees of Princeton University, we learn from *Science*, have accepted the gift of 100,000*l.* of Mr. W. C. Proctor, of Cincinnati, made on condition that an equal sum be obtained by May 1, 1910. Haverford College has received 20,000*l.* to establish a fund for pensioning its professors. The General Education Board in the United States has made a conditional grant of 25,000*l.* to Ohio Wesleyan University, at Delaware, O. Mrs. Charles E. Perkins, of Burlington, Ia., has given 6000*l.* to Harvard University, to establish scholarships for students from Iowa. Harvard University also has received gifts amounting to 1320*l.*, to be used for the immediate benefit of freshmen in Harvard College.

THE President of the Board of Education received a deputation from the County Councils Association Rural Education Conference on November 3. At a meeting last July the conference passed resolutions in favour of manual