

Bonney's appendix to the third edition of Darwin's "Coral Reefs" (London, 1889, pp. 310-311), but without sufficient indication of its value as an independent and therefore important confirmation of Darwin's theory. It is noted by Krämer, who gives it local application in explaining certain bays on the Samoan islands, but without recognising its value in relation to the theory of subsidence in general ("Bau der Korallenriffe," Leipzig, 1897, p. 24). It is quoted by Gardiner, but without understanding of its importance, for he adds: "Such evidence when applied to volcanic islands is, I submit, of very doubtful value" (Proc. Camb. Phil. Soc., ix., 1898, p. 490). Murray does not refer to it; Agassiz quotes and rejects it in reference to the Marquesas Islands (Mem. Mus. Comp. Zool., xxviii., 1903, p. 5), and does not mention it elsewhere. Singularly enough, Darwin himself refers in the second edition of his book only twice, and then very briefly, to Dana's evidence of subsidence; both references concern the Marquesas Islands ("Coral Reefs," second edition, London, 1874, pp. 163, 201). I have found no other passage in which Darwin says a word upon the subject, although his discussion is otherwise marvellously complete. Dana's inference regarding the Marquesas is to be found in his report on the geology of the Wilkes Expedition (1849, p. 397), in his "Coral Reefs and Islands" (1853, p. 122), and in his "Corals and Coral Islands" (1872, p. 325; 1890, p. 361).

Doubtless other earlier writers cited Dana's principle, but it has not yet come to be generally accepted as an essential element in the demonstration that barrier reefs have been formed by subsidence. This is probably because an understanding of the reasonable evolution of coastal forms has not yet taken general possession of the scientific mind, or perhaps because some students of the coral-reef problem still adhere to the obsolete explanation of bays by marine erosion, an explanation that Dana explicitly excluded; can it possibly also be because there is as yet no sufficient understanding of the logical principle that a theory, even if it be well recommended by explaining the things that it was invented to explain, still needs confirmation by independent, unexpected evidence, before it deserves to be accepted as "demonstrated"?

Several recent writers on the coral-reef problem, particularly those in Australia, have recognised the value of the evidence for subsidence given by drowned valleys. The latest of these is Marshall, of Otago, New Zealand. He writes as follows regarding the Society Islands, in his recent essay on "Oceania" in the *Handbücher der regionalen Geologie*:—"The deep inlets that intersect the coast line . . . are clearly due to stream erosion. Prolonged marine action would have shallowed or filled them, or at least would have built up bars of coastal débris across the entrances. The author is therefore strongly of opinion that the absence of cliffs at the termination of the radiating spurs, the presence of deep water in the lagoon, and of far-reaching inlets, prove that marine erosion has not had any influence on the form of these islands at the present sea-level. . . . Finally, the deep inlets appear to be drowned stream valleys, and their nature strongly supports the belief that the islands have been subjected to an important movement of subsidence."

It is a pleasure to find a colleague who has a personal knowledge of coral islands and with whose opinion I can so closely unite, even though we are physically separated by the greatest distance that the earth affords. I am glad to join with him in emphasising the importance of Dana's principle as an independent confirmation of Darwin's theory of coral reefs.

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UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—The readership in forestry will be vacant on March 31 by the resignation of Mr. A. Henry. The general board will in the Easter term appoint a reader. The annual stipend is 400*l.* Candidates are requested to send their applications, with such testimonials as they think fit, to the Vice-Chancellor on or before April 15.

OXFORD.—On February 4 the decree providing for the allocation of a site on the south side of the University Park for the erection of an engineering laboratory was not moved.

The subject of Prof. D'Arcy Thompson's Herbert Spencer lecture on February 14 has been altered to "Aristotle as a Biologist."

MR. R. H. MOODY has been appointed professor of mathematics at the Muir Central College, Allahabad.

MR. F. E. ARMSTRONG has been appointed to the professorship of mining in the University of Sheffield in succession to Prof. Hardwick.

A COURSE of three public lectures on the electrical properties of flames will be delivered in the Physics Theatre of University College, University of London, by Dr. E. N. da C. Andrade, on Mondays, February 10, 17, and 24, at 5 p.m.

THE first term of the newly formed University in Western Australia will open in March of this year. Three out of the eight chairs have been filled in England. That of chemistry will be taken by Dr. N. T. M. Wilmshire, and Dr. A. B. Ross will occupy the post of professor of mathematics and physics, both having left for Australia by R.M.S. *Moldavia* on January 30. Dr. Wilmshire has been associated with the University of London for some time, having held the position of assistant-professor of chemistry at University College. Dr. Ross has been assistant-professor of natural philosophy in the University of Glasgow. Dr. W. J. Dakin, assistant professor in the department of zoology and comparative anatomy in University College, London, will proceed to Western Australia by R.M.S. *Mongolia* on February 7, to occupy the chair of biology.

IN *The Quarterly Journal of Forestry* for January Prof. Fraser Story gives a short account of the School of Forestry at Selmeczbanya, Hungary. This school, which is about 150 miles north of Budapest, was founded in 1807, and is thus one of the oldest forestry schools on the Continent. There is also a mining school in the same building, and the combined staff of the two includes twenty professors each with an average of two assistants. No fees are charged except a registration fee of less than 1*l.*; on the other hand, liberal scholarships are provided by the Hungarian Government conditionally on the holders subsequently serving two years in the Government Forestry Department. As for the laboratory equipment, even the list of physical apparatus is on the most elaborate scale, the electrical instruments including galvanometers, amperimeters, voltmeters, resistance boxes, alternating-current generators, transformers, rheostats, accumulators, Röntgen-ray apparatus, and Ruhmkorff coils giving sparks more than 18 in. long.

THE New Zealand University Reform Association has for some three years been urging on the public the need of various reforms, both in the constitution of the Senate and of the governing bodies of the four affiliated colleges, as well as in the method of

examining for the degrees, and in a number of other less important directions. The Senate, at its meeting in January, 1912, summoned an annual conference of the professors of the four colleges; the first meeting was held in November, when it was resolved to recommend to the Senate the merging of the two degrees of B.A. and B.Sc. into one, to be called B.A. The attempt by the reformers to introduce the system of intermediate and final examinations for the degree was thrown out, and the general scheme of the Conservatives, if we may so call them, was adopted. It was also resolved to recommend that at the end of five years the present system of examination should cease, and that examinations be conducted by boards of examiners, composed of the New Zealand professors.

THE second part, dealing with financial statistics for 1910-11-12, of "Statistics of Public Education in England and Wales," is now available (Cd. 6551). In the year ending March 31, 1912, the net total expenditure by the Board of Education in England and Wales was 14,298,030*l.* Of this 11,775,390*l.* was spent on elementary education, 758,525*l.* on secondary schools, 587,213*l.* on technical and art schools and classes, and 571,143*l.* on the training of teachers. The amounts allocated definitely to higher education were small; among these sums may be mentioned 20,000*l.* to the Imperial College of Science and Technology, 17,238*l.* to the Science Museum at South Kensington, and 20,170*l.* for the Geological Museum and Geological Survey. A table giving the expenditure of local authorities in England on education other than elementary is of special interest. Their total receipts for this purpose were 4,327,842*l.*, somewhat less than their total expenditure. Of this amount 1,081,835*l.* was from Parliamentary grants, 1,840,155*l.* from rates and borough funds, and 193,957*l.* from local authorities.

THE report for the third session of the faculty of engineering in the University of Bristol has now been published. During the session 1911-12, seventy-four day students attended, of whom fifty-three were matriculated students of this University; the percentage of matriculated students, which was forty in 1909-10 and fifty-eight in 1910-11, increased to seventy-one. This is higher than the corresponding percentage of matriculated engineering students in other provincial universities. Of these day students, three were engaged in post-graduate research work. The number of individual students in attendance at the evening classes conducted by members of the teaching staff of the faculty was 444; of these, eighteen were registered as candidates for the university degree or certificate in engineering, and two had matriculated. The report points out that each year it becomes easier to find places for students who have completed their courses of study. This arises partly from the fact that employers are realising the benefits to be derived from engaging recruits who have had a sound technical training, and partly that students unwilling to work hard enough are dissuaded from continuing their studies. This reduces the number of students in the faculty, but increases enormously the efficiency of the work.

IN his recent report on the work of the Massachusetts Institute of Technology, President R. C. Maclaurin says there can in future be no serious talk of merging the institute with Harvard University, but he shows at the same time how desirable proper cooperation between the two colleges is. The Institute of Technology has received during the past year gifts amounting to about 1,200,000*l.*, and is strong enough either to stand alone or to enter into alli-

ances. Dr. Maclaurin shows how unwise it would be for the institute to establish a group of collections for its students when the splendid University Museum of Harvard is so close at hand. The institute, he points out, is intending to erect the most complete mining and metallurgical laboratories in the world, and it would be a waste of money for Harvard to try to duplicate these. He believes that there should be a further interchange of the strong teachers in both institutions. For years the institute students in geology have had the advantage of Prof. Daly's skill, enthusiasm, and scientific achievements, and now he has gone to Harvard it would be regrettable if the students should be out of his influence, the more so since the number of advanced students in the two schools together is not too large for him to deal with effectively. In return, Harvard is not likely, Dr. Maclaurin says, to attempt the task of duplicating such a man as Prof. Lindgren, now at the institute.

SOCIETIES AND ACADEMIES.

LONDON.

Royal Society, January 23.—Sir Archibald Geikie, K.C.B., president, in the chair.—E. Mellanby: The metabolism of lactating women.—Dr. F. W. Edridge-Green: Colour adaptation. As in dark adaptation there is a considerable effect which takes place immediately on entering a dark room, so is there a considerable effect produced when a person enters a room illuminated by an artificial light, having previously been in daylight. This effect, which may be designated colour adaptation, increases with the time during which the eyes are subjected to the adapting light. The effect of colour adaptation was estimated by four methods.—Dr. F. W. Edridge-Green: Trichromatic vision and anomalous trichromatism. The following are the conclusions arrived at after the examination of a large number of persons belonging to each class:—(1) Trichromatic vision (on the author's classification of colour-vision) is not synonymous with anomalous trichromatism. (2) Many persons with otherwise normal colour perception make an anomalous equation. (3) Many colour-blind persons (dichromics and trichromics) make an absolutely normal match with no greater mean deviation than the normal. (4) Colour weakness is not characteristic of anomalous trichromatism but of trichromatic vision. (5) Anomalous trichromatism and colour weakness are not synonymous. (6) A large mean deviation indicates colour weakness. (7) Anomalous trichromatism appears to be due to an alteration in the normal relations of the response to the three colours (lights) used in the equation.—W. E. Agar: The transmission of environmental effects from parent to offspring in *Simocephalus vetulus*. The main result of a number of experiments on the transmission of environmental effects in a common Daphnid, *S. vetulus*, has been to show that certain characters, acquired ontogenetically by individuals placed in abnormal environments, may appear in their offspring which have been born and have lived in a normal environment, *i.e.* one in which control individuals do not show the characters in question.—Dorothy M. Cayley: A preliminary note on a new bacterial disease of *Pisum sativum*.—Dr. J. Homans: The relation of the islets of Langerhans to the pancreatic acini under various conditions of secretory activity.—H. O. Feiss and W. Cramer: Contributions to the histo-chemistry of nerve; on the nature of Wallerian degeneration.—I. B. J. Sollas: Onychaster, a Carboniferous brittle-star.—Prof. H. E. Armstrong, E. F. Armstrong, and E. Horton: Herbage