The Advertiser

July. 22nd. 1904.

THE INVASION OF SCIENTISTS.

THIRTEEN ARRIVE IN THE WEST.

Fremantle, July 21.

A further contingent of 13 scientists who have come out to attend the annual Congress of the British Association arrived by the Orontes to-day. The party comprises Messrs. Herbert Bolton, geologist and director of the British Museum; J. Golding, head of the research department of dairying at Reading and secretary to the agricultural section of the association; G. W. Lamplugh, assistant director of geological survey of England and Wales; Dr. Tattersall, zoologist and director of the University Museum, Manchester; Dr. Malinowski, lecturer in sociology at the University of London; Professor A. Penck, professor of geography in the University of Berlin; Professor McLaren, lecturer in mathematics at the University College, Reading; Miss E. N. Thomas, head of the botanical department at Bedford College, Reading; Miss Breton, who is interested in anthropology and Mexican archaeology; Mr. and Mrs. Arnold Lupton, and Mr. Frank Debenham, geologist, who accompanied the recent Scott Antarctic expedition. The whole of the party, with the exception of Mr. Debenham, disembarked at Fremantle, as it is their intention to spend some weeks in this State before continuing their journey.

"AD EUNDUM GRADUM."

Melbourne, July 21.

The Melbourne, Sydney, and Adelaide Universities have agreed to confer degrees in connection with the visit of the British Association for the Advancement of Science. Sydney and Adelaide are restricted to admission, "Ad eundum gradum," and Sydney is unable to recognise any but British degrees. Melbourne, however, can confer any degree on any graduate. The degrees will be conferred only on the general officers of the association, presidents of sections, authors of evening addresses, and representative visitors from the British Dominions and foreign countries. This list will be divided between Adelaide and Melbourne, while Sydney will take a larger share of the British graduates. The following will be recipients of degree of D.Sc. at a special graduation ceremony in Melbourne University on August 14:—William Bateson, M.A.F.R.S. (president), Sir Edward A. Schafer, LL.D., D.Sc., M.D., F.R.S. (professor of physiology at Edinburgh, past president), W. J. Pope, M.A., M.Sc., LL.D., F.R.S. (professor of chemistry at Cambridge), Sir T. H. Holland, K.C., I.E., D.Sc., F.R.S. (professor of geology at Manchester), A. W. Porter, B.Sc., F.R.S. (assistant professor of physics at London), F. W. Dyson, M.A., LL.D., F.R.S. (Astronomer Royal), H. E. Armstrong, Ph.D., LL.D. (London), Sir E. Rutherford, M.A., D.Sc., LL.D., Ph.D., F.R.S. (professor of physics at Manchester), J. Walter, D.Sc. (professor of geology and palaeontology at Halle, Germany), C. H. Ostenfield, D.Sc. (keeper of the Botanical Museum at Copenhagen, Denmark), W. M. Davis, D.Sc. (emeritus professor of geology at Harvard, U.S.A.), C. G. Abbot, M.Sc. (director Smithsonian Astrophysics Observatory at Washington, U.S.A.).

The question of what degrees will be conferred by the University of Adelaide is still under consideration. A list has been drawn up, but the names upon it are not yet regarded as complete. Shortly, however, they will be announced.

The arrangement of the final details in the appointment of Mr. G. W. L. Marshall Hall to the Ormond Chair of Music in the Melbourne University was completed at a meeting of the University Council on Tuesday, and the University Registrar was instructed to send a cablegram to Mr. Marshall Hall informing him of the council's offer. The meeting of the council was a centre of interest among the students of the Conservatorium, who had sent a petition to the council requesting that a deputation should be allowed to attend the meeting and state the reasons of the students for objecting to the action of the council. A large body of students assembled outside the Supreme Court conference room, where the meeting was held, but the council decided by a large majority that it would be improper to hear their views.

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SYDNEY CONSERVATORIUM.

SELECTING A DIRECTOR.

LONDON, July 20.

Mr. Carmichael has added the following names to the committee who are to select a director to the Sydney Conservatorium of Music:—Mr. Arthur Mason (Sydney), Dr. Walford Davies, and Mr. Granville Bantock.

The Daily Herald
July 22nd 1914

SCIENTISTS ARRIVE

DISTINGUISHED VISITORS TO TOUR AUSTRALIA.

FREMANTLE, July 21.

Twelve more members of the British Association party which will make an extensive tour of Australia arrived at Fremantle by the R.M.S. Orontes this morning. The party is as follows:—Dr. Tattersall (zoology), Director of the University Museum, Manchester; Mr. Herbert Bolton (geologist), Director of the British Museum; Mr. J. Golding, research chemist in the Department of Agriculture, University College, Reading, reporter to the British Association, section M; Dr. B. Malinowski, one of the secretaries of section H and lecturer in sociology at the University of London; Professor A. Penck, professor of geography in the University of Berlin, and a recognised authority on the dynamic aspects of geology; Professor S. B. McLaren, professor of mathematics in the University College, Reading, and one of the secretaries of section A; Miss E. N. Thomas, head of the botanical department, Bedford College, London, and one of the secretaries of section K; Mr. G. W. Lamplugh, assistant director of the Geological Survey Department of England and Wales; Mr. and Mrs. Arnold Lupton, who are not specially interested in any branch of science, but are members of the association and are specially interested in social problems; Miss A. C Breton, who is specially interested in anthropology, Mexican archaeology being her special study; and Mr. F. Debenham, who was geologist to Captain Scott's Antarctic expedition.

The Register
July. 22nd 1914

EVOLUTION OF PLANTS

UNIVERSITY EXTENSION LECTURE.

Life is surmised to have begun with common organisms, which existed in water. Ultimately they developed, and divided into animals and plants. Mrs. E. May Osborne, M.Sc., delivered the first of three lectures on "Some stages in the evolution of plants" at the Adelaide Univeristy on Tuesday evening. She began by saying that the simple types of plants now existing must not be regarded as being in a process of evolution, but rather as permanent representatives of some of the phases through which the ancestors of the highest plants had almost certainly passed. The theory of evolution of living organisms was that the present-day forms of existence had developed from simple forms, and that those simple forms had arisen from still simpler ones, and so on backwards. That evolution might be described as a much-branching tree, at the base of which were the simplest organisms. Not only did the theory apply to what was known as animate life, but also vegetable existence. Such progress as was indicated could be observed in inanimate things even of our own day. For instance, Nelson's old wooden ship, the Victory, gave place to the semi-

ironclad steamship, and then the armoured battleship came into existence, to be replaced by dreadnoughts. She might give another illustration—that of the bicycle. In the first place it was a wooden hobby-horse, propelled by the toes of the rider pressed on the ground. Next it became a ball-bearing pneumatic-tired machine, and to-day it was driven by a petrol engine. Plants must have existed before the fossil records began. There was no evidence of such existence, but it could be deduced from what followed. In the stage of evolution some specimens did not progress. They merely went on producing themselves in their own image, while others branched out into newer forms, although it did not always follow that the newer forms were more useful than the older ones. Some plants had side-stepped, as it were, from the main branches, and had perished. Some of the forms of existence were so indefinite that it was impossible to tell whether they were plants or animals, and it had been decided by scientists to give up the controversy, and place these questionable forms of life in a group called "protista."

—Two Cardinal Virtues.—

Plants had two cardinal virtues, neither of which was found in animals. One was a cellulose covering over the living protoplasm, which led to a cessation of visible movements in search of food, and prevented the ingestion of solid particles, and the other was a green colour, which enabled plants to utilize the energy of the sun, and so build up food from the carbon dioxide of the air. All the lowest forms of life were aquatic, and the change from water to land profoundly influenced the processes of nutrition and reproduction. So far as nutrition was concerned the change was tremendous, for while in the water the protoplasma were surrounded by their food, on the land they had to search for it in the ground or the air. Pictures were screened showing the growth of plants from single cells, through colonies of independent cells (living in the same house as it were, but each working independently) up to forms of marine growth, or seaweed, in which the cells combined to work for the good of the colony to some extent, although each had the power to go off and develop a new centre of its own. Next, some marine growths attached themselves to rocks, and the spores, while exactly alike, had to fuse together in pairs to reproduce their kind. They were the very earliest forms of sexual reproduction. As the time went on seaweeds grew into many forms, some of them being minute, while others became tree like. Another step was the evolution of the spyrophyle, in which male and female cells (the egg and the spore) were developed, and cast off from the parent plant to float about in the water until they might meet. Then followed the progressive step of one sex cell being retained in the parent, so that the other cell might have a better chance of finding its mate. One advantage of that was that the sexual act produced not one but a large number of offspring. Step by step the marine plants progressed towards the land until the liverwort was developed, which, although growing on damp ground, produced dry cells, so that the air could distribute them. Up and on evolution proceeded till ferns came into being capable of supporting themselves almost entirely on the land. The fern bore little brown spots on the underside of its fronds, and the spots (which contained spores) burst open in dry weather, and the spores were distributed by the wind. Even a small fern could produce the incredible number of 50 million spores. But the fern lived a double life, so to speak. While it existed on land it required water at a critical phase of its existence—that was when its period of reproduction had arrived. Metaphorically therefore the fern lived with one foot on land and one foot in the water.

Mrs. Osborne's next lecture will be on the "Evolution of a seed plant."