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ADV. 13. 12. 28

RHODES SCHOLARS.

By AUSTRALIAN.

The recent appointment of a Rhodes Scholar for South Australia is an opportune occasion to enquire whether or not the whole system of Rhodes Scholarships is worth while. This is a question which has of late years been raised sufficiently often to suggest that perhaps all is not as it should be. It is not proposed to discuss the question which has been raised in England—whether the Rhodes system has been beneficial or otherwise to Oxford. Cecil Rhodes was of the opinion that, if certain young men of different countries could associate with one another for a few years in the environment of Oxford, a spirit of understanding would so grow up among them that when, later, they had returned to their own countries they would be a powerful force for good, and an aid in bringing about a mutual respect for other nations' points of view. There are few who would quarrel with the idea. But has it been achieved?

Now what is undoubtedly the essential for the success of the scheme is the correct choice of men. Those whom Rhodes had in mind were men who in later life would be leaders; not necessarily perhaps men in public life, but preferably so. They were to be men who would form national policies, and who, owing to their contact with similar men abroad, would have a kindlier feeling towards, and a deeper appreciation of other nations' attitudes. If these men were not actually leaders themselves, at least they were to carry sufficient weight in their communities to be factors in the formation of public opinion. As such, Rhodes Scholars would be of service, not only to their homelands, but also to the community of nations as a whole. It is, then, a legitimate question to ask whether this system has been of the intended service to Australia and thus to South Australia.

How many leaders of the Commonwealth or of the State are ex-Rhodes scholars? It would be worth while for this query to be properly answered, and further, it could, and should, be determined whether Australia has not lost more than it has gained by the system. Unfortunately the average ex-Rhodes scholar whom the public has in mind is a quiet, retiring professional man or schoolmaster, and only too frequently he is not living in Australia at all. Instead, in the latter event, of being a gain, he is a definite loss to the country. The reason is not far to seek. It lies in the choice of men—both the men themselves and the manner of their selection. It ought to be an understood thing that an Australian Rhodes scholar should, after his three or four years study and life abroad, return to Australia, so that Australia may have the benefit of the better man that he is or should be. The scholarship should never be regarded purely as a means of self-advancement. The national obligation which is shouldered directly the scholarship is accepted should not be forgotten. Too often, however, the personal end seems to be the only one seen by the recipient. In what way can this scholarship be of benefit to him seems the common query, and the result is that he, being usually a man above the average, frequently accepts at the end of his course a position elsewhere because other countries can offer higher remuneration.

This, however, is only one side of the question. It is not always that the recipient is so mercenary. Probably all against whom this legitimate complaint may be directed would be of greater service to Australia if they were chosen at a proper time. It is not only a question of choosing the right men; there is also to be considered the manner of their selection. They should be chosen at that period of their career most suitable. And it is here that the present system appears to fail. With hardly an exception, if there is one, the Rhodes scholars from this State have been chosen after they have completed a University course. The result is that they are of an age which means first, that they do not mix as well as could be hoped with their fellow students at Oxford, and secondly, that they are too old, in most cases, for the extra period of University study to be beneficial. It is a significant fact that the majority of Rhodes scholars—at least of recent years—appears to be composed of medical or scientific men. The explanation is that it is to men of this class alone that the extra years (after they have graduated), if spent abroad, will be of advantage. Men of other faculties consider that the time spent would be a handicap; hence they are not applicants. For it must be admitted that while a Rhodes scholar should not consider his own ends entirely, he is frequently not in a financial position to be able to spend years abroad which would handicap him in earning a [illegible] by postponing the time in which he may start to do so. A law student is, for example, admitted to the bar in South Australia. For him to go abroad for a term of years will perhaps give him a return in the broader outlook gained through experience. But the majority of young lawyers cannot afford the loss of time. The time spent abroad would mean that, on their return, they would find their contemporaries had outstripped them.

Thus the applicants are generally men to whom post-graduate work will be useful. This limits the applications to future schoolmasters, university professors, medical men, and scientists. Many, after their years of specialisation, find that they have climbed the tree of knowledge so high that there are only a few branches with good positions left for men of their mark, and that they must take these where they may. Unfortunately this is only too often in countries other than Australia; generally England. Certainly, Australia may gain in repute, but even if this is so it is hardly a sufficient compensation, and at any rate it is not what Rhodes intended. The difficulty at present is, therefore, that there are few occupations where a post-graduate course can be of service. If the men were selected before they started on their university course, then these considerations would not arise, no matter what career the scholars intended to follow. They could finish a course abroad in the same time as a contemporary here, and without being delayed in their eventual start of earning a livelihood, a handicap which at present only a man of means can afford to overlook. What is more, Australia would lose fewer men. The scholarship would become possible for many to whom it is now out of the question, and, conceivably, they might be those who would later play a greater part in public life than is at present the case.

ADV. 14. 12. 28

A GEOLOGICAL SURVEY.

AN IMPORTANT FIND.

ANCIENT SEA ANIMAL.

Professor Sir Edgeworth David, of the Sydney University, has been spending the past week in South Australia as the guest of Professor Walter Howchin and Sir Douglas Mawson. The object of the visit has been chiefly to examine, in company with Sir Douglas Mawson, the areas near Adelaide in which Professor David recently discovered a wonderfully interesting group of fossilised marine animal life, belonging to a period estimated by radio-active evidence to be six hundred millions of years old. Sir Douglas Mawson, with his chief lecturer, Mr. C. T. Madigan, have explored, with Sir Edgeworth David, the country in the vicinity of Tea Tree Gully, and more particularly round the Beaumont quarries, near Burnside.

"Sir Douglas Mawson will take up the exploiting of that discovery, and it is anticipated that, inasmuch as the strata in the Flinders Ranges, to the north of Adelaide, where Sir Douglas will have a University geological party working this summer, are much less altered by heat and pressure than are the rocks near Adelaide itself, much better specimens will shortly be forthcoming of these interesting fossil animals than have hitherto been obtained." That view was expressed by Professor David in an interview on Thursday. He stated that no perfect specimens had been discovered, but almost sufficient material had come to light to admit of the restoration of that extraordinarily interesting old type of animal. The type was of the nature of an ancestor of the well-known marine animal known as the King crab, which was fairly abundant on the American coast of the Atlantic Ocean, and in the Malayan and Japanese seas. Its ancestor was known as the Eurypterid, a kind of extinct lobster, which was abundant in the sea-sediment, which was later compacted into rock to form the Mount Lofty and Flinders Ranges. In the Beaumont quarries Sir Douglas Mawson discovered last Tuesday a belt of rocks in which small fragments of those animals occurred at the rate of about 2,000 pieces to the square foot. Obviously then in remote times the seas near Adelaide must have carried many hundreds of those lobsters to the acre. Specimens obtained in the last few days, added to the knowledge of those extinct creatures, in that they showed that the width of their bodies at the thickest part was three to four inches, and that they were probably over a foot long. They were the most highly organised animals in the world of their time, and dominated other living creatures, especially the sand-worms, which were numerous at that epoch. Many of the most eminent zoologists considered that those marine animals were the direct ancestors of the vertebrate, from which man himself was descended. Extraordinary interest therefore attached to these Adelaide fossils from the point of view of evolution, and the scientific world would eagerly await the result of Sir Douglas Mawson's further investigations.

Relic of Ice Age.

Professor David said an additional interesting feature of the discovery was the fact that that ancient marine fauna was in part, at any rate, coexistent with a stupendous ice age. Evidence of that had been worked out in masterly fashion by Professor Howchin, who for many years had followed the immense glacial deposits left by ice sheets similar perhaps to those of Antarctica, which covered a large area of south-eastern Australia, particularly in the region of Broken Hill to Tiboo-burra, and also perhaps in the Gawler Ranges. Those ice sheets extended respectively westwards and north-east-wards into what was then an immense sea, the floor of which had subsequently been raised so as to create the Mount Lofty and Flinders Ranges. Icebergs breaking off from that ice-sheet or group of confluent glaciers, dumped a vast amount of glacial debris in the form of ice-scratched pebbles or the large angular blocks known as erratics on to the floor of the sea. The mud of that ancient ocean, largely overspread by the glacial deposits, had now been hardened into rock, and had been forced up in mighty folds of the earth's crust, building a great range of mountains along the land from Mount Lofty to the extreme north end of the Flinders and William Ranges, the latter near Lake Eyre. Those ranges were formerly immensely higher than their modern residuals, the old alpine range having been worn down to its present plateau shape as the result of exposure to the destructive action of the weather for millions of years. Professor Howchin had shown that those glacial deposits, or tillites as they were called, were strongly developed in the Sturt Gorge, near Adelaide, and especially at Peterborough and Pekina, from which localities they could be followed northward to near Lake Eyre and eastward to near Broken Hill. The president of the Geological Society of London (Professor J. W. Gregory), in a letter received recently by him (Professor David), had stated that he considered that the extremely ancient glacial deposits described by Professor Howchin were the only well authenticated glacial deposits of such high antiquity and extensive development as yet recorded from any part of the world. It would be extremely interesting to study the reaction of the coming on of the glacial conditions on those ancient and widely-distributed, lobster-like marine fauna near Adelaide, Professor Gregory had remarked.

"So far," said Professor David, "the fauna mentioned has been found to be apparently entirely restricted to the strata which underlie the glacial beds and which, therefore, were formed, presumably, before the coming on of the great ice age. For example, as yet no trace of them has been found in the slatey rocks of Tapley's Hill, which are newer than the glacial deposits of the Sturt Gorge and which overlie them. Neither has any trace been found in the still newer rocks of Reynella and Brighton, where the marine limestones are so extensively worked for the manufacture of Portland cement. It may be suggested, then, that possibly the intensity of the cold drove the eurypterids away from Adelaide waters as the great refrigeration gradually developed itself. It may be added that in later geological times the eurypterids became the largest of all the crustacea, actually attaining a length of from seven to eight feet, as has been proved in the case of the old red sandstone in Scotland, in which fossils of this kind and size have been discovered, their skeletons being in quite a good state of preservation. With reference to the rocks of Brighton and Reynella, I have recently received a letter from Professor Charles Lipman, who occupies the Chair of Plant Physiology at Berkeley University, California. In it he asks if any fossil plants, particularly of a spore-bearing nature, have been found in rocks like those previously mentioned, as, if so, he would like to test them for the possibility of some of the spores still retaining sufficient vitality to admit of their being cultivated so that they may germinate and multiply."

An Astounding Claim.

Professor David said in the September number of the scientific magazine called "Science," Professor Lipman made the astounding claim, supported by good evidence, that he had obtained living, or potentially living, plant spores from the rocks of the Grand Canyon of Western America, as well as from strata of similar age in Canada. In both cases the spores were isolated by the professor from the rocks, which were of the pre-Cambrian age, and probably not younger than the rocks of the Adelaide series, the latter, as already stated, dating back to perhaps some 600,000,000 years ago. For the past 18 months Professor Lipman had been experimenting on the fossil spores, and had had time repeatedly to verify the accuracy of his results. He had found that, after following an elaborate technique, about to be described by him in a paper, he had been able to cultivate the spores and watch their germination. Professor Lipman warned his scientific colleagues that, in spite of all his precautions, he was not as yet absolutely certain that some of the spores might not have been of recent origin, and had floated in during the few moments that he had had his cultures exposed to the air. Nevertheless, he was confident that by far the larger number of the spores at least had genuinely come out of the very old rock mentioned. Professor Lipman had stated that the spores were of a type such as belonged to the fungi, but that they were unlike any spores of recent fungi known to him. In a general way, however, they somewhat resembled the spores of the fungus known as Actino myces.

"Professor Cleland, of the University of Adelaide, informed me," remarked Professor David, "that the spores of that modern fungus were responsible for causing 'lumpy jaw' in cattle. He considered that Professor Lipmans' experiments had yielded results not necessarily beyond the bounds of possibility, provided the spores of the fungus had been so hermetically sealed up in the rocks that they had practically undergone no change since the time of their entombment millions of years ago. At the same time both he and I stress the point that great caution is needed before such startling results can be accepted as absolutely proved. If proved, they will render it possible for scientists to cultivate either noxious fungi of high antiquity, like the Actino myces just mentioned, or to propagate possibly many useful forms of plants which became extinct millions of years ago. The discovery, if confirmed, abounds in most fascinating possibilities."

Professor Sir Edgeworth David will leave on his return to Sydney today.

ADV. 15-12-28

PUBLICATION OF SCIENTIFIC PUBLICATIONS.

Some time ago urgent representations were made to the Council for Scientific Industrial Research on the necessity for obtaining funds to cover the cost of publication of certain highly important pieces of scientific work which had been carried out by Australian workers. One particular instance was the "Study of the Meteorological Results of the First Shackleton Expedition," which had been completed by Dr. Edward Kidson, formerly of the Commonwealth Meteorological Bureau. Another interesting work dealt with the "Rain Forest Trees of Queensland," and others were mentioned dealing with geological problems of considerable importance to Australian science. It was pointed out that it was beyond the financial capacity of any of the Royal Societies or other scientific bodies to publish works as extensive as these, nor could any commercial publishing house be expected to accept them, since the number of purchasers would be limited. The Council for Scientific and Industrial Research, supported by the Meteorological Bureau, the Forestry Bureau, and the Solar Physics Observatory, approached the Commonwealth Government, and requested that a sum of £1,000 per annum should be made available to meet the cost of publishing highly meritorious work which was beyond the means of scientific organisations. The Prime Minister provided £1,000 on the Estimates for the current year, and appointed a committee, consisting of Dr. A. C. D. Rivett, representing the Council for Scientific and Industrial Research; Mr. H. J. Sheehan, representing the Commonwealth Treasury, and a nominee of the Australian National Research Council to administer the fund. This committee is now prepared to consider manuscripts which may be submitted. It will, of course, seek the assistance of thoroughly competent authorities in the subject matter of theses submitted. Only work of a very high order of merit will be considered, and then only if it is shown to be quite impossible to secure publication through any of the usual channels.

REG. 17-12-28

UNIVERSITY COMMEMORATION.

The annual University Commemoration will be held in the Elder Hall on Friday at 3 p.m., when candidates of the University of Adelaide and graduates of other universities will be admitted to degrees. The public will be admitted by ticket, and all ticketholders, other than members of the council, senate, and staff are asked to take their seats not later than 2.50 p.m. The Chancellor (Sir George Murray), will preside.