

THE SCIENCE CONGRESS.

The average man seldom penetrates far into the domain of science and philosophy, and therefore probably does not always realise sufficiently the debt he owes to those who labor in these fields. Hence the importance and usefulness of the Australasian Association for the Advancement of Science, which has been holding its eighteenth congress at Perth. If one object sought to be attained by these gatherings is to promote intercourse between the cultivators of science, another is to gain for their labors more general recognition from the public. In Australia, as Professor Rennie in his inaugural address demonstrated, men of science enjoy a distinct field for investigation which promises an ample return for the labor expended upon it. Several of the papers, and his own among them dealt with the application of science to industry, a matter which has long engaged the attention of the public and latterly of legislators also. The growth of flowers for the perfumes and oils to be extracted from them, though not a new subject, is one that deserves more notice than it has received, and the conference was indebted to Professor Rennie for an instructive and interesting paper on "The chemical exploitation, past, present, and future, of Australian flowers." Where we have so much land to be tilled and such vast natural resources and pastoral possibilities to be exploited, it is perhaps hardly to be expected that any considerable section of landholders would turn aside from the pursuits thus opened to them to engage in the art of perfume production. Of course, it is not desired that any considerable section of the population should do anything of the kind, but it remains true that where, say, the boronia magastigma grows so profusely as it does in Western Australia, there are possibilities of remunerative employment of capital and labor to which Australians should be grateful to Professor Rennie for calling attention.

With the professor's further plea for a more vigorous policy of afforestation in all parts of Australia there will be general agreement. The establishment of a School of Forestry at Canberra is one of several evidences of the awakening of a "forest consciousness," but Professor Rennie rightly dwells on the need of much more extensive plantations of timber by the various Governments if future supplies are to be assured. The Royal Commission on Secondary Industries in this State recently directed attention to the possibility of utilising the tanning properties of the whole wattle tree for the production of tannin extract, instead of simply taking the bark. Is it too much to ask, with Professor Rennie, that "in any scheme of afforestation regard may be paid not only to the supply of timber, but also to the study of conditions under which other products can be conserved?" He admitted that it was possible that with the progress of organic chemistry some of the substances of which he had been speaking might be manufactured more cheaply than they could be obtained by present processes, but it did not appear that this would be probable in the near future. Synthetic methods are responsible for many results which a few years ago would have been regarded as improbable, but, on the other hand, new uses are continually being found for materials which have been displaced. And in any case an unjustifiable risk would be incurred if preparations were not made for the supply of apparently necessary substances on the ground that they might possibly be supplanted by some other commodities or made by some other process. Professor Rennie's demand for increased attention forestry was reinforced by Mr. Lane Poole in a paper before the agriculture and forestry section, of which he is president. "Forestry is agriculture on a long rotation," said this authority. "Crops are grown again and again." In this respect one generation owes a duty to its successors. Supplies may be used up without impoverishing the people yet unborn if plantation is carried out on an adequate scale. At least we ought to aim at making the Commonwealth

independent of supplies from outside sources.

The papers, as usual at such a gathering, covered a wide ground, and while to South Australians the one summarizing the latest additions to our knowledge in the field of organic chemistry possesses special interest, as being the work of Professor Brailsford Robertson, of this State, it has a claim to attention on its own merits. Life is proverbially so sweet that, unless racked with pain or threatened with ruin or loss of reason, man is loth to surrender it. "All that a man hath will he give for his life" is an apothegm as true now as when thousands of years ago it was uttered by the Biblical sage. For ages the search has been for an "elixir of life." It was a vain quest, because those engaged in it were wholly unaware of the direction in which to look. The biologists are now much better informed. We carry within us the seeds of natural death in the shape of destructive cells, the removal of which, could it be effected, would render us potentially as immortal as the amoeba and other unicellular organisms now are. By cell transplantation and the use of extracts from the pituitary gland it has for some time been found possible to prolong the duration of life among rats and mice; and lately the same end has been achieved more effectively still by the administration of a superabundance of nitric acid manufactured from animal tissues. The control established over life and death may not yet amount to much, but that it should be established at all is a tremendous fact, bringing as it does into view possibilities which a few years ago were undreamt of. Professor Robertson does not hesitate to say that the experiments which now only concern the creatures Shakespeare designates the "small deer" of the biological world, may some day be found to affect the lives of persons, societies, and nations, to whom a new lease of existence will be given. It will be remembered that Metchnikoff had no doubt that science would some day enable mankind to attain the span of existence he was convinced nature had intended for them, and which he put at 120 years. His plan was to counteract the poisons in the intestines by a liberal consumption of sour milk. His theory was that when the natural span of life had been covered the King of Terrors would lose his name, and might even be welcomed as a friend. It may be doubted. It will be remembered that Schopenhauer, who began by questioning whether life was worth living, found that the older he got the less became his desire to die. As he realised the flight of the years he consoled himself by recalling the number of centenarians. If another scientist, the late Russel Wallace, may be credited, Methuselah runs no risk of having his record broken, and it would be a bad thing for the race if Death were really conquered. For, as he contended, it has always been through death that the higher forms of life have been produced, and if the dream of the savants is to be fulfilled, and the earth to be peopled by supermen, it is only through the disappearance of our "lesser breed" that room will be found for them.

FODDER GRASSES STUDY.

South Australian Experiments

PERTH, Saturday. At the Science Congress Professor T. G. Osborne, D.Sc., of South Australia, in a paper on "The factors influencing the regeneration of vegetation in the arid parts of Australia, with under 10 in. of rain yearly," said that the pastoral industry made use of native vegetation for feeding its animals, and the continued prosperity of the industry was intimately bound up with the study of arid plant life. The Koonamore vegetation reserve in South Australia was an area of 1,500 acres, which had been vermin-proof fenced, and handed over to the University of Adelaide by the owners of Koonamore Station, for research conducted by the Department of Botany. An adjacent field laboratory had been built by the donors and equipped by the University for the work. It was the first of its kind in Australia. Work was begun this year upon the area, which was a typical piece of over-grazed salt bush and blue bush country. At the outset the regeneration of the natural flora was being studied by means of a detailed survey of selected spots taken at regular intervals. As the work developed it was intended to conduct grazing tests on selected plots, and build up a body of scientific data that might be a guide to pastoralists. Full results could not be expected for some years. He gave warning that on no station should grazing be carried to such an extent that the natural permanent vegetation was destroyed, or its reproduction imperilled. There were no plants known so well suited to act as fodder in our arid regions as the natural and peculiarly Australian salt bush flora.

MAIL 28 8 26

Musical Appreciation

It is the intention of the Conservatorium authorities next year to inaugurate teachers' courses in musical appreciation and aural culture, the study of which is the only modern way of approaching musical understanding. Miss Ivy Ayers' classes have been so successful since her arrival in Adelaide that an extension of her work is contemplated. An eminent English musician has said that a merely mechanical practising of the piano has as much relation to the appreciation of music as working a typewriter has to the understanding of English literature. The first essentials of musical understanding are ear and rhythmic training. A sensitive ear and a rhythmic response are either inborn or must be cultivated. To feel the rhythmic beats of a time signature and to hear mentally the written music is to establish a personal relation to music, which dreary hours of practice and the memorising of textbook principles will never achieve. The latest methods of musical training advocate one or two years of preliminary training in musical perception and rhythmic training as a prelude to the study of an instrument, and in this matter parents need first to be converted. If they will concede that point and postpone the proud moment when their child will play its piece, what a different thing music will become to the young folk, and what different teachers will in many cases develop. Frankly, as in all other progressive concerns, they will either have to keep up to date or get out. The whole delight of painting lies in its appeal to the eye and the content of music lies in its understanding appeal to the ear.

REG. 3 9 26

SOUTH AUSTRALIAN ORCHESTRA.

To the Editor.

Sir—It is a matter of regret to the executive that the fifth concert of the orchestra, originally planned for this coming Saturday evening, has (owing to the referendum poll at the Town Hall) to be postponed until next Wednesday, September 8. We sincerely trust that our many friends will realize the altered date to be beyond our control, and, further, that they will not allow it to affect their attendance. A magnificent programme of favourite works has been arranged, including Wagner's "Tannhauser" and "Meistersingers Overture," and the "Steersman song" from "The Flying Dutchman," to be sung by Mr. Fred Stone, with orchestral accompaniment. In addition to these, there will be a first hearing of Percy Grainger's clog dance, "Handel in the Strand," and charming works of the Russian composer Borodine. We hope, therefore, that in spite of the unavoidable change of night, there will be a full house to greet Mr. Boote and his splendid band.—I am, Sir, &c., E. HAROLD DAVIES.

NEWS 28 8 26



Mr. F. G. Holdaway, M.Sc.

assistant lecturer in the department of zoology at the University of Adelaide, who has been appointed to one of the travelling studentships in economic entomology of the Council for Scientific and Industrial Research.

bridges, and railways had made the... phase of life was affected by the operation of both professions, and each played an important part in nation building. Members of both professions rarely



Sir Charles Rosenthal.

received adequate monetary reward for their services, but gold was not all, and to the man who loved his profession the knowledge that his services were being employed for the general good of the community, and that engineering and architectural monuments were continually being erected testifying to his skill, was a magnificent reward, which was truly valued, and was not evanescent. He would be glad to see more of such men taking their rightful place in the Parliaments of the Commonwealth and States. Their counsels would be of the greatest value, and their influence incalculable in assisting to guide the destinies of this young but growing nation.

Regeneration of Eucalypts.

Notes on the natural regeneration of eucalypts were contributed by Mr. S. L. Kessell (Western Australian Conservator of Forests). Dealing with the popular misconception that the seed of nearly every indigenous species had to pass through fire in order to germinate, he said it was a safe generalisation to state that a strong surface fire in a eucalypt forest destroyed practically all eucalypt seed except that carried by the tree at the time. After the fire natural regeneration was dependent on seed dropped from living or recently ring-barked trees on the area burnt or on adjoining country. In treating any eucalypt forest for regeneration, burning operations should be postponed until the seed trees on or around the area under treatment were carrying a crop of mature seed. The fire affected seedfall by assuring that the whole of the available crop of seed should fall more or less simultaneously instead of the fall being spread over possibly two or three years. The mineral ash resulting from heaps of debris burnt during a fire might provide plant food in an insoluble form, and this might act as a valuable fertilising agency, which appeared in certain dry forest types to make the difference between success and failure. Tests had proved that the seed failed to germinate when sown on a thin surface layer of ordinary commercial grades of superphosphate, potassium sulphate, and blood and bone manures. Other factors, such as root competition from woody undergrowth, or even annuals, which were largely eliminated by a heavy burn, were more or less controllable by clearing and cultivation. This question was worthy of further detailed study, as the solution would appear to offer possibilities in connection with the difficult problem of the economical re-establishment of certain eucalypts on out-over country where seed supplies were limited and expensive. But the problems of nature discussed in his paper required attention by a properly organised silvicultural research institution.

MAIL 4 9 26

Professor Tucker

Adelaide University is exceedingly fortunate in having secured the services of Professor T. G. Tucker to take charge of the department of classics during the absence of Professor Darnley Naylor in England next year. Professor Tucker held the chair of classical philology in Melbourne University for 34 years, retiring in 1919. He is the author of classical works, which are regarded by the leading scholars of Europe and America as substantial contributions to the sum of the world's knowledge. In 1890 he received the degree of Doctor of Letters of Cambridge, and two years later the honorary degree of Doctor of Letters of Dublin in recognition of his Greek publications. Professor Tucker is 67 years of age. At 24 he was appointed the first occupant of the chair of classics and English in Auckland University College, New Zealand.