

GEOPHYSICAL SURVEYS.

Tests in Australia.

Sir Edgeworth David's Approval.

FREMANTLE, Tuesday.

"There can be no doubt that the whole of the scientific world will watch with great interest the results of these geophysical surveys in the Commonwealth," said Sir Edgeworth David, the famous Australian geologist, who passed through Fremantle to-day on the Moldavia.

Sir Edgeworth is returning to Sydney after having spent about two years in England. During an interview on the vessel he said that one of the principal matters which had interested the scientific world during recent months was the appointment by the Earl of Balfour of a research committee to enquire into the application of geophysical methods to the discovery of all deposits not visible on the surface, but which exist at some depth below the surface.

The committee, of which he (Sir Edgeworth) was a member, sat in London, and it was recognised that there were certain methods, especially the electrical method, of locating sulphide ore deposits, which had yielded remarkable results in Rhodesia. In that country no fewer than 20 ore deposits, completely concealed from view by considerable thickness of alluvial deposits, or decayed rock, had been located by the distinguished mining geologist Mr. Broughton Edge. In the cases of six of those deposits diamond drill bores, put down subsequently, had proved the actual existence of the deposits and shown them to be exactly the length and width indicated by the electrical survey. It had been decided by the geophysics committee to recommend Australia as a country to be chosen within the Empire in which to conduct experiments similar to those which had proved so successful in Rhodesia, it being understood that the expenses of the surveys would be shared by the Commonwealth Government and the Empire Marketing Board. The services of Mr. Broughton Edge had been secured for two years on the understanding that he was to train the most suitable Australian scientists in his methods.

Without in any way suggesting that the following areas were more suitable than others for the use of the electrical method, it might be pointed out, continued Sir Edgeworth, that in belts of country carrying large deposits of sulphide ore, like Broken Hill, Mount Isa, Wiluna, Yilgarn, and that part of South Australia bearing sulphide copper ore deposits, the employment of scientific methods of locating deposits might be attended with very important results.

THE LIEUTENANT-GOVERNOR.

The Chief Justice (Sir George Murray) was sworn in as Lieutenant-Governor on Tuesday morning. The ceremony took place in the Executive Council chamber and was attended by the Premier (Hon. R. L. Butler), the Chief Secretary (Hon. H. Tassie), the Commissioner of Public Works (Hon. M. McIntosh), the Minister for Agriculture (Hon. J. Cowan), and heads of departments. The Commission appointing the Lieutenant-Governor was read by the Clerk of the Executive Council (Mr. H. Blinman) and the oaths were tendered by the Master of the Supreme Court (Mr. W. L. Stuart), and administered by the senior Judge (Mr. Justice Angus Parsons). The oaths taken by Lieutenant Governor were those of allegiance, office, and fidelity.

THE UNIVERSITY COMMEMORATION.

The annual commemoration ceremony of the University for the conferring of degrees and diplomas on successful students at the recent examinations will be held in the Elder Hall on Wednesday afternoon, December 14. The Chancellor of the University (his Excellency the Lieutenant-Governor, Sir George Murray) will preside. The public will be admitted by tickets, and all ticket-holders, except members of the council, senate, and staff, are requested to take their seats not later than 2.30 p.m. Members of the senate, council, and staff are requested to assemble in the basement of the Conservatorium not later than 2.40 p.m. and to wear the academic costume proper to their respective degrees and offices.

Dr. Benjamin Johnston, son of Mr. J. B. Johnston, of Port Pirie, has won the degree of Fellow of the Royal College of Surgeons (states our Port Pirie correspondent). Dr. Johnston, who is 29 years of age, graduated at the Adelaide University in 1924. He has had a brilliant scholastic career. He began his education at the Port Pirie West Public School, was afterwards at the Port Pirie High School, and went from there to the Adelaide High School. After graduating at the Adelaide University he practiced for a year at the Adelaide Hospital and Children's Hospital. He secured the degrees of M.B. and B.Sc. at the University and went to London in 1926. Last year he won the Diploma of Licentiate of the Royal College of Surgeons and became a member. At the University he excelled at tennis, golf, and lacrosse, representing the University for five years in the latter team. Dr. Johnston is expected to arrive in Australia at an early date. In London he has been doing locum tenens work.

MASTER OF SCIENCE

First Woman Graduate

MISS MACKLIN TRIUMPHS

To be the first woman to qualify for the degree of Master of Science at Adelaide University is an honor achieved by Miss Ellen Dulcie Macklin, younger daughter of Mrs. and the late Mr. H. P. Macklin, of College avenue, Prospect.

On December 14 at the annual commemoration she will appear in all the glory of the distinction and will be admitted by the Chancellor to the rank and privileges of the degree.

Miss Macklin was educated at Adelaide High School, and became an undergraduate in the science course at the University in 1921. While at school she sat for the junior University examination (now known as the intermediate) for eight subjects, passed in all, and gained a credit in English. In the senior (leaving) she passed in nine subjects and obtained a credit in botany, and in the higher public (leaving honors) passed in three and again received a credit for her botany paper.

At the end of her first year at the University Miss Macklin was awarded the John Bagot Scholarship for botany, as the candidate with highest marks for the year. She graduated Bachelor of Science in 1924 with first-class honors in botany and gained the Ernest Ayers scholarship for the most brilliant student in that subject.

This enabled her to continue her studies and research work, and she has recently completed a review of the shrubby species of the Casuarina (sheoak) trees. For the past two years she has been demonstrator in botany with Prof. T. G. B. Osborn at Adelaide University.

Miss Macklin has always had a flair for study, which she probably inherited from her father who, with the late Mr. Thomas Caterer, conducted a school at Semaphore. From her grandfather, the late Mr. Andrew MacCormac, of North Adelaide, artist and scholar, she inherits her talent for drawing, which she finds so useful in her research work. Mr. MacCormac has left mementoes of his gift in the gallery of portraits of Speakers, about a dozen of which adorn the walls of the Legislative Council Chamber.

Women in Law and Science

When Misses Sheila Maddeford and Mabel Goodhart are admitted to the South Australian Bar on December 16 the number of Adelaide Portias will be nine, which is a creditable fact for our city. Miss Goodhart is not going to settle down immediately to the mysteries of torts, equity, and all the other abstruse problems which beset the path of members of the legal profession.

Her parents think she should see a bit of the world first, so in January she will set sail for London, where she has an uncle who will show her round.

To Miss Ellen Dulcie Macklin belongs the honor of being the first woman to gain the degree of Master of Science at Adelaide University. Her speciality is botany, and what she doesn't know about plants and flowers is a negligible quantity.

—"CANDIDA."

BENZINE FROM COAL.

**Views of Dr. S. W. Penny-
cuick.**

According to a cablegram in The Register, as the result of experiments in Germany, it is now possible to recover from the tars of brown coal, and primary tars of shale oil, from 20 to 50 per cent. of benzine, sufficiently refined to go direct to a petrol engine. In view of the large deposits of brown coal which exist in Australia, and the importance of a petrol supply to this country, the opinion of Dr. S. W. Pennycuick (Lecturer on Physical Chemistry at the University of Adelaide) was sought in regard to the matter. Dr. Pennycuick said that for several years there had been a process known as the Bergius, by which benzine or petrol was obtained from coal, brown or other variety, by treating it at a high temperature and pressure. However, it all came down to a question of cost, and that process was expensive. As soon as petrol supplies got scarce such a process would become of great value. There were other processes of which a good deal was heard, but there were no clear scientific details regarding them available. No experiments in that direction were being carried out here on the industrial side, as they had no industrial plant, but when the new chemistry building was erected, it was hoped to incorporate industrial laboratories in it.

The "Cracking" Process.

The particular case mentioned in the cablegram, added Dr. Pennycuick, was the outcome of German scientists' work for the past 18 months, and the "cracking" process was always applied to the heavier fractions of mineral oil distillation in order to produce an extra quantity of petrol. "Cracking" was simply heating to a high temperature, and was evidently being applied to certain coal tars. There was no doubt that it could be done, but the whole question resolved itself into whether it was a payable commercial proposition. If our petrol supplies gave out, we would have to turn to coal. He thought alcohol would be the great driving power in the future, but it would be expensive converting the present petrol-driven engines to its use. The experiments which were being undertaken in Germany were due to the lack of oil in that country.

Synthetic Fuel.

Under the heading "Synthetic Fuel at Last," the most recent copy of The Chemical Age states:—"The enquiries whether the synthetic fuel produced in Germany amounts to a commercial proposition are partly, at least, answered by a report from Berlin. This indicates that Herr Kimpel, the winner of two events organized by the German Automobile Club on a five-mile track in the Taunus, near Frankfurt, used synthetic motor fuel, produced by the I. G. Farbenindustrie at the Leuna works. As he succeeded in beating his own record, set up at last year's meeting, it may be presumed that it worked satisfactorily, and this is in accordance with what we have heard from time to time about the fuel produced broadly on the Bergius principle, as modified and adapted by the I. G. in its experimental work. A solitary achievement of this sort, though notable, does not carry us commercially very far. To produce a few gallons for an experimental trial is obviously a very different thing from regular production in commercial quantities. Moreover, the vital question is whether the new fuel can yet be produced in quantity at a competitive market price. Until information is available on these points, the significance of a single racing success cannot be determined. A point, however, not to be overlooked is that the Germans are pegging away at the problem."

UNIVERSITY COMMEMORATION.

The annual commemoration of the University will be held in the Elder Hall on Wednesday next. Degrees will be conferred upon candidates of this University and graduates of other universities. The public will be admitted by ticket, and all except members of the council, senate, and staff are requested to take their seats not later than 2.50 p.m. The Chancellor of the University will preside. The senate and council will leave the concert room at 2.50 p.m., and proceed to the Elder Hall in the following order:—Clerk of the Senate, Bachelors of Music, Bachelors of Science, Bachelors of Engineering, Bachelors of Arts, Bachelors of Dentistry, Bachelors of Medicine, Bachelors of Laws, Masters of Arts, Masters of Science, Masters of Engineering, Doctors of Music, Doctors of Science, Doctors of Dentistry, Doctors of Medicine, Doctors of Laws, Warden of the Senate, Teachers of the Elder Conservatorium, Lecturers of the University, Professors of the University, the Registrar, Council and Members of Boards, the Vice-Chancellor, and the Chancellor.

NOBEL PEACE PRIZE.

According to information relating to the Nobel Peace Prize for 1928, received by the Prime Minister, all proposals of candidates for the prize, which is to be distributed on December 10, 1928, must, in order to be taken into consideration, be laid before the Nobel committee of the Norwegian Parliament by a duly qualified person before February 1 next. Any one of the following persons is held to be duly qualified:—(a) Members and late members of the Nobel committee of the Norwegian Parliament, as well as the advisers appointed at the Norwegian Noble Institute; (b) members of Parliament and members of Government of the different States, as well as members of the inter-Parliamentary Union; (c) members of the International Arbitration Court at The Hague; (d) members of the Commission of the Permanent International Peace Bureau; (e) members and associates of the Institute of International Law; (f) university professors of political science and of law, of history, and of philosophy; and (g) persons who have received the Nobel Peace Prize. The prize may also be accorded to institutions or associations. According to the code of statutes, grounds upon which any proposal is made must be stated, and handed in along with such papers and other documents. Every written work to qualify for a prize, must have appeared in print.

The Council of the University of Adelaide have invited Dr. A. W. Hill, C.M.G., F.R.S., to accept the degree of D.Sc. in eundum gradum. Dr. Hill will be visiting Adelaide next week, and has accepted the honor. The degree will be conferred at the forthcoming commemoration. Dr. Hill is Director of the Royal Botanic Gardens, Kew, which is the premier botanical institution of the Empire and a Mecca for all botanists visiting England. He is making a tour of Australia and New Zealand on behalf of the Empire Marketing Board, to enquire into botanical matters in the Dominions. Dr. Hill is 52 years of age, and had a distinguished career at Cambridge, becoming Dean of King's College. In 1907 he was appointed assistant director of Kew, and in 1922 succeeded Sir David Raim, F.R.S., as Director. Dr. Hill's directorship has seen Kew brought into close contact with other botanical institutions by personal visits of the Director. He has been in North America and West Africa. This is his first visit to Australia, and he is the first Director of the Royal Gardens ever to set foot on the continent during the period of his office.

Mr. K. H. Bailey, B.A. (Melbourne), B.C.L. (Oxford), vice-master of Queen's College, Melbourne, has been appointed to the Chair of Law at the Melbourne University, recently vacated by Sir Harrison Moore. Mr. Bailey is 29 years of age. He was dux of Wesley College, senior prefect and captain in 1916. Entering the University of Melbourne in 1917 as a major resident scholar of Queen's College, he won the exhibitions (with first-class honors) in English (part 1), British history, and ancient history. Enlistment interrupted his course. In 1919, after returning to Melbourne, he was elected a Victorian Rhodes scholar, and he entered Corpus Christi College (Oxford) at the end of that year and had a distinguished career.

MEDICAL EXAMINATIONS.

A special meeting of the Senate of the Adelaide University will be held in the Prince of Wales Theatre, University of Adelaide, on December 14, immediately after the conclusion of commemoration proceedings, to consider regulation VII of the degrees of bachelor of medicine and bachelor of surgery, allowed on December 6, 1922. It is proposed to repeal it and substitute the following:—"The ordinary examinations shall be held in or about November, and the supplementary examinations shall be held in March. A special fourth examination shall be held towards the end of May."

UNIVERSITY OF ADELAIDE.

EXAMINATION RESULTS.

FACULTY OF SCIENCE.
FOR THE HONOURS DEGREE OF BACHELOR OF SCIENCE.
Physiology and Biochemistry (second class).—Green, Lorna Mary Alexandra.

THE UNIVERSITY OF ADELAIDE

November Examination Results.

FACULTY OF SCIENCE.
FOR THE HONOURS DEGREE OF BACHELOR OF SCIENCE.
Physiology and Biochemistry (2nd).—Second Class.—Green, Lorna Mary Alexandra.