Wales pests, afforestation proper being left to Canberra. A special point will be made of the training of young scientific workers, which is a very different matter from equipping them with information already available. The investigating habit or instinct is something, it appears, that may be acquired like any other branch of learning. The Universities between them are turning out skilled scientists by the dozen, but, like teaching, research work needs a special training in method. Sir Frank Heath in his report expressed himself as sanguine that when such trained workers were available the openings for their employment would not be limited to those provided by the Institute, but that, as in Britain, America, and Europe, they would find private firms and companies in various branches of industry cager competitors for their services.

There are some who may still belittle he idea of organisation for research, but the day when they could get a hearing rom any sensible person is past. Science s, and ever must be, the parent of inlustry and its stand-by in removing lifficulties as they arise. As examples of s beneficent work. Sir Frank Heath in his report pointed to the promising nature of the investigations now proeeding with regard to prickly pear, punchy top in bananas, and viticulture at Mildura. If his scheme is carried out in its entirety the cost will be £40,000 in the first year, rising by £10,000 a year to a maximum of £100,000. The expenditure may seem large, but no money could be more profitably invested if it aid no more than rid primary industry of pests, whose yearly depredations involve the Commonwealth in losses aggregating millions. To expect that private effort on any scale could compass the vork of the Institute is to calculate on he impossible; yet, as Professor J. S. aldane points out in the "Atlantic onthly" for February, there have been ose who imagined that the path to covery would be sufficiently cleared the prospective cash rewards were de as high as those granted to suciful generals. Were poetic justice Aticable, everyone, including Profes-Haldane, would endorse the reward ery, but the truth, as he tits out, is that discoveries not often made by the unaided exns of one man, and when they are usually take so long to arrive at the discoverer is "too old to enjoy aoney." There is a greater difficulty that discoveries are sometimes years before their econovalue is realised, as was ase with Richardson, who could not e that his demonstration that all netals emit electrons would make as telephony practicable, any more nd Faraday could foretell the emerof of the dynamo from his discovery etro-magnetic induction. Then, so minor discoveries are sometimes d to produce a great one that the d able distribution of a cash reward t be something of a problem. No grudges the Nobel Prize by which aning and Macleod were (inadeely) requited for their discovery of di in, yet it was the efficiency to which d, blood-sugar analysis had been adght by the drudgery of sixty years he undreds of laboratories that enabled 1 to render their priceless service to ed victims of diabetes. This proposal id lace scientists and warriors on the ate footing as regards a pecuniary prowledgment of their services has nd many eminent advocates, among ron Sir Ronald Ross, to be lightly disseed, yet it is difficult to help thinkthat more mischief than good might yw from its adoption, since it would ert energy from sound yet dreary

mels to sensational and often profit-

ones, and science, instead of follow-

the gleam whithersoever it led, might

te itself in pursuit of will-o'-the-

os. No: it is the laborious plodding

Sin Edison, a Faraday, and a Pasteur

st has given the world the finest re-

us, and the best the world can do in

arn is to make easier the path of

ir followers by providing them with

almaginable facilities for research.

Formed. Council

### Important Appointments Made.

MELBOURNE, Friday. Prime Minister (Mr. Bruce) that, in ad-

appointed Mr. J. W. J. Newbigin, of Melbourne, as the other two members of the executive.

liament, that, based upon the recommenda

Commerce Representatives. able scientific training, and is now de- thoroughly in suitable furnaces. tive of commerce and industry on the new countries. organization.

Professor A. C. D. Rivett, who is 40 years of age, was educated at Wesley College and the Melbourne University. He gained the degree of B.Sc. in 1906, and was Victorian Rhodes scholar in 1907. He took the D.Sc. degree in 1913 and his M.A. at Oxford in 1913. He secured first class final honours at Oxford and Melbourne. He was general organizing secittary of the visit to Australia of the British Association for the Advancement of Science in 1914. During 1915-16 he was the registrar of Australian General Hospitals Nos. 5 and 11; during 1917-18 he was process manager of muntions factory at Swindon, Wiltshire. He became a lecturer in chemistry at the Melbourne University in 1911, associate professor of chemistry in 1920, and was appointed professor of chemistry at the Melbourne University when Sir David Masson retired. He is honorary secretary of the National Research Council of Australia.

## REG. 9.4.26

### SECONDARY INDUSTRIES.

# Cheaper Power Problem.

A meeting of the Secondary Industrice Commission was held at Parliament House on Thursday afternoon. There were present Mr. Condon, M.P. (Chairman), the Hons. T. Gluyas and W. Morrow, M.L.C.'s, and Messrs. Anthoney, Harvey, Vardon, and Whitford, M.P.'s.

#### A Petrol Saver.

George Harold During, engineer, ci Hackney, was examined. He stated that he had invented a petrol saver. company controlling it had found difficulty in placing the invention on the market, saving in petrol was from 20 to 25 per cent, in a series of exhaustive tests. almost eliminated tarbonization. A comruns of 20,000 miles. He produced a planshowing the principles of the engine construction, which he explained. The principles would apply to all types of internal combustion engines, and it was thought burning engines.

### A Study in Comparisons.

Robert William Chapman, Professor of Enginering at the University of Adelaide, gave evidence with respect to the application of power to secondary industries. He submitted statements supplied by the Ade laide Electric Supply Company of the rates for electrical power in South Australia, compared with those in other States, which showed that for the supply of cur rent for a load of 10 horsepower for 200 hours a month the respective costs were: -Adelaide Electric Supply Company, £15 15/; Melbourne Electric Supply Company, £15 2/; Electricity Commission of Victoria, £11 11/3; Melbourne City Council, £10 8/ (over a small area); City of Brisbane, £14 16/; Perth, £11 5/ (the Electric It was announced this evening by the Supply Company there having secured a very favourable contract from the Governdition to the appointment of Mr. G. A. ment); Tasmania Hydro-Electric, £10 &; Julius, of Sydney, as Chairman of the Sydney City Council, £10. Adelaide was new Advisory Council of the Institute of at a disadvantage in regard to coul. It Science and Industry, the Government had was not a large manufacturing centre, and of most of the power supplied was for dwell-Sydney, and Professor A. C. D. Rivett ing houses. In Adelaide there were 12 units of power sold for every pound of capital invested, as against 37 units in Melbourne. At present they had practi-Mr. Bruce stated that these appoint cally no available source of power except ments, which completed the personnel of coal, of which there were only three known the new body, were in conformity with deposits, of poor quality, which appeared the statement contained in the Governor likely to be used in the near future, General's speech at the opening of Par namely, Moorlands, Clinton, and Leigh Creek. A commission, of which he was a tions of various experts, the Government member, a few years ago investigated the matter, and recommended the use of the proposed to increase the business of the Leigh Creek coal in powdered form on the Institute of Science and Industry, and to East-West Railway. It was suggested that extend the scope of scientific research in experiments should be carried ou, on a relation to primary and secondary indus specially designed locomotive. If that had been done, it would be possible to keep the mine open, as it provided the best of Mr. W. J. Newbigin, of Sydney, is their coal, Moorlands would be an managing director of William Adams and expensive mining proposition, on account Co., who are agents in Australia for a of the over-burden. A committee enquired number of British firms, including Vickers into the question of its utilization and it and Parson & Co. turbines. He was Past was thought that economic results might President of the Institution of Engineers, be obtained for gas producer purposes. is a member of the Chamber of Commerce The Clinton deposit was rather favourably Council in Sydney, and representative situated on the gulf for the erection of a of the Associated Chambers of Commerce power station, for which supplies of conof Australia. He is on the main com- densed water could be made available. If mittee of the Engineering Standards As- they wished to make use of any of those sociation. Mr. Newbigin has had continter coals they would have to test them out voting most of his time to the commerce would cost up to £7,000. Low-grade coal side of science. He will be the representat was used to a considerabe, extent in other

#### "Not a Sound Condition."

Professor Chapman emphasized the great importance of power in their industries. In America they were utilizing nearly 4 horsepower per operative in their factories. In Australia they were using less than 2 horsepower. In the United States they paid the highest wages; the purchasing power of their wages was the highest in the world, as was also their productivity per man. They did not want to see wages reduced, but if they looked at the curves showing productivity, the capital of the Australian debt, and wages, they would find that wages were rising rapidly; their debt was rising almost proportionately, and money value was increasing, but the productivity as measured in goods produced was decreasing. One felt that that was not a sound condition of things. On the other hand, the curves appertaining to the United States indicated a much more stable position. Their horsepower per operative had been increasing, and their wages were almost proportionate to the horsepower. Australia they should do everything posrible to encourage manufacturers to use power. By their tariff they protected everything which they thought could be manufactured in Australia, Mr. Junus, who had given an interesting address before a meeting of the Institute of Engineers at Hobart last year, pointed out that electricity was a tool by which they could produce, and they should treat it in the same way as they treated tools of trade. Many of the latter were admitted to Australia at considerably reduced rates, while on the other hand all their electrical machinery was highly taxed, with the resuit that when a manufacturer wanted to instal, say a motor, he probably had to pay £150 for an article which might otherwise be purchased for £100. That was not encouraging their manufacturers to use power, and the greatest thing they could do for their industries was to use more. If they added the amount of duty paid on electrical appliances to the wages paid to men employed in manufacturing electrical machinery in Australia, it would mean that the community was paying owing to high manufacturing costs. The about £550 per man yer year. Mr. Julius had further stated that the right thing to do was to allow their electrical ap-Superheated steam was mixed with petrol pliances to come in duty free, and if it were Superheated steam was mixed with petrol regarded as necessary for their purp se as it passed through the carburetter; that they should encourage certain phases that gave a more combustible mixture, of electrical industries in Australia, let which increased the mileage obtained and them do it by bounties instead of by the customs tariff. That was a matter worth plete absence of carbon in the cylinders looking into. If they could reduce the was disclosed upon the removal of the cost of their power and secure a bigger cylinder head of the motor car after test | market, the witness saw no reason why South Australia should not become a large manufacturing State. Mass production enabled greater power to be used, and he did not think they could compete with other countries in the manufacture of motor car engines, for instance, but that they might also be applied to oil- they should be able to treat their own raw materials. There were great possibilities in regard to wool. They could have

centralized stations for the production of

cheaper power,

WAS HURAUE A GREEK? From G. G. NEWMAN.-If peralised. ture in the future some scholar diggers in the mine of Horatan love should unearth a fact to throw fight on the racial descentof Horace, and definitely prove him a Greek, then the big battalions will be discomfitted and the professor's hypothesis become truism. Reading over his courtoous reply, in which he sedulously suppresses all acrimonious acerbity, led away by the lustre and resplendence of his language, and the glamor of his eloquence, one feels like paraphrasing Agrippa's reply to Paul, and saying, "Almost thou persuadist me to be a Grecian" in this matter. But, however hard it is to resist the temptation to let rhetoric displace criticism, we cannot get away from fact. Dr. Schmitz, a former classical examiner in the University of London, in his "Latin Literature," says, "The discussions on the life of Horace, on the time when the different poems were written, and the editions of his works, are countless," Such being the case, scholars must agree to differ. If, when bathing in the waters of mansuetude and truth, which roll from wall to wall in the halls of learning, a professor becomes obsessed with a certain idea, a little healthy discussion clears away any hallucination which may exist. With regard to the professor's comment on bouquets and cabbages, we can only say that his career, from the time when, after his education at St. Peter's, York, he won the Walker Prize in classics when he was 22, and became classical lecturer at Ormonde College, Melbourne, a year later, coming to Adelaide 20 years ago, has been, "roses, roses all the way," and cabbages have been very scarce vegetables, as they are to-day. I am sorry the professor had to excuse himself about the ladies. If the time should ever arrive-which, pray God, it never will-when he does not find them "attractive animals." it will be a sad day for him, or any other man for that matter. The large number of ladies who attend his classes and lectures is a sufficient evidence of his own popularity among the fair sex. I have one regret, and that is that the professor did not finish his sentence about Shakespeare. Perhaps it was "Was Shakespeare a German?" We look forward to a further pronouncement on what would undoubtedly be an interesting topic. These discussions keep us movng. And as Wilhelmina Stitch very beautifully and helpfully says, "Keep moving ahead, or your soul will die, and beauty evade your heart and eye. No matter at all that your pace be slow so long as you unward, upward go into a finer atmosphere, where ideals live and visions clear, and Goodness and Truth have taken firm stand, and folks to folks stretch a loving hand. For this be the measure of our success, the measure of all life's happiness; just how well we have moved ahead; or just how early our soul was dead."

### REG. 10. 4.26

#### REGISTRATION OF ENGINEERS.

Efforts made to secure the registration of engineers by Act of Parliament were mentioned in the annual report, adopted at a meeting of the Institute of Engineers, Adelaide division on Friday night. It was stated that the committee had not lost sight of this important matter, but feeling that there was very little likelihood of obtaining at present at Act of Parliament embracing the full wishes of the institution, they considered it desirable to attempt first to secure legislation on the lines of Acts now in force in the eastern States to ensure the competence of men appointed as engineers to the larger municipalities and district councils of South Australia. To this end, the November meeting of the division was devoted to the discussion of a motion submitted by Professor Chapman, "It is desirable that legislation be introduced making it compulsory that municipal and district councils having incomes over a stipulated amount should employ only qualified engineers." Invitations to attend the meeting and take part in the discussion were sent to all those considered likely to be particularly interested in the matter, including all the corporations and district councils in the metropolitan area, and the result was a unanimous vote in favour of the resolution. The next step would be a deputation to the Chief Secretary to urge the inclusion of provisions on the lines indicated in the next Bill brought before Parliament dealing with local government matters. The committee regretted that the deputation had not yet been arranged, but in view of the extra strain imposed upon Ministers by the special autumn session of Parliament, it seemed advisable to postpone it until after that session.