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advanced in age as a man of 70. A three-year-old rat or mouse is a real centenarian.

"And what do they usually die of?" "Cancer," was the astonishing reply, "and we find that is so in nearly all animals which we have studied so closely, even down to insects, a case in point being the fruit fly. There are also cases where death has been due to kidney and liver trouble, but the majority are cases of cancer. We hold a post-mortem on every one, and the cancerous growth itself is microscopically dissected. This is the answer to those people who talk about smoking as the cause of cancer, and—smilingly—"they cannot even attribute it to a meat diet with these rats and mice."

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**UNIVERSITY DIPLOMA IN ELOCUTION.**

The Director of the Elder Conservatorium (Dr. E. Harold Davies), reports that it was definitely decided at the conference of the Australian Music Examination Board, which was held last week in Adelaide, to include a diploma in elocution in the curriculum. This is an entirely new departure, as hitherto elocution has held no place in the syllabus. The diploma offers a splendid opportunity to those students interested in the subject.

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**APPRECIATION OF MUSIC.**

**ADDRESS BY DR. HAROLD DAVIES.**

Dr. Harold Davies, who recently recently returned from a tour of Great Britain and the Continent, and Mr. J. Horner, who was recently appointed to the staff of the Elder Conservatorium, were welcomed by members of the Conservatorium Association on Monday night.

Mr. H. Winsloe Hall, who presided, said Mr. Horner came to them with high credentials, and they hoped that Dr. Davies had enjoyed his well-earned holiday.

Mr. Horner said he had enjoyed wonderful hospitality since his arrival. Music was taught in Adelaide as in London or any large British town. Students in any European city had better opportunities of studying the classics, as there were few orchestral concerts here. In Edinburgh they had heard many great artists and orchestras, and there was a wide range of musical activity being carried on. Something should be done in Adelaide to make up for that deficiency. There was no reason why anybody should not have access to the great classics. He had a scheme for gramophone recitals and study circles.

Dr. Davies said it was pleasing to come back to resume the work he liked so much. The gramophone had been one of the most amazing benefits to the cause of music one could possibly imagine. It was being extended by the wireless. In England there were 2,500,000 licenses and 20,000,000 listeners in. Concerts were heard by hundreds of thousands of people. It was perhaps mechanisation of music, but it was most beneficial. He spoke of the relative attitude towards music in English-speaking countries as compared with that on the Continent. The Brussels Opera House was one of the finest in the world. In Berlin there was not a sign of smoking in the foyers of the opera houses. In many English halls smoking was allowed during the performances. He listened to the composition of a modern French writer. It lasted an hour and a half, and was merely a sustained dissonance and a musical brutality.

Art reflected life. In looking round they found that the characteristics of the present day might be described as restlessness, instability, and sensationalism. Art was bound to reflect all those qualities. Modern composers were obsessed with those ideas, and the result was a hideous cacophony. It was Bolshevism in art. Bolshevism repudiated every recognised obligation, and made mock of every kind of idealism. It even went so far as to deny beauty. The idea of people showing their feelings was looked on as bad form, and to express a beautiful sentiment was puerility. It was all that which was causing the present modern craze. However, he believed it was only transitory. In Australia and England they did not possess the vestige of a beginning in interest in music. In Berlin music was recognised by the State as a public need. The people responsible for the administration of government regarded it as they in Australia regarded sanitation. They could provide a national service only by making it a national charge. They should do the same with music. So long as music was the starving subject of casual philanthropy it would fail to go ahead. They should do everything possible in South Australia to arouse public interest. That was one of his main reasons for establishing the Conservatorium Association. The Philharmonic Society in Berlin was on the point of going out of existence, but the Government, notwithstanding that their finances were at a low ebb, made a donation to the society to enable it to keep going. He wished they could make Australian people feel like that about music. All the large cities in Germany supported art. It was fine to see the way the people in England and Germany were returning to the old masters. A prominent musician in Germany had told him that all the great music for the next century would come from England. There was nobody in Germany who could compose like Elgar. Through the British Broadcasting Company the school children were being inculcated with a love of music. Sir Ernest Palmer had given £22,000 to the Royal College of Music. Nine patrons' fund concerts were given each year, and they gave young musicians and composers an opportunity of doing their work under ideal conditions. They were all morning concerts, and he wondered how long it would be before they could hold them in Australia.

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**ROSEWORTHY COLLEGE.**

**School Teachers as Students.**

The principal of Roseworthy Agricultural College (Mr. W. R. Birks, B.Sc.) reports that the present college year opened recently with 47 students in residence. Since the opening term, three additional students have been sent up by the Education Department to take the college course as part of their training as teachers, and in view of their previous training, they enter the second year class. There are already two other Education Department trainees, now in the third year class. All these students have done University work, and contemplate completing the degree course. Among the other students there are five who have already matriculated, and may continue with the University work, after taking the diploma. In all, there are now upwards of a dozen students of the type of University undergraduate, and this group is bound to exert a strong influence in helping to raise the standard of the work of the institution with regard to studies.

**Extension of Curriculum.**

At the opening of this term it was found possible to reorganize the teaching work in several particulars, and in this connection the services of several of the recently appointed members of the staff, have proved particularly useful. The live stock work has been separated from Agriculture, and will be dealt with as a separate subject, "Animal Husbandry," to be taught in each of the three years with a corresponding course of practical work. Practical agriculture has been strengthened and will include various phases of farm mechanics, blacksmithing, saddlery, adjusting, repair and the handling of farm machinery, and so on. The subject of Botany has been extended to include systematic Economic Botany in the second year, and Microbiology (Plant Pathology and Bacteriology) in the third year. Agricultural physics has been extended into a light course running the full three years, and to include the elements of the principles of heat and electricity as applied to agriculture and farm motor units. Book-keeping has been extended from a one to a two years' course, in an attempt to develop the economic and business aspect of the teaching. Reductions have been made in the time devoted to veterinary science and viticulture, but much the same ground will be covered in these subjects still.

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**MORE WOOL FROM SHEEP.**

**Important Commonwealth Project.**

**Entrusted to Adelaide Scientists.**

Australia produces about a third of the world's wool supply, and the fact that the Commonwealth Government has entrusted to South Australian scientists the responsibility of conducting an investigation into the nutrition of sheep for wool-raising purposes, is a high tribute to the ability of Professor Brailsford Robertson, and his staff at the Adelaide University.

The Commonwealth Council of Scientific and Industrial Research has done more than merely to ask Professor Brailsford Robertson to undertake the work. It has spent about £12,000 on an extensive new laboratory, on Victoria Drive, at the rear of the University, which is nearly completed, and the professor and his staff will take up their quarters there in July. On the work as a whole, the Commonwealth is to-day spending in the vicinity of £15,000 annually, but this amount will vary year by year. These facts, and many other interesting details concerning the lines upon which the investigation will be conducted, were learned by a representative of The Register in the course of an interview on Monday with the professor, who has been in control of the work for the past 12 months.

**Far-flung Field Stations.**

"In the ordinary course," explained the professor, "the investigation would have been entrusted to Canberra; but, in view of the fact that we had been engaged upon work of the same character, both as relating to man and animals, for the past seven years, and as we had a small staff familiar with the subject, the Commonwealth decided to place the investigation in Adelaide. In addition to the investigation which will proceed here, and which will be largely of a laboratory character, we shall have a number of field stations scattered over the Commonwealth, the aim being to have ultimately six or eight of those situated in pastoral districts as diverse as possible in character from one another. At the same time, each of these stations will be so situated that it will represent a large and important pastoral area. Our first field station was established about three months ago near Beaufort, in the western district of Victoria, which is one of the most important pastoral areas in Australia. Our second station is to be established in the near future at Koleudo, about 120 miles west of Port Augusta. At these field stations the growth and development of sheep in the natural pastoral conditions prevailing in those localities, will be thoroughly studied, and the field stations will be made collecting grounds from which we shall obtain the material required for investigation in the laboratory, where several distinct lines of investigation will be pursued."

**The Revealing Thyroid Gland.**

"In the first place," Professor Brailsford Robertson continued, "work which has been in progress in this University for the past five years on the utilization of phosphoric acid by animals, will be continued and extended with a view to the application of the results to the solution of the problems encountered in these extensive districts of Australia in which phosphates are deficient in the soil. The second line of investigation will be the mapping of the distribution of iodine available for stock in different parts of Australia. This will be accompanied by analysing the thyroid glands of sheep in which all the iodine which the animal has been able to collect is stored. We shall obtain thyroid glands from as many districts with sheep stations as possible; but, as the iodine in the thyroid gland of sheep, even fed upon the same pasture, is somewhat variable, single specimens from each station will merely give us an indication, and not an absolute measure of the availability of iodine in that district. From our field stations we propose to obtain much larger numbers of thyroids—probably more than 100 from each—and the results obtained from these will give us a correct picture of the availability

district. Another very important subject for investigation, which we will carry out in the laboratory, will consist of the determination of the comparative nutritive values of the nitrogenous materials in Australian fodder plants. We propose to determine not merely the amount of nitrogen present, but the extent to which it can be utilized by a growing animal, because much of the nitrogen present in a fodder may not be available for growth."

**Neutralizing Mineral Excesses.**

"In addition," proceeded the professor, "we propose to take up the question of the effect of excess of salt or magnesia, or other mineral constituents in the diet, upon the general nutritional requirements of the animal. In many parts of Australia, the water and fodder plants are heavily impregnated with magnesia, and animals are subsisting upon water containing as much magnesia as they can possibly stand. Under such conditions it is not yet known what extra food materials may be required by the animal to compensate for the strain thus placed upon it. For example, laboratory investigations have already shown that an animal in receipt of a large excess of magnesia needs a great deal more lime in its diet than an animal subsisting under normal conditions. We wish to ascertain whether this is also true for phosphoric acid, iodine, and other constituents of the diet. We further intend to make an intensive study of the composition of bones of sheep obtained from different pastoral districts, with a view to estimating how far lime and phosphoric acid are available to the animal in the proper proportion for the manufacture of bone. The total nutritional requirements of stock animals in terms of heat units have been determined so far only in Europe and America. We propose to repeat these investigations on sheep in Australia, partly because our climate is very different from that of Europe and America, and partly because our merino breed of sheep has not been adequately studied anywhere from this point of view. We shall estimate the total food requirements of animals by enclosing them in an instrument known as a respiration calorimeter, which is being erected at the Waite Institute under the supervision of Dr. A. L. Rogers. Air is pumped in a continual stream through the apparatus, collected, and analysed. From the percentage of carbon dioxide which it contains we can then estimate the total amount of food consumed by the animal during the test. This does not mean the amount of food the animal eats, but the amount it actually utilizes. These may be two very different things, and by comparing animals fed upon different foodstuffs we can estimate the utilizable nutritive value of the different foodstuffs with our own sheep in their accustomed climatic conditions. This is, I believe, the first respiration calorimeter for animals that has been constructed in Australia. In its construction we have had the benefit of the advice of Dr. F. G. Benedict, director of the Nutrition Laboratory of the Carnegie Institute in America, who is the world's leading authority on this subject. At the time that we asked for his advice, Dr. Benedict happened to be erecting a calorimeter in the United States, and he was so good as to send us full plans and particulars of his machine, of which ours will be a replica."

Although Professor Brailsford Robertson is actively engaged on the work described above, he still retains the Chair of Biochemistry at the University in an honorary capacity, the chief part of his teaching labours having been assumed by Mr. M. L. Mitchell, who has been appointed lecturer in bio-chemistry. Professor Brailsford Robertson retains responsibility for a small amount of advanced teaching

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**PROFESSOR TURNER.**

*inter alia*  
Professor Thomas Turner, M.Sc., F.I.C., A.R.S.M., Emeritus Professor of the Birmingham University, who is just concluding an eight weeks' stay in Adelaide, will leave for the eastern States on Thursday, after which he and Mrs. Turner will return to England via Vancouver, reaching home about August.

**Metallurgical Students.**

Professor Turner remarked that the number of students in metallurgy at the Adelaide University was at present small, and no metallurgical instruction was given to engineering students, as was now the custom in British universities. He expressed the opinion that all engineering students in our universities should learn something of the heat treatment of metals and of their microscopical evolution.

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**UNIVERSITY AND DIVINITY.**

**Hobart Decision.**

**HOBART, Tuesday.**  
The council of the University of Tasmania at a special meeting to-day rejected by a majority of one vote a motion by the Bishop of Tasmania (Right Rev. Dr. R. Snowden Hay) urging the exclusion from the University Act of the clause prohibiting the teaching of theology, or divinity, at the university, and further recommending the appointment of a committee to keep in touch with the movement aimed at the establishment of faculties of theology in the universities of Australia.

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In the Executive Council on Wednesday Dr. E. McLaughlin was appointed Deputy Director of the Laboratory of Bacteriology and Pathology at the Adelaide Hospital.

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**TO CORRESPONDENTS.**

"Fed Up":—The Registrar of the University states that the examiners are prepared to discuss the report on your paper with your teacher.