Interesting Progress at Urrbrae.

A Valuable Institution.

In course of years, the magnificent philanthropy of the late Peter Walte in presenting his fine estate at Urrbrae to the University of Adelaide for agricultural research work, will be the means of enriching the State to a considerable degree. Foundations of an important advancement in agricultural activities are slowly but surely being

Time also will prove how fortunate South Australia has been to have repractical scientist, Dr. A. E. V. Richardson, M.A., who is director of the Waite Research Institute. In the exercise of careful discrimination, Dr. Richardson has

selected as his assistants men who have made their mark in their respective avenues of research-Protessor Prescott, Mr. Geoffrey Samuel, and Mr. Trumble. At present the work at Urrbrae is limited only by two things-personnel and equiment, but no doubt practical support from interested people will help to solve this problem. Here is a splendid opportunity for worthy endowment. At present the institute is a scene of interesting activity. and the writer spent an interesting morning this week inspecting the grounds in company with Dr. Richardson. In all directions were seen phases of research work, which aims at one beneficial endto belo the man on the land. Fodder Grasses.

Neatly set out on one of the slopes is a large observation plot accommodating 62 different fodder grasses, representing the best of the introduced varieties, a number of native grasses, 15 varieties of clover, and 12 of lucerne. These are labelled with the popular as well as the botanical name. Nearby is an apparatus to determine the rate of evaporation from water conservation. Another apparatus is a sunshine recorder, which indicates on a graph the number of hours of bright sunshine each day. This is an important factor in plant growth. further apparatus provides the daily maximum and minimum soil temperatures at 1 in., 6 in., 12 in., and 2 it.

Cereal Sections. Three hundred stud cereal plots comprise a collection of wheat, oats, and parley from all parts of the world, Inwheat and bare fallow; wheat, pasture, tematic work in connection and bare fallow; wheat, outs, peas, and South Australian soils fallow. In future years there will be a considerable difference in the wheat yield according to the type of crop which precedes it. These will be of practical interest to farmers, because they are tests of 13 different systems of farming. They will also be of value on the scientific side, because they will indicate the improvement or decline in soil fertility as as a result of these 13 different systems,

all of which are followed in the wheat Experimental Error in Field Tests. boxty plots running through the centre of this field are sown under cereals without a manure, on virgin land, in order to determine the experimental error in neld tests. These 60 plots should give the same result. Will they? If they do not, how much will they vary? Dr. Richardson expressed a doubt whether this had been sacertained in any part of Australia before. Thirty of these plots are under wheat, and 15 each under oats and barry respectively. When the scientists have determined what might be called the nateral fertility of the land on each of these 5 spints, a start will be made next year with manural dressings. At the rear of these there are 60 additional plots devuted to permanent manufal tests on wheat, cats, and barley. Manurial tests on wheat are done at practically every agricultural station, but there are not many places at which permanent tests on outs and bariey have been carried out, he result of these will enable interesting comparisons to be made. In the north west corner of the field is a group of 34 plots devoted to early and late sown wheat and outs planted under different cutes of seeding - wheat

from 20 to 130 B, to the save, and cate

from 40 to 100 th. This will give an idea of the right quantity to sow, and the most favourable time for seeding. Another group of plots is devoted to barley, seeded at the rate of from 50 to 100 fb. to the sere. Every plot in the field, with the exception of those for experimental error purposes, has received 20 lb. phosphoric sold to the acre, equivalent to about 95 lb, super. Although this quantity is being used, Dr. Richardson considers that heavier dressings would probably be beneficial. In the manurial tests merce there are about three hundred all quantities are being tried-from 10 lb. students, while the Workers' Educaphosphoric acid (45 lb. super.) up to 60 tional Association classes he organised B. (270 B. super), the increase being have over a thousand students regis-10 lb. in each plot.

Topdressing Experiments. An area has been reserved at Urrbrae for the topdressing of seeded and native pastures, and in one paddock there is a striking definition between the manured and unmanured portion. The pasture is

much richer where the fertilizer has been applied, and subterranean clover is making rapid headway. In order to test the benefits of manuring, the pastures will be ted off with sheep, and the increase in live weight noted.

Water Requirement Investigation. A pot culture house has been designed to carry out fundamental investigations into the water requirements of different farm crops. In a wire-screened enclosure, protected against invasion by birds there are 240 large pots holding about 65 lb. soil each. When rain is imminent these pots are brought into an adjoining glasshouse on trucks which are on a light line of rails. The following crops are being tested:-Wheat, oats, barley, rye, peas, wallaby grass, tye grass, kangarro grass, subterranean clover, lucerne, beerseem, Toowoomba canary grass (Phalaus bulbosa), termine the influence of various types of tion was designated "President's night," this formidable fungus pest. An intensive study is also being made of the habits of growth, water requirements, and intake

of mineral nutrients of our native grasses and fodder plants. The abovementioned pots are weighed on a special balanceweekly during winter and daily during spring and summer-when water lost by transpiration is added. Forty pots are sown with wallaby grass, kept at varying degrees of soil saturation ranging from 30 up to 70 per cent., with and without fertilizer. The object of this is to find out moisture conditions and manurial constituents best suited to the growth of our native wallaby grass.

Agricultural Chemistry. Professor Prescott has for the time being to be content with an agricultural chemiscluded in these are 45 varieties of leading try laboratory in the cramped space of wheats grown in South Australia, Vic- the old coach house. All his investigatoria, and New South Wales. These are tions are made in one small room. Agribeing tested to determine the suitability cultural chemistry is a wide subject coverof different varieties for the Adelaide ing animal nutrition, plant growth, and coastal plains. By means of small sign- soil problems, and until the institute can boards the institute is telling farmers and obtain more room research must be restudents what is being done for the next stricted to soil and crop problems. Field live years on 35 permanent rotation plots, experiments will provide Professor Prescott The object of these is to ascertain the with material upon which to work. At most profitable system of crop rotation present he and his assistants are engaged for a district with a 21-in. rainfall, and in getting their equipment ready. The on the type of soil used on the Adelaide professor has been investigating the chemi-Thirteen different systems of cal changes produced in the soil by baccrop rotation are practised in this field, teriological activity. Another problem he ranging from wheat grown continuously hopes to investigate is that of sourness year by year to two-course rotation- of soil and its improvement. No sysbare fallow. All of these wheat plots been carried out, and if the means are should give the same yield this season forthcoming the institute will tackle a because they are sown on bare virgin soil survey. The more information the scientists obtain the more use they will be to farmers as time goes on.

Plant Patholony. Mr. Samuel is at present busily engaged experimenting on takeall and smut control. This has not been properly tested by Australia yet. He has a series of plots to investigate the comparative effect of various fungicides, particularly copper carbonate, over the control of smut in wheat. The seed has been heavily dosed with smut spores, and treated with bluestone, formalin, copper carbonate, and certain proprietary preparations. In addition, there is a series of tests to ascertain the effect of a loose and consolidated seedbed on the incidence of takeall.

Contour Models. 1. The distribution of wheat in relationship to the rainfall during the growing period of the crop. This is plotted with precision and accuracy. It is interesting to observe the large area of land, purticularly in New South Wales and Western Australia, which, according to the winter rainfall, is suited to wheatgrowing, but is not yet utilized on account of lack of transport, 2 and 3. The distribution of sheep and cattle. 4. The amount of evaporation ranging from 40 in, on the southern coast up to more than 100 in. a year in the interior. 5. The average of rainfall. 7. The artesian basins. S. Rainfall reliability.

'Varsity Changes

It would almost appear that someone had called "General Post" amongst the learned. Three Adelaide 'Varsity leaders in Professor Coleman Phillipson, Mr. Hugh Corbin, and Dr. H. Heaton, have resigned within a few weeks of one

Dr. Heaton is the youngest and perhaps the best known to Adelaideans-in his department of Economics and Com-

REGISTER, 33.6.08:

CONSERVATORIUM ASSOCIATION.

Instructive and Social Evening.

cently formed Elder Conservatorium Assor testably secured great honours to bimself cintion was held ou Monday night. the preliminary meeting last month it was decided that the first and last of a number of native grasses, and saltbushes. such gatherings should take a social The institute is also determining the character, Accordingly, last evening there amount of water and manurial and other was first an interesting address in the nutrients taken in by wheat and native Elder Hall, after which, in the north grasses at varying stages of growth. In hall, supper was served, and a merry hour addition there are a series of tests to de- of social intercourse ensued. The funcfertilizers on the water requirements, that and the President of the Association (Mr. is to see whether fertilziers will econo- Frederick Bevan) ably conducted the promize the water supply for plants. This ceedings, invaluable help also being lent house will also be utilized to conduct plant by the officials. They included:-Vicepathology investigations, particularly to Chairman, Mr. I. G. Reimann; Committee ascertain the life history of takeall, with a Members (staff), Madame Delmar Hall view to discover better methods to control and Mr. George Pearce, past students, Miss Katie Joyce and Mr. Arthur Wil. cession of light operas which were so unhiamson, present students. Miss Elsie versally popular. Mr. Bevan's "last word" Willsmore, Mus. Bac., and Mr. Alex Bur- was in connection with prejudiced critinard; the Director of the Conservatorium cism that sought to show that Sellivan (ex officio): Secretary, Mr. Herbert gave too much attention to the lighter Othams. The Director of the Conserva-forms of music and neglected the s-called torium (Dr. E. Harold Davies), who did higher branches of his art, In seeking to a great deal to initiate the movement, was refute this, it was aptly remarked that among the widely representative atten-through all the years since his death in dance. Aiready more than 300 names 1901 his music had remained a signal factor have been received for enrolment as ment in the musical world. All his works had



MR. FREDERICK BEVAN.

tion are:-The advancement of the cause of music in South Australia; to foster a feeling of fratermity and to create opportunities for friendly intercourse, and co- tures, operation among all lovers of tansie; and to welcome and entertain visiting artists of renown.

Sir Arthur Sullivan.

Mr. Bevan's address upon Sir Arthur Sullivan was entitled "Sullivan as a stu-Dr. Richardson is getting together a dent," and atressed the earnest outlook library at the institute. Valuable pre- of that great English musician who resentations of books and other matter have mained a student to the end of his days been made, but there is still plenty of setting a great example to all who seriroom on the shelves for more. The onsly took up the study of music. Mr. main building is beautifully fitted up. On Bevan said he had personally found a the walls of a lecture room are several great incentive in atudying the gitted contour models of Australia, showing: -- musician's student days, which extended from his actual schooldays at Leipzig, and throughout his life.

Sullivan's mastery over musical in struments, even at the age o 14 years, was marvellous (continuer the fecturer), and it was not unusual at a rehearmal of the Academy Occhestra to hear most unearthly noises first from one instrument and then another. The reason was usually summed up in Charles Lucus's (the conductor) exclamation: -"Now, Sublivan, you are at it again!" For that producy played them all with apparent case, and could read naything at sight. As for study, he accomplished in five minutes what many could not have done in five months. In 1828, the provisions

or the scholarship took him to felpris where he studied under Moscheles and Plaide for pisnerorte, Rietz for composition, and Ferdinand David for orchestral playing and conducting. On his return to London, he returned to the Chapet Royal as an amistant master. In 1802 his music to "The Tempest," played at the performance in the Crystal Palace, so charmed Charles Dickens that a firm friendship was This commenced Sullivan's established. public career as a composer. Towards the end of 1862, in a first visit to Paris with Dickens, Sullivan met Rossini, and heard Madame Niardot Garcia in a performance of Gluck's "Orico." Thus was fostered an interest in opera. The foundation laid for the wonderful series of comic operas was lightly sketched as being of historic interest, because from that germ (Sir Arthur Burnand's farcical transposition of "Cox and Box") there sprang that remarkable series of comic operus which have deligated the English-speaking race during the last 30

Rejutation of Criticism.

The Schubert Manuscripts and the

friendships of Tennyson with Sullivan provided furth - interesting details, thanks to the speaker's familiarity with his subject. In 1809 the first important choral work, "The produced, and was produced, and many smaller compositions were made, including "Onward, Christian soldiers." In 1873. Sullivan's great oratorio, "The light of the world," was produced at the Birmingham Musical Festival. Its besuty and originality were thus summed up by a great critic:- To Mr. Sullivan belongs The wise general gathering of the re- the acknowledgment that he has incon-At without robbing his predecessors of a single laurel." Mr. Bevan referred to Sullivan's methods of work and to his character as a man. Distinguished alike for a refined and melodic gift and a complete mastery of the technical resources of his art, Sullivan also inspired all with whom he came in contact as possessing a spirit of tranquil happiness, and an exquisite appreciation of the joy of living. In the concluding portion of the address regret was expressed that time avoid not permit of more than a passing reference to such works as "The martyr of Antioch," "The golden legend," and "Ivan-| hoe;" or to touck upon that glerious pre-Briefly, the objects of the associa- in them the breath of life, and their vitality was unimpaired. Since they were first heard, other a had produced music, and most of it was forgotten. Sullivan was a disciple of the Beautiful. By the mysterious lights which illumine the soul

> of inspired man, he was able to preach its gospel to the world. "We probably have more to thank the Sullivan for, who was, than the Sullivan some would have wished him to be; and I say advisedly," added Mr. Bevan, "that the world is stdly in want of another Sullivan." (Applause.)

REGISTER23.6.35

The Adelaide Rhodek Scholar, D. R. Summer, has been selected to play in the combined team of tennis players from Oxford and Cambridge Universities which will visit the United States and Capada after the Wimbledon championships.

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THE UNDERGRADUATE'S GOWN.

Men students attending the Melbourne University have decided that they will no longer wear academic gowns at lectures, as required by the University regula-The custom lapsed during the slack war years, but is now being revived. The women students of that University, on the other hand, favor the gown. The statutes of the University of Adelaide roquire that students shall wear gowns at all lectures, examinations, and ceremonials. The statute, however, has been more or less in abeyance in regard to lec-