

school in South Australia," said Professor Clarke. "Each school appears to have more individually and more say in its own management, than is the case in other countries which I have visited. The headmaster is allowed to use his own discretion in all cases of emergency, and thus his interest in the school and its affairs is keener and more personal than would be the case if he had to seek authority from the department for his every action. His state of mind is reflected in the students, who are greatly interested in their work and in the progress of the school. I believe that examinations will gradually become of lesser importance as this system develops.

Both in Melbourne and Adelaide," added Professor Clarke, "I have been engaged in drawing up plans for an international education conference, which will be held in Australia in 1937. I believe that this conference will be of great benefit to education in its broadest sense, and that the interchange of ideas that will result will bring about an increase in efficiency in the systems of many countries."

### ESSENTIAL ELEMENTS FOR ANIMAL HEALTH

#### Professor Prescott On Soil Deficiencies

In a lecture on soil deficiencies and animal health, at the University last night, Professor Prescott of the Waite Research Institute, said the difficulties associated with soils were closely related to both plant and animal life, but the elements most essential to animals were not necessarily so to plants. The indifferent health of many animals could be attributed to bacterial infection, poisons, and deficiencies of vitamins or minerals.

"Animals require certain mineral elements, just as plants do, but they require certain additional elements," he added. "Iron is an essential element for animals and there is reason to believe that manganese, and in recent years cobalt, are essential for the well-being of animals.

"Mr. Marston and his colleagues of the Division of Animal Health have made a geographical survey of the probable Australian soil deficiencies in relation to animal health. From Charters Towers to Cloncurry in the cattle country of North Queensland a disease known as 'peg-leg' has been isolated and paralysis in the dairying districts of New South Wales has also been investigated. Redwater in Mount Gambier and Gippisland, coast disease in the coastal areas of South Australia, Kangaroo Island and King Island, and a disease in the north of this State, toxic paralysis and wasting disease in Western Australia were other diseases dealt with."

Professor Prescott said that the three chief requirements of animals were common salt, iodine, and phosphorus. Common salt was essential to maintain blood concentration and digestion.

#### Value Of Iodine And Phosphorus

"Deficiencies of iodine result in goitre," he said. "New Zealand and Switzerland are other countries where the deficiency of this element is well marked. It has become the standard table supplement in Switzerland. A deficiency of phosphorus results in a low yield of grasses. In the effect of top-dressing is important in building up a supply of the element. Unmanured land at the Waite Institute carried one sheep to the acre, but when manured with superphosphate, it carried 16 sheep to the acre. Land top-dressed with super, and sown with reliable pasture plants, an acre carried 32 sheep, while at Wood's Point the Director of the Institute (Dr. Richardson) had improved the land by feeding of manures, sown pasture plants, and the regulation of water supplies, to such an extent that an acre of this land will carry 162 sheep."

#### Final Group Classified

Professor Prescott classified the final group of diseases as nutritional anaemia. The chief of these, as far as this State was concerned, was coast disease found in parts of the South-East and on Kangaroo Island. For 80 years the disease had puzzled scientists, but it was overcome by feeding of small quantities of cobalt to "coasty" animals.

"It is obvious that plants and animals have some different requirements," concluded Professor Prescott. "There are difficulties to be met in regard to the provision of licks. Where settlement is closer, pasture improvement plays a big part. The provision of these elements for stock must become a routine procedure in the farming and pastoral areas of the Commonwealth."

### VICE-CHANCELLORS OF UNIVERSITIES TO CONFER

#### Meeting in Melbourne Next Week

A conference of the Vice-Chancellors of the Australian universities will be held in Melbourne next week, at which the Vice-Chancellor of the University of Melbourne (Dr. R. E. Priestley) will preside. At the request of the first international congress of anthropology and ethnology, which was held in London last year, the study of anthropology and proper Governmental contact with aboriginal peoples will be one of the principal subjects discussed. The wish was expressed that chairs of anthropology should be established in all universities.

The conference will seek the recognition of all Australian degrees. It will endeavor, also, to promote common action in all Australian universities, and will seek from the Commonwealth Government support for engineering and architecture similar to that given to State universities in America by the United States Government.

To attend the conference, the Vice-Chancellor of the University of Perth (Professor H. E. Whitfield) is a passenger for Melbourne on the Westralia, which reached Port Adelaide from Fremantle yesterday. Professor Whitfield, who is now the chief executive officer of the University of Perth, is a professor of mining and engineering. He expects to return to Perth shortly after the meeting in Melbourne.

The Vice-Chancellor of the University of Adelaide (Sir William Mitchell) will leave by the express for Melbourne on Saturday.

### LITTLE HOPE FOR INTERIOR

"THE vast untapped resources of the interior of Australia are a myth, just as Lassel's Reef is," said Dr. C. T. Madigan, of the Adelaide University, at the Rotary Club's weekly luncheon today.

"The resources are all round our doors. The aborigines were a pathetic subject and a wretched people, continued Dr. Madigan. They could not survive contact with the whites. If their age-old customs were disturbed they became mentally affected and lost the will to live. The best-intentioned white man could not make them try.

There were very few cases of cruelty and abuse by white men of the aborigines. Their race was dying out, and the only thing to do was to ease the passing.

Dr. Madigan said that millions of pounds had been spent on the interior and nothing accomplished because the country was of very little use.

"Half of our continent is very poor pastoral country," continued Dr. Madigan, "and one fifth, which is included in that half, will never carry much population. We are beating our heads against a stone wall in trying to develop the interior.

"In Australia there is good country seven times the size of France that can be developed and that has only one-fifth of the population of France."

### Tests Of Intelligence

### Replace Exams

(By "Ex-Pedagogue")

APROPOS of the recent discussions among South Australian educationists on the value of examinations and the assertion of the Director of Education (Mr. Adey) that general methods are in the melting pot, it is interesting to review the trend towards intelligence tests.

Intelligence tests consist of comparatively simple questions. In arithmetical problems a student may be asked such things as "How many tins of jam at 8d. a tin can you buy with 2/?" In another test a student may be given a list of words, and be asked to state the exact opposite. For example, the opposite of quickness is not "slow" or "slowly" but "slowness."

But the answers to such simple questions give valuable results. This is shown in "The Prediction of Scholastic Success," embracing three studies, rendered possible by grants from the Australian Council for Educational Research. These studies were made by Dr. E. D. Collmann and C. Jorgensen, of the Victorian Education Department.

As pointed out in the foreword, examinations have two functions which can be more or less clearly distinguished from each other. These two functions are the diagnostic and the prognostic. The emphasis in an examination may be placed either in finding out whether a pupil has a reasonable mastery of a course of study already given, or whether he should be permitted to undertake further studies.

#### PROSPECTIVE EVIDENCE

Until recent years the only way of estimating future scholastic success was by employing the traditional type of content examination based on courses already taken. The dual function of examinations has been thrown more clearly into relief by the invention of intelligence tests, which make no effort to diagnose attainments in school subjects, but which attempt to provide evidence which is prospective rather than retrospective in significance.

"Strangely enough it is found that under certain conditions one of these tests occupying from 30 minutes to an hour may predict success in school subjects several years hence as well as, or even better than, a test in the subjects themselves, even though the examination consumes several hours," says the book under review.

Much interest was created by Valentine's book on "The Unreliability of Examinations" published in 1932. From material collected in England over a wide field and over a number of years, he showed that the traditional examination is distressingly fallible when it comes to the selection of pupils on the ground of fitness for secondary education or fitness to receive scholarships at the university.

In general, the investigations of the Victorian authorities support the growing conviction that both scholastic and intelligence tests should be employed in all examinations upon which decisions regarding the pupil's future educational career are likely to be based.

#### ACCURACY IMPORTANT

Accuracy is important in the prediction of future scholastic success in a country like Australia, which has a selective type of secondary education. In all States, except Victoria, selection is based on external examinations conducted simultaneously for all pupils. But even when, as in Victoria, admission to secondary education (and in the case of certain schools to the university itself) is based on internal examination and school record, the process of selection is no less important.

In the first of the three studies given in "The Prediction of Scholastic Success" Dr. Collmann examines the records of scholarship holders at Melbourne University over a period of four successive years, and compares them with the records of applicants who, though failing to receive an award, entered the university and pursued a course of study.

In the second paper Dr. Collmann gives the results obtained by testing and studying the records of approximately 1,000 pupils admitted during four years to the Melbourne Boys' High School. Results of scholastic and intelligence tests are given.

#### DEFINITE CONCLUSIONS

Dr. Jorgensen's paper runs on similar lines. His conclusions, which are very definite, are as follows:

The intelligence test is slightly superior to the entrance examinations for forecasting scholastic success.

The superiority of the intelligence test is particularly marked in selection from students of lower ability.

Little, if any, superiority on the part of the intelligence test is shown in selection from students of high ability.

The intelligence test picks out the failures or worst students better than do the entrance examinations.

The entrance examinations tend to pick out the most successful students slightly better than does the intelligence test.

Considerable improvement in selection can be effected by using both intelligence tests and entrance examinations.