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Professor Ralph Tate, F.L.S., F.G.S., one of the most distinguished scientists in Australia, and Professor of Natural Science at the University of Adelaide, died on Friday evening at the age of 61. The professor had been ailing for several weeks with an affection of the heart, and so recently as Friday afternoon at the meeting of the public library board a letter was read from him intimating that he had written to the Royal Society declining to be re-elected as the representative of that institution on the board. It was resolved that a reply be forwarded to Professor Tate expressing regret that, owing to the state of his health, it had been necessary for him to take a step which would deprive the board of his valuable assistance. At the same time the secretary was instructed to place on record the board's appreciation of the professor's long and able services, not only to the institutions under the control of that body, but also the cause of education generally. The funeral will take place at the North road Cemetery on Sunday afternoon.

Register 23rd Sept. 1901.

TEACHERS' CONFERENCE.

The sixth annual conference of the South Australian Teachers' Union opens this morning in the Trades Hall, Grote street. Reports of the president, treasurer, and secretary will be taken at 9.30, and an hour later Representative Holder, Speaker of the House of Representatives, will formally initiate the sessions. Addresses are also to be given by the Premier, Hon. J. G. Jenkins, and Professor Mitchell, M.A., D.Sc. The members have been invited to a garden party at Government House this afternoon; they will visit and inspect the School of Mines at 8 o'clock, and subsequently the president of the institution, Representative Sir Langdon Bonython, will entertain them at a conversazione in the main hall of the Exhibition Building. On Tuesday morning addresses will be given by Messrs. R. Kyffin Thomas, President of the South Australian Branch of the Royal Geographical Society; H. P. Gill, Director of Technical Art; L. W. Stanton, Chairman of the Board of Institutes; and F. Tate, M.A., of Victoria. Formal business will occupy the afternoon, and in the evening a chess match, city v. teachers, will be played in Jackman's rooms. The speakers on Wednesday will be Mr. J. Donnell, president of the union; the Minister of Education, Hon. T. H. Brooker; Mjr Plummer, an inspector of schools; and several interstate delegates. In the evening there will be a visit to the university. On Thursday members will proceed to Belair, where the Conservator of Forests, Mr. W. Gill, F.L.S., will conduct them over the nurseries. Visits will also be paid during the week to "The Register" and "Advertiser" offices, where the teachers will have the opportunity of seeing the application of the latest mechanical processes for the spread of information. Among the subjects that will come on for consideration during the sittings will be compulsory education, regarding the enforcement of clauses relating thereto, and the age and attendance limits, school reading books, drawing and sewing instruction, teachers' residences, removal allowances, and sick leave, staffs of relieving teachers, and matters relating to infectious diseases among children.

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The remains of the late Professor Ralph Tate were committed to the grave in the North-road Cemetery on Sunday afternoon, and the gathering of the University officials, students, and friends of the deceased scientist and his family was exceedingly large. The Rev. Dr. Paton conducted a short service at the house in Buxton-street at 3 o'clock, and half an hour later the solid oak casket containing the body was transferred to the hearse, the collection of beautiful wreaths and crosses sent by the University and friends being carried in the wagonette belonging to Mrs. Tate. The cortege, headed by the Chancellor of the University (Sir Samuel Way), the Vice-Chancellor (Dr. Barlow), members of the professorial staff, and about 70 students all walking in academic robes, then moved towards the burial-ground. At the entrance to the consecrated enclosure the students formed columns, and the Rev. W. S. Milne (precentor) took charge and officiated at the grave, the students lining the pathway leading from the hearse to the graveside. The crowd was most representative, including, besides the council of the Royal Society, professional, mercantile, and other people in large numbers, members of the Ministry, and of the Federal and local Parliaments being included in the vast company, who desired to pay a tribute of respect to the memory of the world-famed scientist. Messrs. E. and A. R. Tate (sons), and J. H. Newman and J. McLeod (sons-in-law), and A. Williams (nephew), were the chief mourners.

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CAMBRIAN GLACIAL BEDS.

Our Beltana correspondent wrote on September 20:—"Mr. W. Howchin, who has lately been engaged in showing Professor David and Mr. Pittman, of Sydney, over the Cambrian glacial beds of Petersburg and Jamestown came on to Beltana on Tuesday to examine some fossiliferous limestones of Cambrian age near the Ajax Mine, about 12 miles out from Beltana. He spent two days on the ground, and he regards his trip as very successful. He has obtained a large quantity of fossils from the locality, which he thinks will be of great scientific service in demonstrating the forms of life which existed in the Australian area in that remote period of the world's history. The fossils include ancient coralline forms, of which archaeocyanthus may be taken as a type, several kinds of sponges, and a few other low organisms. Shellfish and trilobites were the highest forms of life that existed on the earth during the Cambrian age, but Mr. Howchin did not find any trace of these forms during his researches. The belt of limestone which carries the fossils is about 250 yards wide, and runs in a south-easterly and north-westerly direction. Limestones carrying similar fossils are found at Sellick's Hill and near Ardrossan, on Yorke's Peninsula. In the Northern Hemisphere they have been discovered to a limited extent in the United States and Sardinia, but Mr. Howchin considers that the Australian development of these old fossiliferous Cambrian rocks is the most extensive in the world. The outcrop is not limited to the Ajax locality, but is found at Blinman and many other places in the Flinders Ranges. Mr. Howchin expresses great satisfaction with the results of his visit, in the furtherance of which he received valuable assistance from M.C. Bert, who placed his blackboy and conveyance at his disposal, and from Mr. J. R. Harvey, the proprietor of the Ajax Mine. Mr. Howchin left for Adelaide today."

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—University Training.—

He thought that no act of his political career in South Australia had given him more pleasure than to have been associated with the then Minister of Education a little more than a year ago in framing and adopting the scheme of university education which had been recently adopted. He had felt for many years past that apart from the excellent work done at the Training College there was need for something else, and most of them felt that that lack could not be better supplied than in connection with the university training. He felt that the teacher would be able to do his best if his mind was the more largely and widely developed, and so at some stage of his training he should be taken out of the department and have experience of other methods. Perhaps nothing would so tend to avoid the dull level of uniformity as taking the pupil teacher out of the department for a time at least during his training, and that was accomplished by the system adopted in connection with the university. Every pupil teacher would have the opportunity of studying for a degree, but he did not think a list of those who gained the degree would exhaust the number of those who would be benefited by the training. Some teachers found it easy to go through the university course and take their degree, but others found it arduous, and in the end failed to obtain the degree, but he thought the advantages of the course, and the wider experience given in the university, would be felt by those who did not, just as well as those who did, get their degree. (Hear, hear.) He thought it would go without saying that the student who could most easily learn would be most easily able to teach. Sometimes a brilliant student who flew over the course did not realize the difficulties of the one who was not so brilliant; but that one who had struggled along the course, and felt the depth of every pitfall would, when he or she became a teacher, know every inch of the road, and would be best able to help the scholars along.

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PROFESSOR MITCHELL'S PAPER.

—Educational Economics.—

Professor Mitchell, M.A., D.Sc., who was well received, said he deplored with them the loss the university and the students as members of the university had suffered by the death of Professor Tate. (Hear, hear.) He was a true naturalist and a patient and unprejudiced observer, who found his life work in a remote corner which few of them knew anything about. His work was known to few, but by them it was regarded as the work of a first authority as well as of a pioneer. (Hear, hear.) It had suggested itself to him that he should speak upon education from the economical point of view. Let them look at the statement that the men and women of a country were its most valuable asset, and that education therefore was their most important industry. The conclusion to which Professor Nicholson came was that in the United Kingdom the living wealth was just under five times the money value of the material wealth. In the living wealth he included not merely the skill, knowledge, and character of those who produced wealth, but the accomplishments, tastes, and domestic graces of the whole population. For those things were not so useless in a country's economy as they might think. There would be no market for pianos, or books, or pictures unless people had learned to use and enjoy them. Still, as the calculation of that item in the estimate was on a different principle from the rest they might exclude it and take simply the productive living capital—the knowledge, skill, strength, and character that earned a workman his wages and gave a master a profit over and above his expenses and the interest on his material capital. Thus reduced, the amount of that purely productive living capital was still almost four times the total material wealth, four times the price of everything else in the country—lands and buildings, public and private, and all that was in them, factories and machines, railways and roads, and everything that had a price. His estimate was made for the United Kingdom, but the ratio could hardly be less in any country with a fairly educated people, and in their own country the difference must be to the advantage of the living capital. That was a striking result, and was of fundamental importance. The economist far more than corroborated what might otherwise appear to be political bilfatin, that education was the chief industry of the state, and produced its most valuable asset. The school was not, of course, the only means of education. There was, above all, the family. There were all the associations of youth; there was the workshop, the office, the church, the press, and all literature and art. Those means of education all had their value. He wanted to impress upon them the importance of the general education which the Government and the university had put in their way. The training college had been abolished, and with it the old ideal of training which it represented. The name also should be abolished, for it suggested to those who did not know that their students got a lower grade of instruction at the university than other students. On the contrary, they studied nothing with them that was not within the ordinary courses for the arts and science degree. The old ideal made skill in teaching and knowledge to be of small account. It aimed to make journeymen, and they had now the opportunity to become masters. (Cheers.)

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CAMBRIAN GLACIAL BEDS.

To the Editor.

Sir—Your correspondent at Blinman gives the impression that Mr. Howchin is, if not the actual discoverer of the Cambrians about Beltana, at least the first to work there. Moreover, he considers that these fossils will be of use in demonstrating to the scientific world the character of the fauna which predominated on the earth at that remote period. In all justice to the late Professor Tate, may I remark that these beds were discovered and named by him some years ago? Ethmophyllum Hindri and Coscinoanthus Etheridgi were named by him, and Coscinoanthus Tatei was also identified. Specimens of these fossils may be seen in the university cabinets. These beds, as stated, are by no means to be compared in extent with those of the northern hemisphere, as far more extensive deposits are known in England, Scotland, Ireland, Wales, Bohemia, Spain, and America; and these beds include no less than 172 species of crustaceans, while not a single specimen has been found at Beltana.

I am, Sir, &c.,

STUDENT.

Mount Barker Paper Sept. 1901.

AUSTRALIAN EXPLORERS.

The first of a series of University extension lectures on "Three Australian Explorers: Flinders, Sturt, and Stuart" was delivered by Mr. G. Sutherland, M.A., at the Mount Barker Institute on Friday evening. There was a good attendance, and Mr. A. C. Daw, J.P. (president of the institute), occupied the chair.

Mr. SUTHERLAND, in referring to Matthew Flinders, said that he arrived at Sydney with Governor Hunter in 1795, being then about 19 years of age. Soon after arrival Flinders, with George Bass (a fellow midshipman), obtained permission to make an exploration of the harbor. They eventually sketched a map illustrative of their expedition, and so well pleased was Governor Hunter with the sketch that he sent it to England. A little later Flinders and Bass, in an 8ft. boat, examined and mapped out very carefully 60 or 70 miles of the coastline below the harbor. Flinders' next voyage was to Tasmania, which he discovered was not part of the mainland, as was previously believed; Tasman and other navigators had sailed to the south of the island, and had not discovered the passage which is now known as Bass Strait. Flinders was now made a lieutenant and returned to England, where he got married. Subsequently the young explorer was successful in having a ship placed under his charge by King George III. in order that he might extend his discoveries, and for this purpose he sailed for Australia in the Investigator (334 tons) in August, 1801—just over 100 years ago—with 83 persons on board. On reaching King George's Sound, Flinders commenced a minute inspection of the Southern coastline, and the names now on the map were mostly given by him. At the prominence named Cape Catastrophe one of the ship's crew (Mr. Thistle), going in search of fresh water, was lost—hence also Thistle Island—while Spencer's Gulf, Yorke's Peninsula, &c., were called after officers of the Admiralty of that period. In connection with the loss of Mr. Thistle, it was interesting to note that part of the copper tablet inscribed and erected near where he was drowned was now to be seen at the Adelaide Public Library. Flinders proceeded to the head of the large gulf, and on landing discovered the Flinders Ranges, the Mount Brown of which was called after the botanist. Sailing round