

and useful work. We have in our officers and in our members men well qualified to instruct, and I hope entertain, I should like the society to determine to hold periodical meetings, say every other month, when matters of interest to the world of commerce should be the subject of lectures or discussion, or both. To such meetings we might invite our leading men of business, and the students in the commercial classes, and in such way bring and keep our aims before the public. Might I suggest such questions as the 'Economic effect of credit,' of 'New protection,' 'Trades Unions of 'Trusts,' 'The Government control of monopolies.' These and kindred questions are matters on which the public mind seeks guidance, lacking which there is likely to be an eternal tinkering with existing laws, in the shape of experimental legislation in the effort to arrive at some solution. We have an ambitious programme outlined in our constitution, and I am sure we desire its fulfilment. We aim at furthering and improving the status of commercial education. We wish as soon as our finances will permit to offer scholarships in connection with the course. We aim at the establishment of the degree of Bachelor of Commerce at the University of Adelaide. To gain and to do these things means work, and we have in our society the members for the doing of that work. Are you ready to do it?"

—President's Address.—

The report was unanimously adopted. The President (Mr. J. R. Fowler) then gave an inspiring and encouraging address to the members. The movement for the promotion of commercial studies had been surrounded with difficulties from its inception in 1902. He referred to the work done later, when in 1904 the first batch of men took the "advanced commercial certificate," and the fact of the board of commercial studies adding another subject and making a diploma of it. It was the desire of the board that the diploma should be recognised in Sydney and Melbourne, but they found that Sydney was aspiring to work on more ambitious lines, and it could not then be arranged. He was pleased that the movement for the formation of a society had come from the students, and that the commercial education was becoming more and more popular. This year there were over 80 students attending the lectures, for a course of studies which had no superior either in Melbourne or Sydney, and he hoped that in the near future a system of reciprocity would be arranged with those cities which would add materially to the value of the diploma in commerce. He referred particularly to the pioneers of the movement, and made special reference to Dr. Barlow, who was chiefly instrumental in procuring the consent of the council of the University. He spoke of the work performed by Professor Bragg, who was now filling an eminent position in the old country; and also by Professor Mitchell, who lectured in economics for the commercial course. To these three gentlemen more than any others was due the credit and honour of the installation of the commercial course, as well as the fact that they were in unison with the Chamber of Commerce. He was fully in sympathy with the objects of the society, particularly the furthering and advancement of commercial education offering of scholarships, and establishment of a degree, so that there might be a continued linking up of the influences that were brought to bear on the students. He reminded the members who had obtained the diploma, and those who were working for it, that it was either a goal at which they might aim and then stop, or a milestone that had to be passed on the road to something higher. If they intended to take it simply as a goal, then they were going to lose. Some business men had given ideas as to what commercial education meant, and seemed to think that competent men would be turned out already perfected and experienced, but a business man could not be made by any process. He could be given an equipment and better opportunities for making the most of other opportunities that might present themselves. There could be no greater mistake than to think that a certificate meant success, unless backed with enthusiasm. The great object was to apply the knowledge obtained and to cultivate powers of judgment. The greatest gain to the students was that they were brought into touch with University life and spirit, and the University commercial education enabled them to fulfil the wider duties of citizenship that every one owed to the community to which he belonged.

Dr. Barlow endorsed the remarks of the President in a short address, which was greatly appreciated.

—The Officers.—

A vote of thanks to the President for his address was proposed by Mr. P. E. Johnstone, seconded by Mr. W. Neill, and carried with acclamation, after which the

1910
election of officers for the ensuing year resulted as follows:—Patron, Dr. W. Barlow; President, Mr. J. R. Fowler; Vice-Presidents, Professor Jethro Brown, Messrs. B. D. Colvin, R. J. M. Clucas, S. J. Jacobs, and P. E. Johnstone, Professor W. Mitchell, Messrs. W. Neill, A. W. Piper, and John Shiels, and Sir Robert Thomas; Secretary, Mr. G. O. Robertson; Treasurer, Mr. R. M. Steele, jun.; Auditors, Messrs. W. F. Harrison and A. E. Messent; Members of the Council, Messrs. H. E. Annells, C. S. Bray, W. J. Coffey, R. H. Cotton, A. R. Hogben, D. Kirkham, T. R. Kleeman, F. H. Menkens, and H. C. Thomas. After the admission of Messrs. A. J. Dobson and A. E. Wood, refreshments were provided by the members.

Register May 31st, 1910.

RADIUM STUDENT.

INTERESTING EXPERIMENTS.

PORT DARWIN, May 30.

Mr. J. H. Niemann, the Government Chemist at Pine Creek, in a paper read before the members of the Australasian Association for the Advancement of Science in January, 1909, referred to the various phenomena believed to be peculiar to the Territory, and which he believed to be due to the presence of abnormal quantities of ozone or some equally powerful gas in the atmosphere. Later on he discovered that the proportion of ozone increased during the dry season, and was at least quadrupled when strong south-east winds were blowing. For various reasons Mr. Niemann was compelled to abandon the research work during the latter half of 1909, and this was resumed only in March this year. In the meantime he had secured the latest literature regarding radium, and learned that this famous new element was found associated with minerals which were found widely distributed throughout the Territory. He also learned that oxygen was converted into its allotropic form (ozone) in the presence of radium, and that crystal glass acquired an amethyst colour when subjected to its action. He had previously observed that crystal glass containing manganese acquired an amethyst tint after exposure to the atmosphere for a few months, and that after a few years this tint so deepened that the glass exactly resembled an amethyst gem in colour. He was at a loss to find a satisfactory explanation of this singular colouration until it was suggested by his reading that it was due to the action of radium. At the same time in view of the fact that the colouration was effected only by fairly strong salts of radium or by substances which had absorbed the element itself, and not by any radio-active ore, this explanation seemed an impossible one, since it argued that Nature had established a great radium factory in the Territory.

Absurd as this corollary appeared when first evolved, further experiments go to prove that such is actually the case. Writing from Pine Creek on May 27, Mr. Niemann states:—"You will be pleased to know that there is not the slightest doubt now that amethyst glass is decidedly radio-active, and contains radium in a pure form occluded within it, that is, it possesses all the properties of various radium rays. I am forwarding you the following ocular demonstrations:—The first radiograph of a key taken on an ordinary photographic plate, and given five days' contact. (This shows distinctly.) The second, the same kind of plate, exposed for the same period, shows an equally distinct radiograph of mica. The third is a rapid plate, given 10 days' contact with finely powdered glass covering a threepenny piece. The long contact with the rapid plate has enabled radium either to penetrate the coin or allowed the rays from the fine glass to extend their influence. Laterally the image of the coin is not very distinct, but the whole face of the plate is darkened as though it had been exposed to the sunlight, and is thrice as dark as the check plate, which was not in contact with any radio-active material. The fourth check plate also shows a faint image of the coin, which may have been caused by radiation from the other plate, although the two plates were well separated. The fifth, an amethyst glass, showed the explosive action of radium described in Harper's Magazine for December, 1909. The proofs that the amethyst glass contain radium are—firstly, the radiographs as above; secondly, the explosive effects plainly evident in many specimens; thirdly, the colouration of the crystal glass left in contact with the amethyst glass for a month or two indoors, an effect which is only produced by radium so far as known; and, fourthly, the melting into liquid vaseline placed for one day in a box with amethyst glass, whilst a check bottle in an adjoining box remained unmelted; and the fine liberation of ozone and nitrogen from the air, as proved by some recent Melbourne experiments. I believe I am the first to make the discovery that certain glass absorbs radium into its substance."

Register, May 31st, 1910 3

UNIVERSITY TRAINING COLLEGE.

To the Editor.

Sir—There seems to be a bother in the education line. It was inevitable. The department was to be worked on democratic lines, whereas it has got to be ultra autocratic—Tory of the bluest blue. Every new fad is introduced to work out salvation, and every new fad is in turn discarded. The Education Act was framed designedly to give the public an insight into and an interest in the education of their children, and for that reason there were Boards of Advice to induce the public to look into the working of their schools, and a Council of Education, more or less open to the press, by means of which the public and the Parliament knew exactly what was being done, and what was the policy of the department which prevailed, whereby a check was kept upon cranks, and the public studied the reports with the closest attention. But a great man arose—undoubtedly a great man—a strong man, who sat in the seat of the mighty, and he could not bear the criticisms of the press nor comments in Parliament, nor letters in the papers hostile to his views, and, as for Boards of Advice, they were anathema. What did they know about education? Everybody was aware that they did not know much, but it was hoped that they would learn, and be a bond of sympathy between the department and the parents, and give useful aid in making the system popular, and in its working. But the strong man would have none of it, and so Boards of Advice were snubbed, if not ridiculed, from the first until they became nonentities. The Council of Education, like many other men in power, backed the strong man against the boards, with the concomitant that the strong man ultimately smashed the council even more completely than he smashed the boards, and got everything into his own hands, and presently no other human soul knew anything whatever about the working of the Act, or the policy of the department, or about education, and all special interest in it ceased. Poor Wapstraw shrugged his shoulders, and went to his plough rejoicing. And I venture most respectfully to affirm that there are not 10 men in the whole State who know anything about these things, except those who are or have been connected with the department. And thus the strong man did it. He persuaded a weak Minister or two that the Council of Education was usurping, and deprived him—mark you, deprived him—the Minister—too greatly of power. Having achieved this—for power is dear to the human heart, Ministerial, as well as administrative—he imbued the Minister with the idea that the system was not democratic enough, and that the House of Assembly had no real control over its working, and was humbly subordinated to the council, whereas the council ought to be subordinated to the House of Assembly. And the latter body swallowed the sweetened pill, and swept away the council, so that now neither the Assembly nor "any other fellow" knows anything at all about it, and the Minister very little until the Director tells him. Hence, the constant complaints, and the permanent dissatisfaction, and the present embroglio. The trend of operation of every strong mind is in the same direction as that of the strong man referred to. Therefore, formal enquiries seldom elicit the whole truth, for subordinates fear to speak. The iron rule of the department is like the extinguisher on a candlestick. The public is assured that all is for the best, in the best of all education systems, and long, learned words are spun in long and learned speeches as proof thereof, which the public accept be-

cause they do not understand one word of it. I venture to suggest to you that no part of your newspaper ever did better work or work of greater real benefit to the public than your reports of the doings of the Council of Education, and that a return to that system would prevent very much of the seething discontent which exists. Let the public know what their children are really being taught, and wherefor it is taught them, and enable the representatives of the people and the children's parents to judge as to the administrative wisdom of the department. In my opinion the University students have done the public a very great service, and I cordially support the opinions of your correspondents "Parents" and "Malvern."

I am, Sir &c.,

STUDENT.