Advertiser 11.11.15

THE SCHOOL OF MINES.

To the Editor.

Sir—May I express my sincere appreciation of the leading article appearing in "The Advertiser" of Tuesday, which dealt so concisely with the untoward possibilities of the transfer of the School of Mines to the Education Department, as contemplated in the Education Bill before the Legislative Council. Such a statement of the case must receive the enthusiastic support of every graduate of the institution. And may I also thank Mr. T. H. Smeaton, M.P., for his flattering comments upon my contribution in regard to this most important question. I am glad that Mr. Smeaton exonerates me from any "desire for personal aggrandisement," but any misgivings he may have had in that particular will have been removed by your editorial note, reminding him that I resigned the position of registrar of the school two years ago, and I may assure Mr. Smeaton that during my long tenure of the office of registrar I on no occasion wrote to the press re matters of the school, although then, as now, the actions and statements of legislators, made no doubt with good intent, but with misunderstanding, often tried my patience. But Mr. Smeaton's letter shows him to have an exceptional grasp of the difficulties as well as merits of the existing educational system, and I am sure that had he been a member of the Education Commission he would now be one of the school's most ardent champions, and unreservedly opposed to its disintegration, or to any action likely to disturb its valued traditions. Mr. Smeaton states that "The whole argument to me for the change lies in the closer association which the provision of the Act will secure between branches of our educational system, which have hitherto been too independent of each other, in idea at least, if not in fact." This savors of theory, and I am astonished to have it from one so practical as Mr. Smeaton. If co-ordination exists in our system "in fact" who cares whether it exists or not "in idea." The authorities of the school have always looked to plain facts, and fanciful theories of education have never been a source of hindrance to them.

If our statesmen would only perceive they would know that the educational ladder has been more nearly complete in South Australia than under any other system that they could possibly discover. In the first place, there are a number of valuable scholarships from the public schools to the high schools, and from high schools to University and School of Mines. If necessary the number could be increased, but careful enquiry would result in the discovery that many of these go abegging. The School of Mines offers a studentship to country boys, which is worth about £200 for the four years of its tenure, but competition for it is practically negligible. The ambitious youth, therefore, in town or country, will find no great difficulty in securing monetary assistance should he desire to enter upon a course of technology. Having entered the School of Mines a student may discover that subjects he takes, be they studied by day or in the evenings, will find recognition at the University should his ambition lead him so far, and there are numerous cases—my own is one of them—of young men taking up studies to assist them in their vocations, and having after a few years scored so many passes of the desired character that the diploma and, finally, the degree have come within their grasp. I would press home this tribute to our co-ordination, for such a condition of things does not exist in Melbourne or in Sydney, where they have a system of education as contemplated in the Education Bill. Students in engineering at the Sydney Technical College completing their courses have by that virtue secured no status at the University, and students winning the Peter Russell scholarship, given by the University of Sydney, are required to do over again at the University all the subjects that they have taken at the Technical College. They may have co-ordination "in idea," but certainly not "in fact."

Mr. Smeaton states that he is not surprised that I "and others are somewhat dominated with the idea that the higher and academic side is the more important and should control." If he means that we have an opinion that the trades and industries part of the school's work is of less importance to the State than the higher work that few may attain to, he is quite in error, and a careful reading of my previous letter must make that clear; but if he means that I have a disinct

opinion that the tail should not be permitted to wag the dog in education he is certainly right. I agree with your statement in the leading article above referred to, that the school should pass "to the University rather than to the managers of primary schools."

There is a defect also in the idea that "the trade and industrial school" should be developed "in connection with our public school system." I am sure that the design, supervision, curriculum, and plant of this department of education will be found in the future to tax to a greater degree the initiative and technical ability of educationalists than either university, secondary or primary education, and this department, I am assured, should be distinct from the public schools. In France and in Prussia the foolish mistake now contemplated here has been tried and abandoned. In both countries this work is now under the Minister of Commerce and Industry, the changes having been made in the desire to be certain that vocational education should directly serve the industrial requirements of the two nations. In this unfortunate time, when we have had forced upon us a proper appreciation of the industrial organisation of both, could any fact be more patent? Mr. Smeaton touches my vanity when he so intimately associates me with Sir Langdon Bonython in his closing remarks. I thank him for the compliment, but I can quite imagine that Sir Langdon Bonython will be somewhat amused at a suggestion that he should do the very thing that he has done with such conspicuous success during the last 20 years, viz., devise "some method by which the association of the University may be secured for the advantage of those who will graduate from class to class," &c. This has, as I have attempted to demonstrate, been done already, and the failure of some members of Parliament to realise it is surely a poor reward.—I am, &c.,

L. LAYBOURNE SMITH.

Steamship Building,
November 10, 1915.

Advertiser. 15.11.15

The following have been nominated to fill the five annual vacancies on the council of the University:—Mr. J. R. Fowler, Dr. W. T. Hayward, Mr. R. Barr Smith, Mr. S. Talbot Smith, and Professor Stirling, C.M.G. The only nomination for warden was that of Mr. F. Chapple, C.M.G., and the only nomination for clerk that of Mr. T. A. Caterer.

Advertiser 15.11.15

THE NOBEL PRIZE

WON BY PROFESSOR BRAGG AND HIS SON.

X-RAYS AND CRYSTALS.

STOCKHOLM, November 13.

Professor W. H. Bragg, F.R.S., formerly Professor of Physics at Adelaide University, and Mr. W. L. Bragg, M.A., Fellow of Trinity College, Cambridge, will divide between them the Nobel Prize for Physics. The award has been made to them in recognition of their researches in regard to the X-rays and the examination by their means of the formation of crystals.

The Nobel prizes were established by the late Alfred Bernhard Nobel, the Swedish chemist and engineer, who died in 1896. From the manufacture of dynamite and other explosives, and from the exploitation of the Baku oilfields, he amassed an immense fortune. The bulk of this he left in trust for the establishment of five prizes, each worth several thousand pounds, to be awarded annually, without distinction of nationality. The first three of these prizes are for eminence

Professor W. H. Bragg, F.R.S.

in physical science, in chemistry, and in medical science or physiology. The fourth is for the most remarkable literary work, dans le sens d' idealisme. The fifth is to be given to the person or society that renders the greatest service to the cause of international brotherhood in the suppression or reduction of standing armies, or in the establishment or furtherance of peace congresses.

Professor Bragg, who is a Fellow of the Royal Society, a Master of Arts, and a Doctor of Science, recently exchanged his position as Cavendish Professor of Physics at Leeds University for a similar office in connection with the University of London. For many years he has been engaged in researches on the subject of radio-activity, and before he left the Adelaide University he had earned a world-wide reputation by his discoveries in this realm of science. When he went to Leeds in 1908, Professor Bragg continued his work in the same sphere. His son, Mr. W. L. Bragg, who had previously studied under his father, after a brilliant course at Trinity College, Cambridge, of which great centre of learning he is a Fellow, threw himself into the business of research in conjunction with his father. This year they caused a sensation in the scientific world by the publication of a paper on "X-ray and Crystal Structure," for which they were awarded the Barnard Medal by the Columbia University, New York. Sir Ernest Rutherford, a New Zealander, who is now Longworthy Professor of Physics at Manchester, was awarded the Barnard Medal in 1910, and the Nobel Prize for chemistry two years earlier.

Professor Bragg's scientific researches covered a wide range while he was in Adelaide, but his chief work here was done in connection with what are known as the alpha rays emitted by radium and other radio-active substances. Such substances emit three types of radiation, but it is the alpha rays that are the cause of the remarkable phenomena of the continuous production of heat and phosphorescence that first drew attention to radio-active bodies. Before his experiments very little was known of their properties except that they consisted of positively charged particles, probably atoms of

Mr. W. L. Bragg, M.A.

Registered 15th November 1915

PROFESSOR BRAGG AND SON

Nobel Award.

STOCKHOLM, November 13.

Professor W. H. Bragg, of the chair of physics at the University College, London, formerly of Adelaide University and the University of Leeds, and his son (Mr. W. L. Bragg), of Cambridge, have been granted, and will divide, the Nobel Prize for physics. The research work which has gained them the award consisted of X-ray examinations into the formation of chystals.

This year the Barnard Gold Medal (which is awarded every five years by the trustees of the Columbia University, New York, for meritorious service to science) was bestowed upon Professor Bragg and his son. Professor Bragg was at one time lecturer in mathematics and physics at the Adelaide University. Mr. W. L. Bragg, after having attended St. Peter's College, proceeded to England, and is a Fellow of Trinity College, Cambridge. The discoveries which first brought the professor's name into prominence were in connection with the rays of radium. Later, both in Adelaide and when he went to England, his theories and experimental work in connection with the X-rays widened. In 1913 Dr. Laue, of Munich, made the supposition that a crystalline substance would be able, by virtue of its regular structure, to split up a pencil of X-rays, just as an artificial structure, such as a wire gauze, can split up a view of ordinary light. This supposition was verified by an experiment made by two of Dr. Laue's pupils. Professor Bragg's theory of X-rays assumed that they were of a material character, as were the rays from radium. Laue's experiment finally disproved the theory, and it was therefore the more interesting that the correct theory of the German scientist's experimental results should first have been given by Mr. W. L. Bragg. Since then father and son have worked in collaboration on the new discovery, and they not only succeeded in proving that the length of the waves of each X-ray consisted of approximately 1-1,000th of that of ordinary light waves, but also in ascertaining, by means of them, the exact structure of many different kinds of crystals. The method of doing this consisted in passing a narrow pencil of X-rays through a piece of the crystal and either receiving it on a photographic plate or in a special instrument designed by Professor Bragg and termed the X-ray spectrometer. This instrument depended upon the ionization produced by X-rays in air. In recommending the giving of the Barnard Gold Medal to the father and son the National Academy of Sciences of the United States reported that "in a noteworthy series of luminous publications and in an equally noteworthy series of masterly public expositions, they have supplied the initial methods and furnished many of the preliminary results which must lead to a still more productive era in the advancement of molecular physics, and hence in the advancement of the entirety of physical science."

SIR SAMUEL WAY GRATIFIED.

The Chancellor of the Adelaide University (Sir Samuel Way), when informed of the honour conferred upon Professor Bragg and his son, expressed his pleasure at the news. He said that this marked the completion of a series of scientific investigations which Professor Bragg had conducted, and the success was all the more remarkable, because in its achievement he had been associated with his son. He was sure that the professor would be all the more pleased that the honour conferred upon him was also shared by his son.

Rejected 22nd November 1915

The late Mrs R. Barr Smith

CHIEF JUSTICE'S EULOGY.

The Chief Justice (Sir Samuel Way) remarked on Sunday:—"For the last 19 years Mr. Barr Smith was a member of the council of the University, and next to his brother-in-law, the late Sir Thomas Elder, the most liberal contributor to its funds. The subjoined list of his benefactions (not a complete one) indicates the interest he took in every phase of the life of the University:—(1) In the years between 1892 and 1911 Mr. Barr Smith gave to the University library sums amounting to £9,000; (2) to the formation of a fund for research in physics, £1,000; (3) for the erection of a boatshed, £750; (4) to provide an annual prize for Greek, £150; (5) donation to the fence account, £400; (6) donation to the pavilion on the sports grounds, £100—aggregate, £11,400; (7) in 1913 Mr. Barr Smith promised a sum of £10,000 for the purpose of building a common hall for the meeting of professors and students, "on condition that the Government would subsidise the donation, pound for pound, to be used for the purpose mentioned; and that the Government would allocate to the University the additional grounds for which the University had made request. His benefactions to the University are thus equivalent to £21,400."