contd. Ad. 7/2/08.

utilitarian side of the science, and especially its value to navigation, will commend it to many. But even if it were not expected that results of direct utility would accrue from the teaching of astronomy at the Adelaide University, it would still be a worthy ambition for those who control the affairs of that institution to cherish. Now that it is playing such a large part in the training of State school teachers, a real value would attach to an opportunity of attendance at lectures on this science. Nothing can be more calculated to give a noble conception of life than a study of the illimitable universe, so far as that is possible to an inhabitant of this tiny planet. The knowledge gained in the lecture-room would have an abiding effect on the mental temper, and it might be used in a hundred different ways when the students teach the children who in due course will be committed to their care by the Education Department. The world is rapidly adding to its store of information concerning the heavenly bodies. Their position, size, and constituent parts, thanks to photography and the spectroscope, are being determined, and a whole new realm of facts and ideas is being brought within reach of the human mind. South Australians are rightly desirous of having some active part in extending this science.

Registered Feb. 4th. '08.

UNIVERSITY RECREATION GROUND.

During his speech in introducing the deputation to the Treasurer on Monday in regard to the establishment of a Chair of Astronomy at the University of Adelaide, the Chancellor (the Right Hon. Sir S. J. Way) said he thought that there were four or five acres in the West Terrace Reserve which would supply what they badly wanted at the University—recreation ground for their students. The Treasurer—So far as sport is concerned, the Adelaide University is not residential, and there are magnificent park lands around Adelaide. Professor Bragg—It is just because it is not residential that we are so keen on getting a sports ground. The Treasurer—But that is apart from the scientific aspect before me. Sir Samuel Way—The absence of residence at the University makes the camaradie that comes through sport all the more necessary. There is a valuable piece of park lands we would like to have, but we found it was already occupied, and there is no other place available except what we might use through concession, such as the Oval. It would be a distinct advantage to have a separate ground.

Registered Feb. 4th. '08.

THE UNIVERSITY.

The attention of intending students at the University is directed to an advertisement appearing elsewhere. Three free scholarships—one each for singing, pianoforte, and tenor—are offered for competition. Intending applicants for evening scholarships are informed that February 28 will be the last day of entry. Attention is also directed to the fact that the first term of the Conservatorium will begin on March 3, and the first term of the University on Tuesday, March 10. Intending students are requested to enter by those dates.

We have received the manual of the Public Examinations Board in connection with the University of Adelaide for 1908.

Advertiser 7/Feb. 4th. 08.

OFF TO THE SOUTH POLE

THE SHACKLETON PARTY.

A LETTER FROM MR. MAWSON.

A letter has been received by Mr. E. R. Stanley, of the Adelaide University, from Mr. D. Mawson, B.Sc., a member of the Shackleton South Pole Expedition. The letter was written at King Edward VII. Land, on January 14. Mr. Mawson said that they met with severe gales between latitudes 40 and 60 degrees, about 1,200 miles south-south-east of Lyttelton. They were somewhat alarmed for some time, as they thought the boat would not survive, but after a trying experience they found themselves once again riding safely on a tranquil ocean. During the storm they lost a good deal of deck cargo, bulwarks, and a pony and dog. The cargo boat which had been towing them left them 1,300 miles from Lyttelton, as the ice was getting dangerous, and they were then on a placid ocean. When the letter was written the day was 24 hours long, the sun at midnight being merely low down on the horizon. The weather was very cold, and Mr. Mawson remarked that it suited Australian geologists to prosecute researches nearer the equator than in the Antarctic. He stated that Professor David intended, if possible, to prolong his visit to the polar regions.

As the cargo boat has returned the expedition is now cut off from communication with the northern world, and many months must elapse before another letter can be received from the party.

Registered Feb. 7th. '08.

A WORLD-RENOWNED LABORATORY.

THE ROYAL INSTITUTION.

The most famous scientific laboratory in England is a private establishment—that is to say, is the property of a society of scientific men—owes nothing to the State but its name, and is not directly connected with any university. That renowned establishment is the Royal Institution in Albemarle street. It has been made illustrious (writes The London Daily Telegraph) by the researches of some of the most distinguished men, especially in physics and chemistry, that the world has produced. We know of no other institution of the kind that has a comparable record.

It is a curious circumstance that we owe the Royal Institution to an American, Benjamin Thompson, Count Rumford, a debt which happily we have repaid by the Smithsonian Institution at Washington, which was founded by Mr. Smithson, an Englishman. Count Rumford's aims have been splendidly realized. The chief objects of the institution he founded are:—"To prosecute scientific and literary research; to illustrate and diffuse the principles of inductive and experimental science; to promote social intercourse among lovers of science; and to afford opportunities for collective and individual study." The men of research who make discoveries in science submit them in learned essays to the Royal Society, which corresponds in this country to the Academy of Sciences in Paris. The Royal Institution is of a totally different character; it is a place where members and professors carry out experiments, and where, in its lecture theatre, the latest and best things in science are taught and expounded. The greater glory of the Royal Institution has lain in experimental research. Owing perhaps mainly to Governmental indifference and neglect, the land which produced Bacon, and which more than any other has insisted on induction and experiment in philosophy and science, has for considerably over a century been backward in the matter of experiment. Splendid work has been done by devoted men, but we have lacked the magnificent installations that France and Germany and other lands have possessed. Kelvin had to go to Paris for laboratory experience. To-day, notwithstanding much progress of late years, we lag far behind several Continental nations, relatively to our population and wealth. More than any other institution the Royal, in Albemarle street, founded by Rumford in 1799, has filled this lamentable gap in our national equipment, and from the day of its foundation to this hour its record has been a succession of brilliant triumphs.

—Philosopher of Light.—

Count Rumford himself was an experimenter. He observed the heat generated in metal by cannon boring, and thence deduced the theory that heat was, as Tyndall put it, "a mode of motion." Marvellously successful was the new society in its earliest professors. The first was Thomas Young, of whom his colleague Davy said, "He knew so much it was difficult to say what he did not know." In science he was by far the ablest man this country had produced since the time of Newton. It was his glory to overthrow the one great theory in which Newton was wrong—the emission or corpuscular theory of light. Young demonstrated that light consists of vibrations in a luminiferous medium—the ether—which pervades all space. He was savagely attacked by Henry Brougham for daring to controvert the author of the "Principia," and several years of his life were lost to science in consequence. Later Young's results were independently rediscovered by Fresnel, and the whole world now acknowledges their truth. For Young it was a bitter experience; for us to-day it is simply astounding to read Brougham's invective. He could find, he said, in the memoirs, "nothing which deserves the name either of experiment or discovery;" they were "destitute of every species of merit;" and the Royal Society was censured for printing such "paltry and unsubstantial papers." So much for the lawyer and politician as scientific censor. Young made known his momentous theory—the greatest in optics—while still professor at the Royal Institution.

—Genius of Chemistry.—

To Thomas Young succeeded Humphry Davy, the most brilliant chemist of his age. It is very becoming that the first Friday evening lecture, on January 17, is to be devoted by Professor Thorpe, F.R.S., to "The centenary of discovery of the metals of the alkalis." Looking back a century, it is charming to find that Davy, engaged as "assistant lecturer in chemistry," was allowed "a room in the house (Albemarle street), with coal and candles, and a salary of £100 per annum." The assistant lecturer was soon so famous that, as Dr. Paris wrote—"The enthusiastic admiration which his lectures obtained is at this period scarcely to be imagined. Men of the first rank and talent, the literary and scientific, the practical, the theoretical, blue stockings and women of fashion, the old, the young, all crowded—eagerly crowded—the lecture room." A man of ungainly appearance and awkward manner, the moment Davy began to lecture he riveted his hearers' attention. Better than his lectures were his experiments. The alkalis to which reference has been made were potash and soda. At the commencement of the nineteenth century Volta had startled the scientific world by his discovery of the electric battery. Electro-chemistry was in the air, and Davy achieved one of the first great triumphs. In the laboratory of the Royal Institution he employed a powerful battery—extremely powerful for those days—and resolved the potash and soda into their elements. On November 12, 1807, he wrote to a friend:—"I have decomposed and recomposed the fixed alkalis (potash and soda), and discovered their bases to be two new inflammable substances (potassium and sodium), very like metals, but one of them lighter than the other, and infinitely more combustible." This material universe is composed of about 100 elements—the number is constantly being extended by fresh discoveries; but these elements are rarely found single. Usually they are combined or mixed with others. Thus in the air oxygen is a gas mixed with nitrogen; in water it is combined with hydrogen to form a liquid. Gold, silver, and several other metals when not corroded or rusted are elements in their ordinary state. In most cases chemical decomposition is necessary to arrive at the elementary substances. No eye had seen the metals potassium and sodium until Davy set them free by the electric current. How different from potash and soda looked those metals with light silvery sheen, and so inflammable! London society was charmed with Davy's demonstrations.

—Electro-Magnetic Discoveries.—

Davy's greatest discovery, it has been said, was the discovery of Michael Faraday, whose fame was to eclipse that of his brilliant master. Davy's kindness to the "bookbinder and stationer's apprentice" did him honour. In 1812 he engaged Faraday, then a young man of one-and-twenty, as assistant at the Royal Institution laboratory at a weekly wage of 25/. Unfortunately Lady Davy had none of her husband's appreciation for the garcon of the laboratory, whom she persisted in treating as a menial. No greater honour can be paid to the Royal Institution than to say that it was Faraday's college. The story of Faraday's experiments in the