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UNIVERSITY JUBILEE CELEBRATIONS.

New Engineering and Physics Building.

Opened by the Premier.

The importance of the study of physics and engineering was emphasised at the official opening of the new building for the teaching of those subjects at the University.

The opening of the Engineering and Physics Building, erected by the Government in close proximity to the other University buildings, was made to synchronise with the jubilee celebrations of the University of Adelaide. The ceremony was performed yesterday by the Premier (Hon. J. Gunn) in the physics lecture theatre. It was well attended by visiting delegates, the professorial staff, and members of the public. The Chancellor (Sir George Murray) presided, and among those present were the Vice-Chancellor (Professor W. Mitchell), the Premier (Hon. J. Gunn) the Minister of Education (Hon. L. L. Hill), the Chief Secretary (Hon. J. Jelley), Professors R. W. Chapman and Kerr-Grant, and the Director of Education (Mr. W. T. McCoy).

Greater Facilities for Study.

The Chancellor asked the Premier to open the building, and handed Mr. Gunn a small gold key which, he mentioned amid laughter, would not admit him to the building at other times should he be disposed to try to get in. Outlining the history of the premises, the Chancellor said the ceremony was not the least important in the programme arranged by the University for the celebration of its jubilee. The building had been erected with funds provided by Parliament—(cheers)—and under the direction of the Architect-in-Chief, to provide more adequate accommodation for the teaching and study of physics and engineering. It had taken a long time to construct, but the end having now been reached, the Premier had kindly consented to hand it over to the University, and to declare it open. (Cheers.) When the University began its career in 1876, the possibility of laboratories such as these being required within 50 years was not dreamed of. For the Professor of Mathematics, to whom also was assigned the duty of lecturing on physics, only three comparatively small rooms were provided in the original building. Two others in the basement were afterwards fitted up for electrical work. That was the whole of the accommodation Professor Lamb and his successor (Professor Bragg) had at their service. Yet, there it was that they began their researches in gravity and radioactivity, for which their names had since become famous. (Cheers.) No further laboratories were provided until the Prince of Wales Buildings, of which the foundation stone was laid by his Majesty the King when Duke of Cornwall and York in 1901, were completed. A set of rooms then became available for Mr. Chapman, the lecturer in applied mathematics. The growth of the University was during this time steadily increasing. The classrooms became overcrowded, and lectures had to be duplicated. The need for special training in the applied sciences, mining, metallurgy, electrical and civil engineering, became insistent. The School of Mines and Industries, founded through the liberality of Sir George Brookman—(cheers)—and presided over and added to by Sir Langdon Bonython—(cheers)—relieved the situation to some extent, but it had no power to grant degrees. In 1907 Mr. Chapman was raised by the University to the dignity of Professor of Engineering—(cheers)—and in 1910 Mr. E. V. Clark was appointed lecturer in electrical engineering, and Mr. H. W. Gartrell lecturer in mining engineering. (Cheers.) Diplomas in those subjects were granted, but the only degrees which could be conferred were bachelor and doctor of science. In 1911 Parliament authorised the granting of the degrees of bachelor and master of engineering, and these were given equal status with those granted by other universities in the Empire by Royal Letters Patent in 1913. To prevent overlapping in the work of the two institutions, agreements were entered into between the University and the School of Mines, under which students of the University received their instruction in mining, metallurgy, surveying, and building construction at the School of Mines, and students for the fellowship course of the School of Mines received instruction in physics, chemistry, geology, and mineralogy at the University. Now, thanks to that splendid building, the pressure from want of space would be removed, and not only would Professor Kerr Grant and Professor Chapman be given greater facilities for their work, but the students of both the University and the School of Mines would be benefited, as the arrangements for co-operation would continue. The equipment of the building would involve both time and expense, but they already had to acknowledge many valuable gifts of machinery and apparatus from various donors, for which they were deeply grateful. He would not attempt to describe the building. Personal inspection would convey more than any words of his could do, but he would like to express appreciation of the design and workmanship, for which the credit was mainly or wholly due to the Architect-in-Chief (Mr. A. R. Simpson). (Cheers.)

Provided by the Government.

The Premier, who was enthusiastically received when he rose to declare the building open, thanked the Chancellor for the handsome presentation. He said it would always bring back a pleasant memory of declaring open the very fine building. There was a time when Universities would have little to do with such practical subjects as engineering and commerce, and it was interesting to know that the first engineering classes held in connection with the Adelaide University were evening classes in electrical engineering, and those were started about 1890. At first the University did not have the power to grant degrees in engineering, and the authorities had to be content to give the men who qualified in engineering the degree of bachelor of science. That state of affairs was rectified in 1911, when Parliament amended the Adelaide University Act, which authorised the granting of the degree of bachelor of engineering. It would thus be seen that the engineering graduates were comparatively young men, but many had already shown evidence of their ability, and held important positions in various States of the Commonwealth. Of the earlier students many were mining men, and some of those played an important part in the development of Broken Hill. The engineering school catered for the various branches of engineering, civil, mechanical, mining, and electrical. Up to date 137 students had obtained engineering degrees, and at present there were about 100 students. The Adelaide University and its students were indeed fortunate in having at the head of the engineering school such an able teacher as Professor Chapman, who had been connected with engineering at the Adelaide University from the beginning. (Cheers.) After the war, there was a large increase in the number of students, and the necessity for increased accommodation became acute, especially in those departments dealing with pure and applied science. So far as the biological sciences were concerned, that was met in a large part by a very handsome donation towards the cost of erection of a suitable building by the heirs of Mr. John Darling, and the Darling Building for medical science was the outcome of that generosity. (Cheers.) Unfortunately, no such munificent benefactor came to the help of the physics and engineering departments, and when their urgent need for more space for classrooms and laboratories was placed before the Government of the day, it met with a sympathetic hearing. The result was that the present structure was the first University building of which the Government had borne the whole cost. (Cheers.)

A Commodious Building.

As regarded the building itself, said the Premier, the designs were prepared by the Architect-in-Chief and his staff in consultation with the professors of the two departments. The work was carried out by Mr. F. Fricker, of Queenstown, and the cost of the building, including fittings, was £50,000. The finished product reflected credit both upon those who designed and those who carried out the work, and the University now had an addition to its laboratories of which it might well feel proud, and which would bear comparison with those of any other university in Australia. (Cheers.) The structure was a two-storied one, and the main block had a frontage of 311 feet by a depth of 52 feet. It was built of brick with reinforced concrete floors, staircases, and so on, the top of the walls carrying a cornice finished in light color and topped with a roof of red tiles, so as to be in harmony with the adjacent Darling Building. In the physics department provision had been made for a large lecture theatre to accommodate, approximately, 300 persons, and that had been equipped with fire-proof bioscope room and lantern screen. There were also laboratories, apparatus, preparation, and research rooms and workshops. A temperature room had been provided in the basement, and the staff and students also had been allotted rooms. There was a smaller lecture room capable of seating about 60 students, and an optical room and optical laboratory had also been provided. Many of the rooms had been finished with special darkening apparatus. In the engineering department two lecture rooms, laboratories, workshop, surveying room, and metallography room, drawing rooms and a museum had all been provided, and a flat roof on one portion of the building had been constructed for the purpose of survey observations. Each of the two departments had a main entrance from the north of the building with offices, and so on, and the entrance halls had tiled floors and polished maple wind screen doors, glazed with bevelled plate glass panels. Private rooms and laboratories had also been built for the professors and lecturers connected with each department.

"Train Their Own Men."

The importance of engineering to the development of South Australia was obvious. They covered an area of 380,000 square miles, but unfortunately about 86 per cent. of that area had a rainfall of

PROFESSOR KERR GRANT,
Professor of Physics.

only 10 inches or less, and the importance of water conservation, saving every gallon of water that they possibly could, was fundamental to their progress. They could not possibly make use of the country without it. Then they must have railways and good roads and efficient means of transit and communication. They had large areas of country yet to be drained, and thousands of acres that might possibly be irrigated. Although they had not yet succeeded in finding good coal, they had large deposits of brown coal that must be utilised in the future, and the problem of providing power at a cheaper rate for their growing industries was of first importance. They hoped that there were yet many mines to be developed, and there were certainly mineral deposits that were likely to be a source of wealth to them in the future if worked under the guidance of competent men. They had ample work for structural engineers able to design and construct bridges, wharfs, and buildings of all kinds required by their growing population. Then there were problems to be faced in electrical engineering. And for all those purposes they should be training their own men. (Cheers.) He was sure that it must be particularly pleasing to see that some of their largest works in South Australia were being done under the guidance of Australian or South Australian engineers. The work of the railway rehabilitation had been largely in the hands of a South Australian engineer. In connection with that work the Murray was spanned by one of the strongest bridges in Australia. The young man who carried out that work was a son of Professor Chapman. (Cheers.) Whether it was bridge construction, railway rehabilitation, or the locking of the mighty waterway, the Murray, they would find an Australian engineer in charge. (Cheers.) They had plenty of talent among the youth of the State if the young men were only given the opportunity to gain the necessary knowledge and equip themselves for the tasks that must be done, and in providing those buildings it was the object of the Government to provide facilities for the young men of South Australia who had the energy and inclination to enable them to obtain an engineering education in their own State that would fit them to take leading parts in the great works of engineering required for the development of their own country. (Cheers.)

Night Lectures for Teachers.

The Minister of Education (Hon. L. L. Hill), who supported the Premier, said the celebrations of the jubilee reminded them that they were making progress. One thing that struck him was the appearance of the audience in the tiers of seats in front of him. In the olden days it was considered that the politician looked down upon the pople, but that morning the position was reversed—the people were looking down on the politician. (Laughter.) Another note of progress was the fact that that this was the first building connected with the University erected entirely by the Government. Naturally he felt pleasure at being present, not only as Minister of Education, but as Minister of Industry and Commissioner of Public Works. He paid a high tribute to the Architect-in-Chief (Mr. Simpson) for the able way in which the building was designed in consultation with Professors Chapman and Kerr-Grant. He thanked the University Council for the assistance offered, provided the Government supplied the funds in establishing night lectures for the teachers of the State. (Cheers.) Cabinet had approved the expenditure of £3,000 for that purpose, and that undoubtedly would improve the status and efficiency of the teaching staff. Then, only a few yards away was being erected the teachers' college, which would be of great benefit to young teachers, and at the same time it would be a valuable addition to the already splendid buildings now surrounding the University building, erected nearly 50 years ago. The technical apprentices' college was also being built, and that, with the teachers' college, would cost about £60,000. From time immemorial graduates had referred to their University as their Alma Mater. That was a fine conception, but the University was even more than that. She was the mother of all knowledge and of all education. As was implied in the name university, it was the home of universal learning. In a similar way, in the realm of science, it might well be said that physics was the mother of all the sciences. (Cheers.) From time to time branches of study had budded off from the parent, and had grown to be separate sciences. Thus chemistry, with all its wonderful diversity, was really a branch of physics. So also was medicine. Astronomy was another child of physics. Geology and mineralogy were still other branches of physics that had come to be separate sciences. The list could be extended indefinitely. Take the study of X-rays for instance. A few years ago it was one of the isolated subjects of the study of physics, but now it had become a separate and extensive study. With all those changes the mother of science herself had not lost, but had gained, in value and in wonder.

Ablaze With Brilliant Discoveries.

In the long history of scientific advance, there had never been a time when the study of physics was so ablaze with brilliant discoveries. From the realm of the infinitely great, as in astronomy, as in the realm of the infinitely little, as in the study of the atom, those discoveries had been extended with a zeal unmatched in any other age. It was a matter of pride for them to remember that in those great discoveries, students of Australian universities had played no mean part. It was of special interest to know that among the leaders in those discoveries, famous in all centres of learning in the world, were two men whom they might claim as

PROFESSOR R. W. CHAPMAN,
Professor of Engineering.

their own, Professor Sir William Bragg and his illustrious son, Professor W. L. Bragg. (Cheers.) It was not inappropriate also that at that time, when the study of physics was at its zenith, the people of South Australia should become possessed of such a magnificent building to be devoted to the study of that great science. They extended to Professor Kerr Grant and his students all good wishes for the future. (Cheers.) There might be those who asked what was the value of all these studies and discoveries, what use were they to mbankind? The answer was twofold. In the first place, the true student of science was purely a seeker after knowledge; he was not concerned with values, but with the pursuit of truth. Most of the discoveries of pure science were, however, ultimately applied to the use of man, and that brought him to the second portion of the answer to his question. The matter of applying the discoveries of physics to the use of man constituted a great separate branch of scientific study, called engineering. The engineer counted his profession in some respects as one of the youngest in the world. It was also one of the most important. Let them consider, for instance, what the engineer meant to their own State, in water conservation, irrigation, mining, railways, and so on. They had every reason to be thankful that the selection of the site of their capital city was in the capable hands of an engineer. There was a fascination in the very names of the different types of engineers—the hydraulic engineer who planned their great reservoirs and reticulation schemes; the civil engineer, who built their roads and bridges, tunnelled the mountain, and spanned the river, and made rapid transport possible; the elec-