

produced by insects, and this has been published in the 29th Report of the Department of Geology and Natural Resources of Indiana, and also issued as a seventy-page 'separate.' The plan of this brochure is as follows: (1) a short historical section, (2) biology and classification of gall-insects, (3) morphology of galls, (4) causes inducing gall formation, (5) a systematic account of Indiana galls, (6) bibliography. Illustrations from drawings and photographs serve to make the descriptions easier to follow.

This little booklet should stimulate interest in these curious structures, about which there has been practically nothing written in this country in any systematic or connected way until Dr. Cook took up the matter. He is now at work on a monograph of the insect galls of North America, in which the galls will be classified with reference to the host plants, and the treatment is to be primarily from the standpoint of the plant pathologist. It is to be hoped that botanists and entomologists will help in this undertaking by sending him specimens of all kinds of galls from different localities.

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TECHNICAL EDUCATION IN AUSTRALIA.¹

THE necessity for providing the means of imparting technical education has been unreservedly acknowledged in each of the states of the Australian Commonwealth, the annual combined expenditure in this direction being over £60,000, exclusive of the cost of land, buildings, etc. In Sydney, after successful experiments in the formation of classes by one of the state subsidized educational institutions, a technical education board was established, which did good work until 1889, when the state government assumed control of the movement, the work of technical education being handed over to the state department of public instruction. The technical college, forming the headquarters of the system, is one of the leading architectural features of

Sydney. The fronts of the main structure are ornamented with Romanesque carvings in white stone, showing representative flora and fauna of Australia. The main entrance is formed by a triple arch, with two center columns of polished bluestone or trachyte, flanked by two pilasters of the same material. The main building to which access is thus gained has three floors and a half-basement, and contains 28 rooms, many well lighted, lofty and suitable class-rooms. There is a chemical laboratory, and at the rear of the main structure are electrical engineering, plumbing, sanitary engineering, blacksmiths' shops and well-equipped general engineering shops. In 1903 there were 477 technical classes in operation, of which 243 were held in Sydney and suburbs and 234 in the country districts, while there were in addition 86 classes held in connection with the public schools. The number of individual students under instruction during the year was 13,232, and the average weekly attendance 8,671. In 1896 a technical college was opened at Newcastle, and a new college at Bathurst in June, 1898. In 1902 a technical school was built at Lithgow, and mechanical engineering shops provided at Newcastle. During the year the expenditure by the government on technical education amounted to £26,459, exclusive of expenditure on the technical museum and branches. Fees to the amount of £8,707 were received from the students. In Victoria much has been done in promoting the work of technical education, a patriotic Victorian having assisted the earlier stages of the movement by giving £15,500 towards the establishment of a workingmen's college. In 1903 there were eighteen schools of mines and technical schools receiving aid from the state. The total state expenditure during the year was £16,430, and the fees received from students amounted to £11,741. The average number of students enrolled was 3,173. In addition, classes in manual training and in cookery and domestic economy are held at various centers, the net expenditure on these branches amounting in 1902-3 to £3,437. In South Australia the Adelaide School of Design in 1903 had 577 students. There were also branch schools at Port Adelaide and Gaw-

¹ Communicated to the *Journal of the Society of Arts* by Mr. John Plummer, of Sydney.

ler. The School of Mines and Industries, founded in 1889, received state aid in 1903 to the extent of £3,658, while the receipts from fees and sale of materials to students amounted to £3,691. Queensland is beginning to display increased interest in the movement, a board of technical instruction having been appointed in 1902, holding its first examination at the close of 1903, when 960 students were examined, two thirds obtaining certificates of competency. In the same year there were twenty technical schools distributed through the state, with an enrolment of 2,600 students. The amount of fees, etc., collected was £13,385, and that of the expenditure £14,280, showing the system to be almost self-supporting. In Western Australia a technical school has been opened at Perth, having now an average attendance of 190, the annual expenditure amounting to nearly £6,000. Tasmania has also technical schools in Hobart and Launceston, the average attendance, including that of the two schools of mines, being 540, the annual expenditure being under £3,000.

THE INAUGURATION OF PRESIDENT DRINKER.

IN connection with the celebration of Founder's Day, Lehigh University installed its new president, Mr. Henry Sturgis Drinker, on October 12, in the Packer Memorial Chapel. Mr. Robert H. Sayre, president of the board of trustees, made the installation address, which was followed by a brief response from President Drinker. The greetings of the alumni were tendered in an address by Mr. Frank P. Howe, of the class of '78. Following the installation ceremonies, an oration in memory of Asa Packer, the founder of the university, was delivered by the Hon. Hampton L. Carson, attorney general of Pennsylvania, his subject being 'Practical Ideals.' The service in the chapel was then adjourned to the site selected for the erection of the Drown Memorial Hall, where the sod was turned by Mr. Robert H. Sayre, and addresses in memory of the late President Brown were made by Dr. Charles R. Dudley, chief chemist of the Pennsylvania Railroad and chairman of the general

committee on the Drown Memorial Fund, and Dr. Rossiter W. Raymond, Dr. Drown's successor as secretary of the American Institute of Mining Engineers. The alumni, faculty and guests of the university were received by the president and trustees at a luncheon in the gymnasium, where in the evening an alumni dinner was given in honor of President Drinker. Addresses were made by Mr. Harlan Sherman Miner, '88, for the alumni; President Isaac Sharpless, of Haverford College, for the invited guests; Bishop Talbot, of South Bethlehem, for the trustees; Professor Mansfield Merriman, for the faculty, and the president of the senior class for the undergraduates.

THE INSTALLATION OF PRESIDENT JAMES AT THE UNIVERSITY OF ILLINOIS.

THE ceremonies in connection with the installation of Dr. Edmund Janes James as president of the University of Illinois is taking place this week. At the inaugural exercises addresses are expected by:

Hon Charles S. Deneen, Governor of Illinois.

Hon. Samuel A. Bullard, president of the Board of Trustees.

Hon. Andrew S. Draper, former president of the university and commissioner of education, state of New York.

after which President James is to deliver his inaugural address and degrees are to be conferred. Professor T. J. Burrill, professor of botany and vice-president of the university, is announced to welcome delegates who are expected to respond as follows:

President James B. Angell, of the University of Michigan, for the state universities.

President Ira Remsen, of Johns Hopkins University, for eastern universities.

Chancellor Frank Strong, of the University of Kansas, for western universities.

President Edwin B. Craighead, of Tulane University, for southern universities.

Vice-President Harry P. Judson, of the University of Chicago, for the universities and technical schools of the state.

President Charles H. Rammelkamp, of Illinois College, for the colleges of the state.

President John W. Cook, of the Northern Illinois State Normal School, for the normal schools of the state.