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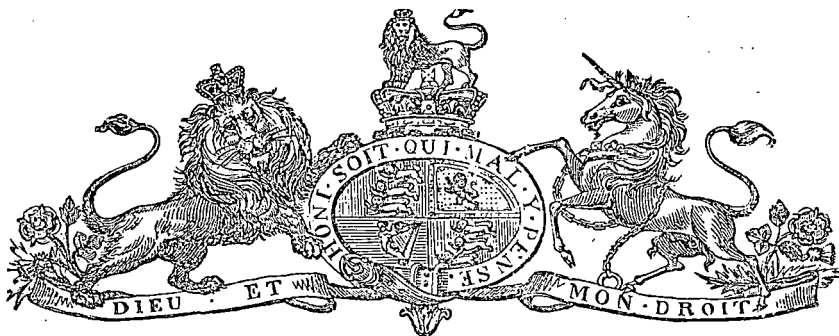
1888.

PARLIAMENT OF TASMANIA.

TECHNICAL EDUCATION:

REPORT OF COMMITTEE.

Presented to both Houses of Parliament by His Excellency's Command.



GOVERNMENT TECHNICAL SCHOOL, HOBART.

REPORT OF THE COMMITTEE OF TECHNICAL EDUCATION.

1.—*School Progress.*

THE Committee of Technical Education charged with the conduct of the Technical School at Hobart has the honor to report the satisfactory progress of the Institution since its establishment under the Minister of Education in February last. There has been a constant accession of students of a kind most likely to benefit by the instruction imparted, their average attendance and demeanor being eminently satisfactory. The students' work has been of a practical character, and, according to the testimony of many visitors, the results are most surprising, considering the short time the School has been in existence.

2.—*Curriculum.*

The course of study at present embraces those subjects in which instruction is usually given in the departments of art and applied mechanics. The students are divided into three grades. There are classes in geometry, perspective, model and free-hand drawing, design, house decorating, orthographic projections and development, machine and building construction, modelling in clay and wood, carving, trigonometry, and mensuration, as well as for the study of those branches of arithmetic necessary to prepare a pupil for a mensuration course. The addition of a class for the study of commercial economy is now under consideration; and, it is hoped, will be decided on and established at an early date.

The operations of the School have been somewhat retarded owing to the restricted curriculum set forth in the published Regulations. Obviously, if the Institution is to meet the educational wants of those earning their livelihood during the day, and to impart sound instruction of a secondary character, it must not be confined entirely within art limits, but must be prepared to take up many subjects the groundwork of which has been laid in the primary schools, and some even as to which there has been no previous acquaintance on the part of the pupils. Thus it will occasionally be required to impart instruction to those whose early education has been almost entirely neglected, and no one would limit its usefulness in such direction. The necessity for the extension of its curriculum, therefore, becomes apparent; and, if amended regulations were framed so as to include the range of subjects contained in the comprehensive curriculum of the Sydney Technical College, such subjects to be taken up as opportunity afforded, an immensely wider sphere of usefulness would be brought within the possibilities of the School.

3.—*Examination and Inspection.*

Examiners in Technological work have yet to be appointed, consequently no examination has taken place in connection with the Hobart Technical School. The regulations published by the Education Department recite that "Inspectors of State Schools shall be Inspectors of Technical Schools;" but, as among the State School Inspectors no gentleman specially qualified to examine in Technology can be found, this regulation is inoperative. It is the intention of the Committee to exhibit portion of the Hobart students' work in the Technical Court at the Melbourne Centennial Exhibition, such as drawing, modelling, carving, engine-making, &c.; and there, doubtless, opportunity will be given for the inspection of the work by competent judges. Beyond this, the

Committee have in contemplation to send work in drawing and modelling to the great annual examination in connection with the Science and Art Department of South Kensington, to be held in London in May, 1889, and for this purpose will communicate at an early date with the Committee of the Council of Education of Great Britain. Still, it must be admitted that outside exhibitions, such as the foregoing, can never take the place of local examination and inspection, and the appointment of competent gentlemen for this work is clearly an urgent necessity.

4.—*School Buildings.*

The unsuitable character of the present School Buildings becomes more apparent as the attendance increases. Indeed, it is matter for wonder that so respectable an average attendance has been maintained when the great disadvantages under which the students labour in this respect is remembered. The class-rooms are low-roofed and exceedingly ill-ventilated, and the atmosphere at night-time the reverse of healthy. Such physical disabilities should be at once removed, or a falling-off in the attendance of the pupils must certainly be looked for.

Some months ago plans, intended to alter and adapt for Technical class-rooms the old buildings on the site of the Engineer's Barracks, were very kindly prepared by Mr. Mault, a member of the Committee; but an altered site being determined on, these plans were subsequently set aside. Since then the Government Architect has been engaged on the preparation of new plans for class-rooms to be erected in Bathurst-street, on the vacant piece of ground immediately in the rear of the Nurses' Home. The new site is excellent in every way, and its central position well adapted to the convenience of attending students. The proposed new building will include a laboratory for the Government Analyst, and class-rooms in which that gentleman may instruct Technical students in practical chemistry, metallurgy, and analysis generally. The addition of this important department of study will materially aid the classes at present established under Mr. Kingsmill, and it is hoped that every effort will be used for pushing on the new building, so that it may be ready for occupation early in the ensuing year.

5.—*Conduct and Capacity of Students.*

The Committee notes with pleasure that the teachers in the School report the conduct of the scholars as uniformly excellent. Mr. Charpentier writes—"Of the general conduct of the students I can speak in the highest terms. The attendance becomes more punctual, and perseverance is daily growing. I think it my duty to mention that many young men have worked until 10 o'clock at night in order to finish work for the Melbourne Exhibition."

Alluding to the ability of the students, the same gentleman writes:—"I am happy to be able to say that the greater my knowledge of the Tasmanian workman the greater also is my belief in his capacity." Were aught wanting to induce the Legislature to push forward the cause of Technical Education in this island, testimony such as the foregoing should supply the needed stimulus.

6.—*Attendance of Students.*

On the 1st of February in the present year, when the school became a Government institution, there were enrolled at the opening some 26 students, who had previously been members of Mr. Charpentier's private class. During the month of February the numbers increased rapidly until 70 were enrolled. March and April witnessed a still further increase. May was stationery. In June the total reached 90 students, which number attended until the midwinter vacation in the present month.

The smallest number of students attending during the above-named period was 11, the largest 34. The month of March was credited with an attendance of 322 students, April with 442, May with a similar number, and June with 563.

7.—*Occupation of Students.*

The utilitarian character of the work of the school, and its adaptability to almost every condition of life, is evidenced in the varied occupations of the attending students. Of the total number enrolled since February last there were 5 clerks, 12 carpenters, 17 engineers, 3 painters, 1 boiler-maker, 1 cabinet-maker, 4 architects, 2 schoolmasters, 1 photographer, 1 printer, 4 plasterers, 3 tinsmiths, 1 electrical engineer, and 27 engaged in various other trades and professions in the city. The regular attendance of many female pupils is subject for much congratulation, and when more convenient class-rooms are erected an increase in this direction may confidently be looked for.

8.—*Fees.*

The total sum received in fees from the students attending the Hobart Technical School from 1st February to 31st May was £51 3s. 2d. This sum, according to arrangement, has been divided between the teachers, Messrs. Charpentier and Kingsmill.

9.—*Launceston School.*

Early in February the Committee of the Hobart Technical School visited Launceston for the purpose of making enquiry as to suitable buildings for establishing such an institution in that city. Several buildings were inspected, and information gained as to the probable success of Technical education in the North. Subsequently it was suggested that the work would be most efficiently managed by a local committee, and such committee was accordingly gazetted, and the School opened. Since its establishment the success attending the Launceston Technical School has been very gratifying.

10.—*Annual Grant.*

The Government grant in aid of Technical Education is at present at the rate of £1000 per annum, which may be considered a fairly liberal supplement. The classes in connection with the schools at present will hardly necessitate an expenditure quite up to this rate, unless they are debited with a large sum as rental. But as opportunity for the extension of the classes is afforded, a larger supplement will undoubtedly be required; and the Committee would recommend that not less than £1500 be placed on the Estimates for conducting the two schools for the year ending December, 1889. If this is done, the Committee will be enabled to increase the school's usefulness, and proceed with the study of many subjects that will prove eminently aidful to the young men and young women of the Colony.

I have the honor to be,
Sir,

Your obedient Servant,

G. FITZGERALD,
Chairman Hobart Technical Committee.
July 31, 1888.

To the Hon. the Minister of Education.

SIR,

I HAVE the honor to submit the Report of the Hobart Technical School from February 1st to the 21st of May, 1888.

The School opened on the 1st of February last with 26 students. During the month the numbers rose to 70; from March to April there were 77 students; from April to May, 76 students. There are now 86 attending the Technical Art side—40 in the first grade, 36 in the second grade. The attendance has been very large—the smallest 11, and the largest 34. During the month of March 322 attended, in April 442, and so far during this present month of May the lowest number present has been 20, and that on the third-grade nights, when special instruction is given in advanced machine construction, modelling, &c., therefore I have reason to believe that the attendance will at least equal that of last month. All the old students of the former technical classes have re-joined the Government Technical School.

Instruction has been regularly given to the first grade in practical plane geometry, and its bearing on every-day work carefully explained. Freehand drawing has been taught from such examples as best teaches accuracy and neatness. The second grade have received instruction in free-hand drawing, practical plane geometry, solid geometry, model drawing, and perspective and shading from the cast. The third grade have received instruction in advanced practical plane geometry, constructive geometry, geometric curves, orthographic projection and developments. The more advanced men working at mechanical construction, building construction, colouring of plans and drawings, isometric perspective and sciography, also drawing machines from absolute measurement.

I have devoted Saturday afternoons to giving instruction in design, modelling in clay, and wood-carving: the attendance has varied from 5 to 8.

Of the general conduct of the students I can speak in the highest terms. The attendance becomes more punctual, and perseverance is daily growing. I think it my duty to mention that many men have worked until 10 o'clock in order to finish work for the Melbourne Exhibition. There are now awaiting the inspection of the Board 150 drawings of all kinds. The teaching has been as much as possible by the blackboard, in order to cultivate the desire of home study. Designs for practical work are being carried out under my own supervision or from my instructions by the students at their own homes. As examples, I name a table of original geometric designs by R. Mason, also a carved arm-chair, original design, by R. Green.

I am happy to be able to say that the greater my knowledge of the Tasmanian workman the greater also is my belief in his capacity; it is certain that with good and thorough technic instruction he is capable of taking a high place among artizans in art workmanship. The practical work now being carried on by the students is very creditable.

I have the the honor to be,
Sir,

Yours obediently,

W. H. CHARPENTIER,

To G. FITZGERALD, Esq., M.H.A., Chairman of the Technical Board.

Hobart, 27th June, 1888.

SIR,

I HAVE the honor to lay before the Board my Report of the first half-year's work. The number of students who kept up a regular attendance was 20. Instruction was given as follows :— Subject I.—Arithmetic, Decimals, and Square Root. Methods of checking calculations were also shown, and the use of checks insisted on. I had some trouble in impressing on the pupils that results of which they are not absolutely sure are in practical work worthless. Subject II.—Mensuration, Lengths, and Areas. Problems in this subject were solved by calculation and also graphically. In the graphic method of solution the pupil's knowledge of Practical Geometry was turned to account. Diagrams were drawn to scale from which, by measurement, a rough check was obtained for the calculated solution. I used this application of Practical Geometry a good deal, finding it useful not merely as a check, but as helping the student to form a clear conception of the problem on which he was working. Subject III.—Use of Mathematical Tables. Subject IV.—Solution of Triangles, Todhunter's Trigonometry for Beginners. Some of the students, who are articled pupils in architecture and engineering, have brought problems which they met with in the course of their outside work, and have solved them in the school. On the whole, my work during the first six months has been to lay a foundation of elementary mathematical knowledge. For the purpose in view, the study of advanced mathematics is not essential, but elementary mathematical teaching is required, and should be continued. In addition to this I propose, during the coming half-year, to give a course of lectures on applied mechanics, with experiments. The plan on which I am working may be illustrated by a reference to the railway system of a country. It is impossible to make lines which will carry every man to his own door. Trunk lines are made which take the passenger part of the way; for the rest of the journey he finds his own conveyance. The pupils of the Technical School belong to a great variety of occupations. The teacher must select main lines of study for them, and not attempt to follow the special details of every trade. All will be benefited by going a certain distance along these lines. The numerous manuals which belong to every trade are to be regarded as books of reference rather than as text-books for elementary instruction. When a student has mastered first principles, he will afterwards find no difficulty in applying the rules contained in such manuals to his own wants.

I gave some of my pupils, who had learned drawing elsewhere, designs for curve tracing, which they have worked out at home, and added to the exhibits of the Technical School. The mathematical work of the class cannot be exhibited, but it may be tested by examination.

I have the honor to be,

Your obedient Servant,

H. C. KINGSMILL.

To the Secretary Board of Technical Education.