

Victoria College Laboratories

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THE importance of experimental science as a means of education is daily gaining in recognition, and signs are not wanting that in the near future training in the practical methods of at least one science will be regarded as an indispensable part of a liberal education. With much foresight the Victoria College Council has made provision for the teaching of chemistry, physics and biology by the erection of a fine science building, photographs of which accompany this article.

When the college began work, in 1899, the laboratory fittings consisted of a few boards on trestles in a room provided with neither water nor gas. Spirit lamps were used for heating, and the students took in turn the duty of bringing in jugs of clean water from the yard and emptying the buckets which served as waste receptacles. A balance was mounted on a packing-case in one corner of the room. With this meagre equipment a few enthusiastic students became fairly expert in the methods of gravimetric and volumetric analyses. In 1900 two small rooms were equipped in the technical school, Victoria street, one as a physical, the other as a chemical, laboratory. Though conveniently fitted up, it was evident from the beginning that the arrangement could only be temporary, as the crowding and lack of ventilation were at times a source of the greatest

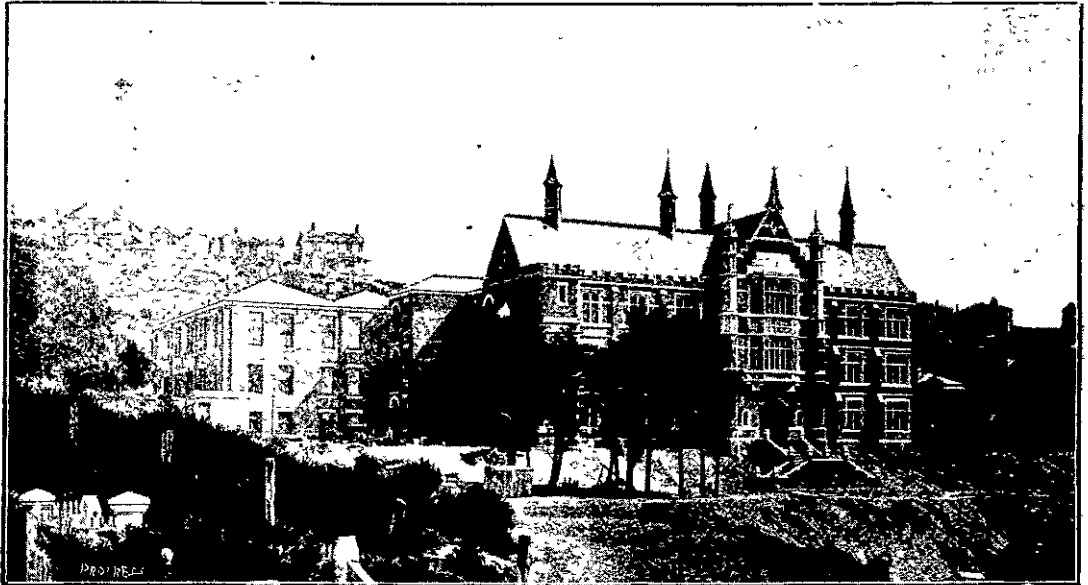


THE MAIN ENTRANCE. — THE ORIEL WINDOW OVER THE DOOR LIGHTS THE COLLEGE LIBRARY. THE TWO SIDE ROOMS BEING ALSO USED AS STACK ROOMS FOR BOOKS. THE ROOM OVER THE LIBRARY IS A MEETING-ROOM FOR THE STUDENTS' CLUBS.

inconvenience; moreover, the physical laboratory had to be used as a lecture and store room. The students were, however, of an earnest type, and it is pleasant to record that during the years 1900-1905 some fifteen original researches were carried out in the chemical and physical laboratories.

The new science block is an L shaped building, three stories in height, the smaller wing running north and south, the larger nearly east and west. The top story is devoted to biology, and includes a large Lecture Room, a large and a small Laboratory, a temporary Museum, and a Private Room for the professor.

The first floor is taken up by the chemical department, the most prominent feature in which is a large Analytical Laboratory, 41 x 35 ft. and 17 ft. high. Each elementary student has a working-bench 4 ft. 6 in. in length with three gas and two water cocks. Most of the benches are supplied with low-tension direct current for electrolytic preparation and analysis. Ample draught-chamber accommodation is provided on the walls alongside of the benches. At the far end of the Laboratory is a "Stink" Room, 10 x 3 ft., in which all the sulphuretted hydrogen work is carried on, and in which occasional benches provide accommodation for students performing work of an offensive nature. All drains are of the open v type, and are easily accessible.



GENERAL VIEW OF VICTORIA COLLEGE.—THE SCIENCE BLOCK IS TO THE LEFT OF THE MAIN BUILDING.—THE TENNIS COURTS ARE IN THE FOREGROUND, BUT ARE HIDDEN IN THE PHOTOGRAPH BY A BANK OF GORSE.

The Research Laboratory is a well-lighted room, 30 x 24 ft., arranged on the assumption that each student will require a bench 9 ft. in length. The general fittings are of the same type as in the Analytical Laboratory. In both chemical laboratories additional ventilation can be obtained by the use of electrically driven fans placed in the roof of the building.

Between the Research Laboratory and Analytical Room is the Balance Room, 19 ft. x 11 ft. The balances are mounted on slate tables let in to the wall of the building, and each instrument is lighted by a separate incandescent electric lamp provided with its own switch. On the wall opposite to the balance tables is a small library of reference works dealing mainly with analytical and preparative chemistry.

The Lecture Room accommodates fifty students. The lecture table is 18 ft. in length, and is provided with gas, water, and direct and alternating electric currents. The room is lighted by incandescent gas, so arranged that no direct light from the burners strikes the eye of either lecturer or students.

Attached to the Lecture Room is a Preparation Room which also serves as a Private Laboratory for the professor. Adjacent to this is a small Museum of fine apparatus chiefly of a physico-chemical description. On this floor there is also a Private Room for the professor, and a Photographic Dark Room, which also serves for gas analysis.

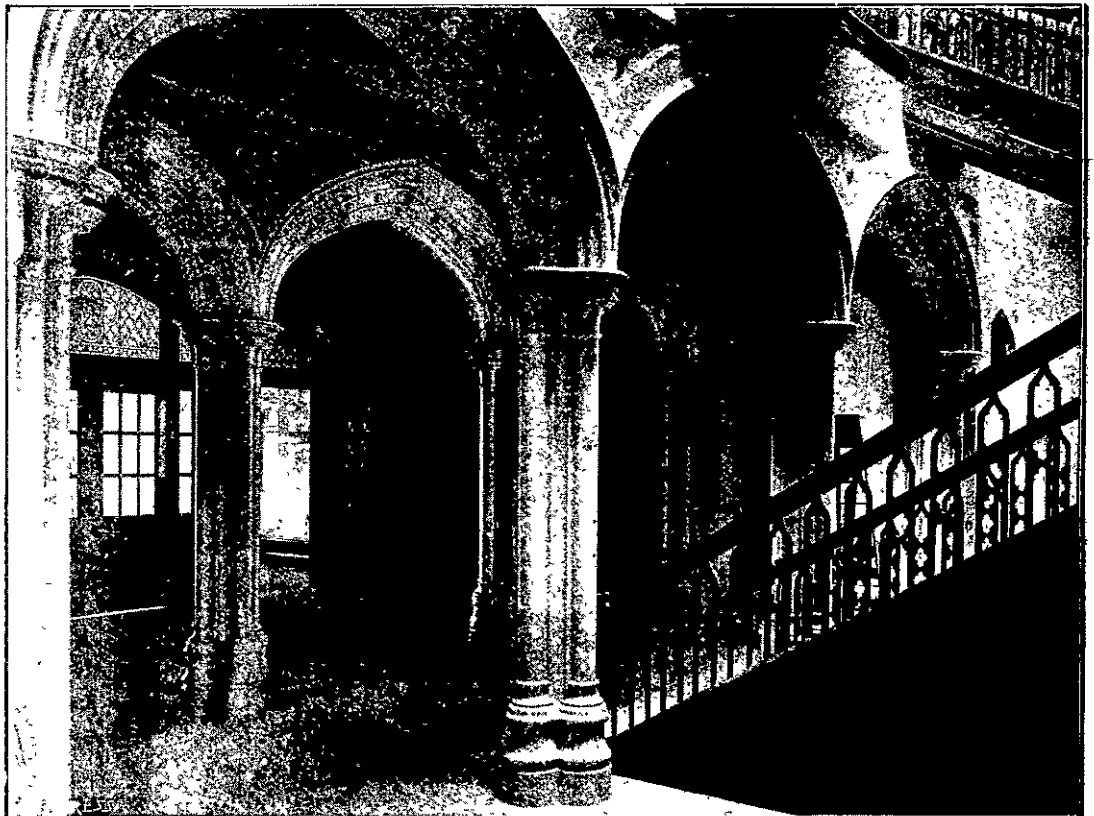
Metallurgy is provided for on the ground floor in a room 27 x 20 ft. The complete equipment of the room will include pot and cupellation furnaces, and probably an electric furnace of the Moissan type. The fireproof Chemical Store and the General Store are also on the ground floor.

There are three Physical Laboratories, the smallest being an Optical Room. One of the rooms is employed for general physical work, and the remaining one is chiefly intended for honours and research students. By means of sliding shutters the three rooms can be put into communication, so that if necessary, a beam of light 60 ft. in length can be obtained. The physical benches rest on piles let into the solid rock, or are supported by the main wall of the building, thus reducing vibration to a minimum. As the physical rooms face the south and are within 30 ft. of the foot of a small cliff, no sudden changes of temperature are experienced; at the same time the lighting is found to be satisfactory.

There is a large General Workshop on the ground floor with conveniences for unloading vans and for unpacking goods. The Workshop contains a motor dynamo for charging the storage batteries, a turning lathe and joiner's bench. The complete equipment will include apparatus for the production of high vacua and for research at low temperatures. A lift for handling the stores completes the general arrangement of a compact and convenient building.

Wherever possible the laboratory fittings have been made locally. The benches are of kauri with ebonised tops, and have been executed in excellent style by Sanders Bros.; the water cocks were constructed by W. J. Dutch; the laboratory basins by P. Hutson & Co.; the gas fittings by the Wellington Gas Co.; the plumbing by Jenkins & Mack, the electric installation by Cederholm & Tolley, and the ventilation by Ross (Dunedin). The building itself is of red brick, with white stone facings, and was erected by McGuire.

To the architects, Messrs. Penty & Blake, is due the credit of having worked into concrete form



THE ENTRANCE HALL.