

mining surveying and geodesy, machinery and electro-technology, chemical technology and blowpipe analysis, general principles of mining law, mine-management, political economy and finance, mining statistics, and the translation into German of a French or English paper on mining.

The preparation of the drawings and theses required in the German mining course itself possesses a high educational value, as thereby many minute but essential details are brought under the notice of the student by personal observation, which is not always possible in mere lecture demonstration. Besides, in the preparation of a thesis a student discovers the limitations of his knowledge—itsself no mean advantage—and is thus able to repair his deficiencies before commencing the practice of his profession.

Preparation of Theses for Diplomas of Otago Mining School.—In the regulations relating to the issue of diplomas by the Otago Mining School a certain period of practical work is required in all the divisions; and in the surveying division the requirements of plans, profiles, and geodesy, in conformity with the regulations of 1902, form a thesis perhaps more stringent than the German.

Candidates for diplomas in mining, metallurgy, and geology are not required to produce a thesis, and the experience gained in the prescribed period of practical work is often of doubtful value. On the other hand, the advantages attending the preparation of a thesis on a technical subject are manifestly great, and in order to keep pace with the progressive policy of the Germans it will be necessary to require a thesis from candidates for diplomas in mining, metallurgy, and geology.

Conclusion.—I wish, in conclusion, to express my appreciation of the zeal and ability with which Dr. Marshall, Mr. Waters, and Mr. Armstrong (lecturers), and Mr. A. R. Andrew (demonstrator in surveying) carried out their several duties throughout the session of 1903.

OTAGO UNIVERSITY MUSEUM: REPORT OF THE CURATOR (DR. W. B. BENHAM, D.Sc.).

THE most important work that has been carried out has been the rearrangement of the entire collection of birds, both native and foreign. Hitherto our native birds had been exhibited in the two end galleries, so that they were separated into two groups by the foreign birds in the side galleries. I have now brought all the New Zealand birds together in the western gallery. This allows them to be arranged without that overcrowding that had previously been gradually brought about by the constant additions to the collection. At the same time this necessitated the withdrawal from exhibition of a considerable number of (chiefly of the smaller) foreign birds, since the side gallery is longer than the two end galleries together. Even now there are too many foreign birds on exhibition; but the improvement on the old conditions is very great. These withdrawals have been stored in one of the basement rooms, which has been fitted with shelves for their reception. This arrangement necessitated the shifting of every single bird, and the shelves had repeatedly to be altered in order to display them satisfactorily. This work occupied myself and the taxidermist for a month. New labels have been written for nearly all our native birds, and labels with the family names have been introduced throughout.

Another work that for many years has been a desideratum was the removing and rearrangement of our native molluscan shells, which still bore the labels written by Captain Hutton more than twenty-five years ago. These names have in a great many instances been altered since that time, so that our labels no longer corresponded with the names to be found in recent works on the subject. These shells have been remounted on tablets covered with black paper, on which the shells are better displayed than on the grey-green paper formerly used. To give some idea of the work involved, I may state that about six hundred tablets had to be covered with black paper, the shells removed from the old tablets and attached to new ones, and six hundred new labels (in printing script) were written. Of these tablets about four hundred and eighty were old ones, and one hundred and twenty additional specimens have been added. This second piece of work occupied myself and the taxidermist about six weeks.

The addition of new specimens and the rearrangement of the cases has again necessitated the withdrawal from exhibition of many of the Tertiary (fossil) mollusca, which, however, I hope to accommodate elsewhere after a rearrangement of our foreign shells.

Amongst the more interesting work upon which the taxidermist has been employed, the following may be mentioned: (1.) The colouring of the feet and beaks of many of our native birds, so as to give them a more lifelike appearance. (2.) Making a new mould and taking a cast in plaster of a new species of ribbon fish (*Regalecus parkeri*), which cast was then covered with silver leaf and painted, so as to be a lifelike representation of the living fish. Casts have also been made of a set of the shells of a gigantic (fossil) barnacle (*Pollicipes*), which I have recently described in the *Geological Magazine*. The shells were loaned to me by Mr. Cheeseman, curator of the Auckland Museum, and I have already sent sets in exchange to the British Museum and the Owens College Museum. (3.) The restoration of a moa, undertaken at the suggestion and under the supervision of Mr. Hamilton. This restoration of the moa attracts considerable interest from the general public. (4.) A large block of Caversham stone has lain for years under the staircase in the main hall. It showed some whales' teeth imbedded in it, which Mr. Hamilton commenced to clear. The taxidermist continued the work, and succeeded in excavating a particularly fine and nearly complete skull of an extinct squalodon-like whale, together with other parts of the skeleton.

Last summer I obtained permission from the Minister of Marine for the taxidermist to visit, in the s.s. "Hinemoa," the southern islands for the purpose of collecting birds, and especially nestling albatrosses, of which he obtained a sufficient supply for exchanging with other museums.

Additions to the Collections on Exhibition.

The following additions have been placed in the exhibition cases:—

A. Zoological: (1) Local Fauna.—In addition to the one hundred and twenty new specimens of mollusca, which, however, are mostly specimens from new localities, I have placed about forty new ob-