Appointments obtained in 1908.

The following old students of the Mining School obtained responsible positions during the past year: Charles A. Cotton, A.O.S.M., M.Sc., Director, Coromandel School of Mines; Patrick Fitzgerald, A.O.S.M. Consulting Engineer, Collins Street, Melbourne; A Gordon Macdonald, Acting-director, Westport School of Mines; J. A. Bartrum, A.O.S.M., M.Sc., Assistant Geologist, New Zealand Geological Society; Herbert Black, A.O.S.M., Metallurgist, Lady Miller Mine, Norseman, West Australia; Norman R. Fisher, A.O.S.M., B.E. (Min.), General Manager, Haileybury Mines, Ontario; G. Aubrey Gow, A.O.S.M., Assistant Manager, Mignboud, Maatschappy, Sumatra; Herbert Black, Metallurgist, Chaffers G.M.C. (Limited), Boulder, West Australia; J. Allan Thomson, A.O.S.M., B.A., B.Sc., Lecturer in Geology, Victoria College, Wellington; J. E. Williams, A.O.S.M., Consulting Engineer, Sir J. Pollock Company, (Limited), London; J. Campbell Neill, A.O.S.M., Superintendent Government Prospecting Parties. It is not always easy, or possible, to obtain information relating to the places to which old students in foreign places are appointed, but so far as obtainable the appointments secured during the past eight years—the period in which a record has been kept—is as follows: 1901, 8; 1902, 7; 1904, 11; 1905, 13; 1906, 14; 1907, 16; 1908, 11: total, 88. Altogether 88 responsible places have been obtained by 72 individual students. The occupations represented in the above appointments are as under: Consulting engineers, 7; mining engineers, 9; assistant mining engineers, 5; general mine-managers, 4; mine-managers, 9; inspectors of mines, 2; geological surveyors, 5; mine-surveyors, 5; land and topographical surveyors, 2; metallurgists, 15; dredgemasters, 2; directors of mining schools, 12; lecturers at mining schools, 11: total, 88.

New Mining School Building.

The new building is a handsome structure containing eight laboratories, three lecture-rooms, a museum, students' library, photographic room, store-rooms, lavatories, and cellars. It is lit throughout with electric light, and when the fittings and apparatus are placed in position it will rank among the best equipped and commodious mining schools in Australasia. It is hoped that everything will be ready for the formal opening in June of this year. The occupation of the new buildings will improve our local status. The Otago School of Mines has always occupied a prominent place among Australasian mining institutions, and it is pleasing to find that it possesses some distinction even further abroad. At the last Mining Conference, held at Chicago, the Otago School of Mines, in the discussion that took place on the training of mining engineers, was grouped among the leading mining schools in the English-speaking world.

Course in Electrical Engineering.

The New Zealand University, on the recommendation of the English examiners in mining engineering, sitting in conference in London at the end of 1906, has very wisely added applied electricity to the course for the B.E. degree, and it will now be necessary for the Otago School of Mines to make provision for the new requirement. The applications of electricity to mining and metallurgy are many, and daily increasing, and in all up-to-date mining schools instruction in practical electricity forms an integral part of the regular course. This will necessitate a revision of the existing mining and metallurgical associate courses, which have now been in use without amendment for eight years. Experience has shown that improvements can be effected in several directions, and steps will be taken at an early date to prepare the amended courses for incorporation in the calendar for 1910. Applied electricity cannot be taught without electrical machines and apparatus, and until these are procured our mining students will be required to take the course in electrical engineering given at the Dunedin Technical School, where a good course of instruction is taught by Mr. E. E. Stark, D.Sc., E.E., M.A.M.Inst. E.E. Satisfactory arrangements with this end in view have already been made with Mr. A. Marshall, B.A., Director of the Technical School.

Tanna Hill Geodetic Station.

This station was linked up by triangulation with the Government geodetic initial station A, at Taieri West, the latitude and longitude being reduced in terms of the Carrington spheroid. Bearings taken in terms of Taieri West meridian, cleared of convergence were checked by observations to A Hydri, B Trianguli (Aust.), and S. Octantis, the results showing a difference of only 3 sec. of arc as between the computed and observed bearings. The following data are recorded for the information of surveyors and engineers: Tanna Hill, latitude 45 deg. 52 min. 11·3 sec. S.; longitude 170 deg. 32 min. 19·0 sec. E.; convergence of meridian Tanna Hill to Taieri West, initial 10 min. 0·01 sec. E.; bearing Tanna Hill to Flagstaff, 314 deg. 49 min. 57 sec.; bearing Tanna Hill to Signal Hill, 63 deg. 10 min. 30 sec.; bearing Tanna Hill to axis of clock in Town Hall tower, Octagon, 225 deg. 46 min. 57 sec. (All bearings are given in terms of Taieri West initial.)

With the object of facilitating the computation of differences of latitude and longitude and the reversed geodetic azimuth between trigonometrical stations, the author has computed the value, in links, of a second of arc of latitude and longitude for every degree and half degree of latitude from the equator to 60 deg. latitude. The values are set out in terms of a spheroid with a compression of 1 in 294, and are contained in a table on one page of the author's "Text-book on Theodolite Surveying and Levelling" in both the English and American editions. At the present time differences of latitude and longitude and reversed azimuths are computed in India by the Everest spheroid, in Great Britain by the Clarke spheriod of 1858, and in the United States of America by the Clarke spheriod of 1866, involving in each case the use of long and elaborate tables of constants. The author's table gives results that for minor and major triangles do not differ more than a fraction of a second with those obtained by the use of the longer P.Q.R. tables involving the application of three or four constant factors, and effects a considerable saving of time, besides diminishing the tendency to err in computation.