

in Metallurgy, and 12 as Associate in Geology have been granted to 66 individual students who had completed the prescribed course and complied with the regulations relating to practical work. Of the 66 graduates, 35 took the diploma in mining only; 20 took diplomas in both mining and metallurgy; 4 took metallurgy only; 2 graduated in both metallurgy and geology; and 2 in geology alone. On the other hand, 9 graduated in both mining and geology, and 2 in mining, metallurgy, and geology.

Besides these diplomas, since 1887, 60 certificates as metallurgical chemist and assayer and 18 certificates as mine and land surveyor have been issued to 63 individual students. From these figures it will be seen that 35 students took the mining diploma only, while four took the metallurgical only. On the other hand, the majority of the students who graduated in mining also graduated in metallurgy. And there can be no doubt that these figures correctly represent the relative importance of mining and metallurgy. All our experience has shown that a mining engineer without a knowledge of metallurgy is poorly equipped and greatly handicapped in the practice of his profession. But metallurgy is only a branch of mining. It has not yet reached the dignity of a separate profession here, as it has in Europe and the United States of America. The metallurgist is not a mining engineer, but a highly trained and specialised chemist.

The success of New Zealand mining graduates in Australia, Sumatra, Java, China, India, South Africa, Gold Coast, British Columbia, and United States has been very remarkable; and this success has followed, almost without exception, the possessors of mining diplomas.

*The B.Sc. in Mining and Metallurgy.*—The University of New Zealand grants a degree of B.Sc. in mining and a B.Sc. in metallurgy. The Universities of Melbourne, Sydney, and Adelaide grant only a B.Sc. in mining, which includes metallurgy; as also do the mining academies of Germany and France, of England with one exception, and America with two exceptions. The question arises, should New Zealand, which possesses no facilities for candidates acquiring a knowledge of metallurgical operations, excepting in the department of gold-recovery, continue to grant separate degrees in mining and metallurgy while older countries, where the facilities are almost perfect, refuse to grant more than one—that is, the B.Sc. in mining, which in all cases covers and includes metallurgy?

The New Zealand B.Sc. in mining, including metallurgy should be made not a purely academic distinction, but the hall-mark of a professional occupation, acquired by a successful apprenticeship in the lecture-room, laboratory, mine, and reduction-works. Its status would then be on all fours with the New Zealand M.B. degree, which now takes a high place in the medical profession. The plums in mining are, perhaps, bigger and more plentiful than in any other profession. A four years' course of study and preparation is a splendid investment to any level-headed youth of grit and perseverance.

*Practical Work during Summer Vacation.*—According to the regulations of the Mining School, candidates for diplomas are required to spend a certain time in obtaining practical experience, as under: (1.) In the mining division, at least twelve months, partly in metal and partly in coal-mines; and of this period at least nine months must be spent in underground mining-work, and not less than four or more than six months in a coal-mine. (2.) In the metallurgical division, at least twelve months in ore-dressing and metallurgical works. (3.) In the surveying division, at least six months in the practice of mine and land surveying. (4.) In the geological division, at least six months in the practice of geological surveying in the field.

For some years students have found an increasing difficulty in obtaining work in mines or mills, and in the divisions of surveying and geology it has been almost impossible to obtain the practical experience required by the regulations. Toward the end of the session the Director wrote to the Hon. James McGowan, Minister of Mines, pointing out the disability of Otago mining students in respect to practical work, and requested him to provide employment in the Government Departments for seven students in the summer vacation—namely, for two in the General Survey Department, two in the Public Works Department, two in the State coal-mines, and one in the Geological Survey. The Minister approved of the suggestion, and courteously caused instructions to be issued to the several Departments to give the needed employment. Although the arrangement was made late in October, work was found for six students during the summer; and it is anticipated that when the Geological Survey is reorganized employment will be obtained for a greater number in future.

The Hon. Mr. McGowan for sixteen years or more has shown the keenest personal interest in all that relates to technical mining education, and among his many acts to promote the interests of mining schools none has been more warmly appreciated than the present.

*Occupations of Old Students.*—Among the appointments secured by old students during the year 1903 are the following: Mr. G. Geoffrey Sale, A.O.S.M., as first assistant to prospecting syndicate, Macequece, Portuguese Territory, South Africa, and afterwards manager of slimes-treatment works, Johannesburg; Mr. P. Fitzgerald, A.O.S.M., manager, Golden Pah Mine, Western Australia; Mr. John Henderson, B.Sc., Director of the Reefton School of Mines; Mr. Otto Bishop, A.O.S.M., battery-superintendent, New Inkerman Mines (Limited), Reefton; Mr. E. Paterson, A.O.S.M., general manager, diamond-mines, Brazil; Mr. T. Buteman, A.O.S.M., lecturer to the Kalgoorlie School of Mines, Western Australia; Mr. E. Edwards, A.O.S.M., assistant engineer of the Exploration Company (Limited), Blue Nile, Egypt; Mr. S. E. Napier-Bell, A.O.S.M., manager of the Brothers Home No. 1 Tin-mine, Derby, Tasmania. Besides these, several have obtained appointments as assayers, amalgamators, and cyanide foremen.

*Mining Education in Europe and America.*—The character and results of mining education at the principal mining schools and academies in continental Europe, England, and America have been much discussed during the past year or two. Broadly speaking, it has generally agreed that the graduates of the American mining schools excelled as mine-managers and mining engineers, the German as metallurgists, and the English as teachers and professors.