about two hundred additional optical lantern slides, and by a collection of fossils and rock specimens, chiefly from the Oamaru district. The examination of his class of sixteen students proved highly satisfactory in resulting in nine first-classes, four second-classes, one third-class, one failure, and one absent.

The rearrangement of tables, working benches, and, more so, the addition of two smelting and three cupelling furnaces, with separate iron chimneys, and the provision of twenty-four lockers for use of the assaying students, has been of the greatest advantage in the carrying on of the large assaying classes by the lecturer, Mr. Stephens. One important defect in the laboratory needs still be supplied—*i.e.*, certain additional apparatus for the class in advanced assaying, of which Mr. Stephens has already sent in notice, with specification.

Through the sad death, after a long and painful illness, of a very promising second year's student, the son of the Hon. Lee Smith, the assay laboratory, at his dying request, has been presented by Mr. Smith with the private assaying plant used by the deceased. It includes, besides crucibles, chemicals, tools, &c., a small assay furnace and two balances, one of which, of a very good make, supplies a long-felt want in the laboratory.

The classes in surveying have now become so large that Mr. Begg, the lecturer, has informed me of his inability to carry them on properly with the use of only one theodolite. The necessity of providing a second instrument of this kind has been seriously felt for several sessions past, but I have now to bring it under the notice of the Council at Mr Begg's urgent request. The cost of an instrument such as required would be about £16.

Regarding my own classes in mineralogy and petrography, more especially the latter, I beg to inform the Council that, from the experience I gained with a class of nine students during the past session, it will be quite impossible for me to carry on classes of fourteen or more students during the next and succeeding sessions under the same conditions and circumstances. It might have been thought that the attendance of the class would fall off after next session, and that during the latter additional assistance might meet the difficulties of carrying the class on under the same conditions as before; but the decrease in the number of new students, if it should happen, would certainly not have any effect upon this class for the next two or three years; and additional assistance could not do away with insufficiency of light and free space for moving about. In fact, with the class of nine students during the past session, the space available for the use of eight microscopes with the light from only three windows and for the working of two section-grinding machines proved so inadequate that moving about of myself and an assistant from one student to another without disturbing others in their work was hardly possible, whilst through double-banking of several microscopes, which had to be resorted to, there was a constant scramble for light, and thereby hindrance of proper progress in the subject. Besides this, there is always danger that through working of the grinding machines emery dust and splashes may reach the nearest microscopes and injure them, whilst the students' sitting benches and desks, as well as the mineral cases in close proximity, become dirtied all over with splashes from these machines. The only way, in my opinion, to meet the difficulties mentioned is an addition to the building—*i.e.*, a lean-to of about 6 ft. in width all along the gable wall of the large and small lecture-rooms, with a number of windows, or, still better, a glass front facing the lawn-tennis court. This would be a permanent improvement, and serve for more than fourteen students, whilst also giving more light to the far end of the large lecture-room, where during dark winter mornings it has proved hitherto rather deficient.

Another serious defect requiring removal before next session is that, through several years' working of the seven students' microscopes, the Nicol prisms of all have more or less come out of their proper positions, and can only be readjusted by an optical expert under my direction. There is, fortunately, such a man in Dunedin, whom I have interviewed, and whom it would be necessary to engage for the work.

I may also point out another expense which requires to be faced in the near future—namely, the replacement of a number of drawings of mining machinery and appliances, necessary for the mining lectures, as the present ones, through over fifteen years' use in copying by the students, are now becoming too much soiled and torn for serving much longer.

The new grinding-machine constructed by Schlaadt Brothers, engineers, Dunedin, has proved a great success, and less in cost than if a new machine of the old type had been procured from Berlin, Germany.

The Otago School of Mines Association, about the formation of which I reported last year, has, to my knowledge, not made any progress since, and one of the main objects of the association —viz., that of preparing a register of the addresses and positions of our past students—has consequently not been accomplished. I may, therefore, as I did in previous years, mention what I ascertained during the year about the careers of some of these associates of our school. Edward Paterson, in the service as consulting expert of an English mining syndicate, and last year in Auckland, is at present in a similar position in British Columbia; P. Fitzgerald, our former lecturer in metallurgy, is in charge of large cyanide works at Brown Hill, Western Australia; Herbert Stephens is manager of cyanide works at the Lachlan Goldfields, New South Wales; Arthur Mosley has the management of cyanide works at Reefton, New South Wales; Sheddan Brugh has a good post in the Queensland Smelting Company, Maryborough, Queensland; H. C. Boydell is in charge of a metallurgical laboratory in Sydney, New South Wales; D. B. Waters is mine-manager of the Shotover Quartz-mining Company, Otago; D. V. Allen is battery-manager of the Morning Star Reef Company, Preservation Inlet; A. Purdie has the position of lecturer in the University and Technical School, Adelaide, South Australia; Thomas Esdaile is lecturer in the School of Mines, Bendigo, Victoria. Most of the other associates seem to be still in their old positions, as mentioned in former reports.

The work done for the public in assays, analyses, and with the testing plant, since my last year's report, by Mr. F. B. Stephens, and by myself in the determination of minerals and rocks, was as follows:—