

The main failure of this cyanide plant, to my mind, was that the tailings in the first place were not crushed sufficiently fine for treatment by the cyanide process, and that only a small percentage of the gold in the tailings was actually dissolved. The action of the cyanide on the particles of the gold would leave it in a clean bright state, that directly it came into contact with mercury it would amalgamate. The cyanide would remove any coating that might be on it, and had the tailings or gangue, as it may be termed, after leaving the solution-vats, been streamed over copper-plates coated with quicksilver, the cyanide plant would have still been at work on these tailings, and the owners getting well paid for their venture.

OTAGO SCHOOL.

This school is attached to the University at Dunedin, and is greatly improved within the last few years. It, however, requires yet considerable alterations before a complete course of practical instruction can be given—especially on the different methods of extracting gold from its ores. Hitherto, there has been no plant at the school, where the students can see the practical working in connection with the reduction and treatment of ores; but arrangements are to be made for the erection of a small stamp-battery, with amalgamating pan and cyanide plant, which will enable any practical tests of ore to be made in Otago, instead of sending it away to the School of Mines at the Thames for treatment, as has been previously done.

The following is the Report of Professor Ulrich to the Chancellor of the University, on the progress made at the Otago School of Mines for the past year:—

Herewith I have the honour to submit my report on the work and the results of the School of Mines during the past session (1894), and on matters concerning present circumstances and future progress of the school.

At the end of the session of 1893 the school lost six students, leaving only thirteen; but nine fresh students entered, thus making the attendance number during the past session twenty-one. Of the six students who left, three were occasional students for special subjects only; one, who required to attend one more session for passing through the mining division, sent notice that on account of his delicate health he was advised to take a year's rest, and hoped to be able to return for next session; the other two students had finished their studies,—one for the mining division only, the other for the mining, metallurgical, and geological divisions,—and both have since been granted the diplomas of associateship to which they were entitled.

Of the twenty-one students during the past session, three entered for special subjects only—viz., two for assaying, and one for assaying and blow-pipe analysis. The other eighteen were regular registered students, who attended the different lecture courses entered for very regularly, except one, who frequently missed lectures in one of the subjects, and, in consequence, failed in the examination.

The present status of these students is as follows:—

Five of the new students passed through the first year's course, save that four of them, with the intention of devoting four years instead of three to going through the whole course, did not take mathematics, reserving it for next year. This accounts for the small number who entered for examination in this subject, as shown in the table given further on.

Six students passed through the second year's course of the mining division, though two of them, who intend to stay four years, missed also one subject.

One student of two years' standing attended only two of the mining classes, and with success in the examinations, devoting his studies principally to subjects of the B.Sc. degree examination. He intends, however, to devote the next two sessions entirely to subjects of the mining and geological divisions.

Two students who entered for four years for the mining and metallurgical divisions have finished their third year. One passed examinations in all subjects taken successfully, the other failed in one subject, but as he has another year's attendance to spare, he is likely to make up the deficiency.

One student of four years' standing, who through insufficient attendance, due to illness, failed in last year's examinations in some of the subjects, attended these subjects again, and was successful in the examinations. He requires to pass in only two subjects more to qualify him for the associateship in mining, as he has already been engaged for more than twelve months in practical mining work.

One student, who had previously passed examinations in most of the subjects of the mining, metallurgical, and geological divisions, but devoted last year to practical mining-work, attended lectures in the remaining subjects, and also in other subjects qualifying for the first section of the B.Sc. degree, but, I am sorry to say, he failed in some of the examinations, and will have to try again next session.

Two students—Donald J. Matheson and Harry C. Boydell—each of four years' standing, have successfully passed examinations in all the subjects of the mining and geological divisions, and the former also in that of the metallurgical division. H. C. Boydell, having fulfilled the condition of twelve months' practical work in mines, is entitled to the diplomas of associateship of the divisions in which he passed; but D. J. Matheson, having not as yet done any practical mining work, can only claim the diplomas of the metallurgical and geological divisions. Both these students are also qualifying for the B.Sc. degree, and H. C. Boydell has already passed the first section of this degree.

The attendance of the classes and the results of the annual examinations are shown in the following table:—