

"Metallurgy of Gold and Silver."—This class was largely and regularly attended from the beginning. Lectures were given by me on the most approved and modern methods of crushing, pulverising, and concentrating of different classes of ore; also, on the extraction of the gold and silver by amalgamation, chlorination, cyanide, and other leaching processes. Special lectures were devoted to the practice of extraction by means of alkaline cyanides used under the Cassell Company's patent. The instruction dealt with the character of the ores suitable for treatment, the treatment of charges by agitation or percolation, quantity and strength of solutions, standardising and estimating the strength of solutions, washing the pulp, precipitating and subsequent melting of bullion. The chemical reactions were fully explained, and the practice was graphically illustrated by working apparatus, including percolation-jars and vats, and an agitation-barrel actuated by a small Pelton-wheel. Special lectures were also given dealing with all the working details of the American or Washoe amalgamation processes, the different chlorination processes, and the reduction of argentiferous lead-ores.

"Mining and Applied Mechanics."—The average attendance at this class throughout the year was only thirteen, as compared with twenty-one of the previous year. This decline is very largely due to the large number of service certificates which have been granted throughout this goldfield under the regulations of "The Mining Act, 1891." The miners to whom these certificates have been issued were the men who principally attended this class, but, having secured their service certificates, they do not care to continue, or undertake, a course of study in order to possess certificates by examination. In course of time the attendance should again increase. During the year three students have been sent up for examination for first-class certificates as mine-managers, and two have passed. The results of the last examination, affecting the last candidate, are not yet known. These two, added to the sixteen mentioned in my last annual report, make altogether eighteen students of the Thames School of Mines who have secured first-class mine-manager's certificates in the course of three years.

"Land and Mine Surveying."—This is a popular class, and continues to be well attended. During the year a large number of surveys have been completed, the results being in most cases highly satisfactory. In the last term in 1892 a large amount of attention was given to the use of the level and calculation of earth-work. Several roads and water-races were set out and pegged. Most of the students have shown a great aptitude for this work, and several of them have already utilised the knowledge they have acquired in laying-off races and assisting the County Engineer. The teaching of surveying has resulted in much good, and it is gratifying to find that many of my old students, who have secured first-class certificates, are now performing their own surveys in an intelligent and workmanlike manner. In this class a great many lectures are devoted to the mathematics of surveying, until the student becomes thoroughly grounded in the use of logarithms, the solution of triangles, and the mensuration of surfaces.

"Mechanical Drawing."—At the end of last year, Mr. E. F. Adams resigned the charge of this class. For the first two months of this year it was under the instruction of Mr. J. Crump, Mining Engineer, and, on his leaving for Waihi, his duty was undertaken by Mr. F. J. Allen, M.A., who will continue the instruction. The average attendance at this class is very small, considering the great importance of a knowledge of drawing to young mechanics and artisans who wish to rise in their occupation.

"Physics and Experimental Science."—This class was undertaken for the benefit of State-school teachers and pupils who wish to qualify themselves for D and E certificates. The numerous experiments have proved very instructive and attractive, and the attendance varies from fifty to sixty, including from fifteen to twenty State-school teachers.

"ANNUAL EXAMINATIONS."

"These were held at the School of Mines, from the 19th November to the 30th November, under my own supervision, with occasional visits from the secretary and members of the School Committee.

"The examination papers were forwarded by the Under-Secretary for Mines to Mr. Albert Bruce, the secretary of the school, who kept them locked in the safe in his office till the published date of the different examinations, when he handed in the set of papers required for examination shortly before the commencement of the examination. All tuition and instruction were suspended at the school during the period of examination, and every precaution was taken to prevent the students getting access to, or a knowledge of, the contents of the papers before the advertised dates of examination, which were fixed by the Committee.

"At the end of each examination all the papers of answers were collected, and immediately handed to the secretary, who kept them under his charge until all the examinations were completed, when he forwarded them to Wellington. The results of the examinations were published about the middle of January.

"Rules of Examination."

"The examinations were conducted under the following rules and conditions:—

"1. No student shall come up for examination unless he has attended the lectures and classes of instruction in the subject of examination for three full terms.

"2. No candidate shall be admitted to the examination-room until the hour appointed.

"3. No candidate shall be allowed to enter the examination-room thirty minutes after the time appointed.

"4. All paper and writing materials shall be supplied by the supervisor.

"5. The candidates are to be seated at separate tables, situated not less than 12ft. apart.

"6. No candidate is permitted to bring into the examination-room any book or other written or printed matter, logarithms excepted.