

as the cost of extraction by Mr. La Monte. Mr. La Monte's explanation of this result will be found in the preceding extract. Whilst it must be admitted that the first attempt at the introduction of the smelting process as to this field has not been a financial success, and it perhaps may be taken as proved that this particular process is not suitable for the treatment of the poorer-grade ores of which we have so abundant a supply going to waste, yet a great and, I believe, permanent good has resulted from its introduction. It has proved the existence of lodes containing a very high percentage of bullion, as much as £30, £90, and £105 per ton being the assay-value paid at the furnace for some parcels. Similar ore heretofore has either not been treated at all, or, if treated, the bullion has been lost at the battery. It has also taught the miners to distinguish between the various grades of stone they are handling—in fact, to classify the stone, sending that only to the battery that their new experience has taught them can be profitably treated there, reserving some for the furnace, where, if the process was more costly still, as it saved silver as well as a higher percentage of gold, it paid to send it, whilst perhaps the bulk of the stone is placed on one side as being too poor for the furnace at the present cost of extraction, and yet not likely to pay at the battery, from the presence of the sulphides and chlorides with which the bullion is combined.

Another immediate benefit derivable from the introduction of the furnace may be said to be prospecting for minerals other than gold or in combination with gold. Karangahake has been developed, Waihi reopened, and perhaps the Tui at Te Aroha discovered, mainly in consequence of the facilities afforded by the furnace, with its skilled staff, for ascertaining the value of new ores and offering a market for them at their assay-value, less charges. I have referred further on to the effect that Dr. Black's visit had upon the prospecting for new ores in these districts. The search for iron-ores, lime, &c., required as fluxes at the furnace has done much to assist prospecting over country hitherto neglected or merely passed over. For these and other substantial reasons it is therefore to be hoped that the furnace may remain permanently at work in this district and be the forerunner of others.

There can be no doubt that more careful management, coupled with reduction in the first cost of the various fluxes, and perhaps, also, more experience being gained in dealing with ore so essentially different from those treated successfully at Silverton and elsewhere by the same process, will tend to bring the cost of treatment down to a more reasonable amount, and by so doing largely increase the output of stone that it will pay to treat.

I have given no detailed description of the furnace itself, or the method of treatment of the ores, both being so fully described by Mr. Gordon in his able report upon the mining-machinery in use in the Australian Colonies.

In a report upon the goldfields, the benefit derived from the visit of Professor Black and his staff to this district during the year must not be overlooked. It is scarcely possible to over-estimate the benefit derived from this visit, and the course of lectures given and classes instituted by the learned Professor. Dr. Black's happy manner of imparting information, simplifying science so as to bring it within the comprehension of all, aroused the deepest possible interest, amounting to enthusiasm, amongst crowds of eager listeners and learners from Te Aroha to Coromandel. That a want had been supplied by Dr. Black's visit and lectures was evidenced by the large attendance at his classes of miners who had travelled many miles after their day's work to be present. It is no exaggeration to say that recent valuable discoveries made at Karangahake, Waihi, and the Tui, Te Aroha, are due in a great measure to the intelligent interest awakened and information imparted by Dr. Black. Miners, as it were, have been thrust out of the groove they had been content to work in during the past. Stone that would have gone over the mullock-tip is now carefully scanned before being thrown aside. One immediate benefit resulting from this visit has been the establishment of a School of Mines at the Thames, with branches at Te Aroha, Coromandel, Karangahake, and Waihi. A sum exceeding £500 has been subscribed, and a very large number of working-members have joined. A committee, elected from amongst the subscribers to manage the business of the association, have made arrangements for a course of lectures and classes to be held at the Thames, Karangahake, Waihi, Te Aroha, and Coromandel. On Dr. Black's departure from the district, one of his staff, Mr. Montgomery, was, by the consent of the Hon. the Minister of Mines, stationed—we hope permanently—here to continue the classes and lectures so successfully inaugurated. A most successful term has been concluded at the Thames, and Mr. Montgomery is now in the upper-country districts. The committee of the School of Mines have already purchased a suitable building as a permanent home for the school, and have arranged for the erection of a furnace, laboratory, &c.

At Karangahake much has been done during the year in the various mines, and a fair measure of success met with. The larger portion of the stone sent to the furnace at the Thames has been from this district, as much as £105 per ton being given as the assay-value of one parcel sold. The difficulty in procuring the necessary fluxes has retarded the opening of the local furnace, iron ore having to be brought from Whangarei by sea, up the Thames River to Paeroa, and from thence to be carted some seven miles; and, as the coke, lead, lime, &c., will have all to be brought from a distance, I am afraid that the expense will be too great for the class of stone to be treated. It certainly will be cheaper to send the more valuable stone to the Thames, as for every ton of stone smelted some two tons of flux have to be brought to the furnace.