With this brief review of the mining laboratory work, at which all the fourth-year miners assisted, each one in his turn having charge of a special amount of work, and again doing the manual labor necessary to understand the practical working of the different processes, it may be seen that with the utmost need for more room, the work done reflects the greatest credit upon the present head of the department, to whose constant attention and application of improvements the excellence of these laboratories is due.

J. D., JR.

OUR YOUNGEST.

The Extraction of Gold and Silver from Jewellers' Sweep.

It is not generally known what precautions are taken in jewellers' workshops to guard against loss of gold and silver. The sweepings of the floor, crucibles which have been used in melting the precious metals, ashes, and everything which may contain a trace of gold or silver, are collected, burned in a reverberatory furnace to remove organic matter, crushed, and sifted through a fine sieve. The pieces of metal which do not sift through are very rich in gold and silver, and are treated by themselves with sulphuric acid, which dissolves out the base metals, together with the silver, while the gold remains undissolved. The silver is easily recovered from the solution by precipitation.

The portion going through the sieve, although too poor in gold and silver to work in small quantity, is yet rich enough to work profitably on a large scale. Two lots of this sifted "sweep" have been worked at the Institute: one of 585 pounds, from which $53 in gold was extracted, and one of 1,095 pounds, from which $54 in gold and $6 in silver were extracted.

This last lot, which was worked this year, was smelted with lead sulphate in the blast furnace, the precious metals going into the reduced lead.

Lead is separated from gold and silver by cupellation. This consists in burning off the lead, and leaving the nobler metals, which do not oxidize. As the melted lead oxidizes, it forms fusible litharge, which, being lighter than the metal, floats above it, and may be run off through a suitable channel. The lead is meanwhile kept at the right level by the occasional addition of a small ingot. To avoid the necessity of cupelling all our lead, we resorted to Parke's process, to concentrate the precious metals in a small portion. This process depends on the fact that if melted zinc is stirred into melted lead containing gold and silver, and the lead is then allowed to solidify, a large portion of the lead may be sweated out almost free from gold and silver by the application of a gentle heat, while the zinciferous alloy remaining is correspondingly enriched.

The zinc was volatilized from this zinciferous alloy, and the resulting lead cupelled. The button from the cupellation was parted with nitric acid, leaving a residue of pure gold which needed only melting down, and giving a solution of nitrate of silver, from which the silver was precipitated as chloride. The reduction of this chloride was effected by melting it with soda.

The Tech Dinner.

Since the feast of the newsboys in the Gym last Thanksgiving, the gastronomic world has not been in such a flutter of excitement as it was on the evening of May 6, when the officers of the Tech partook of their first annual dinner.

There were seventeen invited, seventeen places were arranged, and the betting was ninety-