

earth light, and air, the incorporate image of some ideal harmony; we are struck, moreover, by an objective adherence to nature, and the utmost faithfulness of a positive locality, its picturesque and vegetative physiognomy. It is as if the Athenians, the Spartans, arose anew from their resting-place of ages,—as if a battle was again to be fought on those spots so intimately represented in the Eleusian groves, once the place of sacred initiation. Such appreciation led to the desire of having these productions of art exhibited in the best possible manner, and an especial saloon has been appropriated to them in the new Pinakotheca, at Munich. The architect, M. Voit, being intrusted with its construction, has erected a gallery, where the light coming from above strikes only the pictures, the visitor viewing them from the shade of a covered hall, which occupies the middle portion of the room. By this arrangement, the paintings are brought out in a very striking illumination, imparting to them that mysterious sentiment, under which, without doubt, most works of art ought to be viewed.

#### Progress of Melbourne—Australia.

A view of the commerce, revenue, and rise, of Melbourne, is unlike the commercial growth of a rising city, and rather resembles youth starting up at a bound to the full maturity of manhood: its population, which in 1836 was 221 persons, having reached in 1853, 250,000. Its exports, which in 1838 amounted to 21,000*l.*, reached in 1850 to 1,042,000*l.*, in 1852 amounted to 7,451,540*l.*, and in 1853 swelled to 9,080,574*l.*: while the increase of imports in the same year was equally striking, advancing from 71,000*l.* in 1838, to 751,000*l.* in 1850, to 4,067,742*l.* in 1852, and to 15,842,637*l.* in 1853. The revenue of the colony is also very remarkable—in 1850 it amounted to 261,321*l.*, in 1851 it was 379,821*l.* in 1852 it reached to 1,576,801*l.*, and, in 1853, it swelled to 3,202,219*l.* A large part of these amounts was obtained from the sale of Crown lands, and the licenses to dig for gold yielded, in 1853, 660,838*l.*, the present reduced rate being 1*l.* per month, or 8*l.* for the year. The total produce of gold for 1853 was nearly 129 tons, valued, at 4*l.* per oz., 12,361,368*l.*, being upwards of 1,000,000*l.* a month: but, as we learn from the most recent advices, that the amount of gold shipped from Victoria, in the first nine months of 1854, amounted to 1,653,999 ozs., against 1,831,468 ozs. shipped during the first nine months of 1853, some decline will be observable during the last year. This is attributed, partly to the fact that a large part of the population has settled down to ordinary industrial, particularly agricultural pursuits, but still the average weekly produce in October last was about 40,000 ounces.—*Min. Jour.*

#### The Great Minnesota Copper Mine.

The Lake Superior *Mining News* furnishes the subjoined summary account of the monster mine, known as the Minnesota:—

“The greatest depth attained in this mine is 380 feet. The main shaft or piston that works the pumps is here about 300 feet long. The lowest depth attained at the south vein is 166 feet. Silver is interspersed in all the copper of this mine, and in some others on this range. When any fine specimens of silver do make their appearance in *veiges*, or in any other collection, they are generally secured by the miners. The amount of copper shipped from this mine during the season of navigation was 1,543,407 pounds, net weight, being over 771 tons, worth over \$300,000. The product for the month of December is over 77 tons. Three hundred and ninety men are required to carry on this vast operation. It requires a supply of over 20,000 pounds of candles for this mine during six months. There are about forty buildings clustered around this mine, and making a respectable village, for they have their Catholic and Protestant churches, their school-house, warehouse, and doctor's office. It is one of the mines that give character to this country, for upon its success depends the confidence of all stockholders in copper mines; and it will maintain that place until some others shall show an equal success, and share that responsibility with the Minnesota and Cliff mines.”

#### Miners and their Privations.

The census of 1851 presents many curious facts relating to mining industry. It appears that in Great Britain this class of the population numbered as follows:—

	Production in 1851 about
Coal miners.....	216,366..... 52,000,000 tons of ore.
Iron miners.....	27,038..... 2,250,000 “
Lead miners.....	21,617..... 65,000 “
Copper miners.....	18,468..... 11,000 “
Tin miners.....	12,912..... 9,000 “

This population, in a great measure, exists in mines which are distinguished from the workshops of other operatives by the peculiarities of the temperature, pressure, moisture, and composition of the air, of the gases, and miasmata which prevail in them, by the absence of sunlight, and by the mode of lighting, quite as much as the motions and working positions of the men differ from those belonging to any other occupation. The average age of miners living varies from 25-7 years in the case of tin miners, to 28-9 amongst lead miners, being a difference of about three years, but this is accounted for by the tin miners commencing work at 10½ years of age, the lead miners not till above thirteen years, on the average. These are the extremes of age, within which, on an average, each of the five classes of miners begin work. Iron miners are the unhealthiest of all; for, notwithstanding that the men do not commence work till about 13 or 14 years of age, their span of labour only reaches 25-4 years, which is 2½ years below the average time in which a miner wears out. The machine lasts but 27-7 years, whilst 42-3 years are got out of the agricultural labourer. In other words, the lives of the miners, in addition to excessive sickness and diminished strength, are shortened by an amount equivalent to more than half their working life.

#### Lightening of Labour in Mines—the Man Machine.

The “Man Machine” is an apparatus contrived for the purpose of saving miners time and labour in ascending and descending to and from their work. One hundred men can be elevated or lowered together from as many different depths of the mine (in a perpendicular shaft) by this simple contrivance. The single acting man machine consists of a strong rod of wood or iron, extending the whole depth of the shaft, to which are fixed platforms about 4 feet by 2½ feet at intervals of ten feet. There are corresponding platforms fixed at the same distances to the sides of the shaft. The rod has a reciprocating motion up and down of ten feet, communicated to it by the crank of a water-wheel or steam-engine. Now, a person stepping on the rod when it is about to go up, and off it on to the side platform when it is about to go down, and repeating the operation at every stroke of the rod, would arrive without effort at the top. One man can be on each platform at a time. In the double machine there are two rods, which move up and down alternately; and, therefore, double the speed of the ascent.

#### The Canadian Journal—New Series.

The members of the Canadian Institute and the subscribers to this Journal are aware that the first number of the *Canadian Journal* was issued in August, 1852. Each yearly volume was thus made to terminate at a period found by experience to be extremely inconvenient in relation to the Society's financial arrangements; and it has long been thought desirable, that an effort should be made to connect the financial year of the Institute with that of its Journal. This step has not hitherto been taken, as it appeared to the Council that the prospects of the Society were such as would warrant the issue in a short period of a NEW SERIES, with such changes in size, form and arrangement, as would adapt it to the rapid growth and strength of the Canadian Institute. It is now thought that the time has arrived for effecting this change, and it is therefore proposed to continue the monthly issues of the present volume to December 1855; and in January 1856 to issue the first number of a NEW SERIES. Further information on this subject will be published when the necessary details have been determined.

#### Canadian Saturniæ.—Silkworms.

In the April number of the *Canadian Journal* of last year (vol. ii. page 212) we published a short paper by Thomas Cottle, M.D., of Woodstock, C. W. “On some of the Canadian Saturniæ, and suggestions on the possibility of using their silk for textile purposes.”\* We are glad to find in the correspondence of M. Jerome Nicklès with “The American Journal of Science and Art,” dated December 30th, 1851; that the French “Zoological Society for Acclimation and Domestica-

\* Read before the Canadian Institute March 11th, 1854.