

DEATH OF MAJOR HUNT.

A sad accident occurred at the Brooklyn Navy Yard on the 1st inst., by which the country has been deprived of an able soldier, a man of science, and inventor. Major E. B. Hunt, of the Corps of Engineers, U. S. A., had been engaged for several months past in the construction of a new submarine battery, from which important results were anticipated; and while making experiments in that vessel on the day stated above, an asphyxiating shell accidentally burst, the gases of which caused him to fall down into the hold, producing contusion of the brain. He was quickly lifted and carried to the Naval Hospital, but all efforts to restore him proved unavailing, and he died during the day. He was a native of New York, and a graduate of the West Point Military Academy, in which institution he acted as Assistant Professor of Engineering from 1846 to 1849. After this he was engaged in the regular service, and for several months prior to the breaking out of the war was employed in the construction of the fortifications of Key West. When the war actually opened, and the secessionists were busy seizing the forts on the Southern coast, it was in great part through Major Hunt's sagacity and patriotism that our national fortifications in Southern Florida were saved. Major Hunt was an accomplished engineer, and a lover of natural as well as practical science. He was the author of several treatises on scientific subjects, and his "Physical Notes on Key West," relating to its climate, storms, yellow fever, &c., we published in a condensed form on page 391, Vol. VIII. SCIENTIFIC AMERICAN (current series). He was brother of ex-Governor Washington Hunt, of New York, and was a man of noble presence, generous nature, and cultivated mind.

OUR GOLD-AND SILVER MINES--THE NATION'S WEALTH.

For thousands of years gold and silver have been the universal representatives of wealth and power. In the days of the Pharaohs these metals were weighed and exchanged as money; they are still weighed as money in China; they are still weighed among us and in Europe. Few persons are so low in the scale of being that they do not comprehend an idea of value as attached to the precious metals, and there are fewer still so elevated as to be beyond their influence. We know, indeed, that a man may be very wealthy, and yet entirely destitute of either gold or silver. A man may own houses, lands, bonds, mortgages, patent rights, &c., and these alone will make him wealthy. But if he desires to exchange one piece of property for another, he must either resort to the inconvenient and expensive method of common barter, or he must sell his property for money, and then with the money purchase the desired article.

Gold is the universal money of the world. In certain localities paper money may be issued; and, as in this country and in Europe, common consent or governmental enactment may give it credit and currency in domestic transactions. But this must necessarily be confined to a region in which such confidence can be established, or over which a government has jurisdiction. Nothing but gold and silver has ever obtained universal currency, or like these metals, has become exchangeable for all descriptions of property. The reasons for this are found in the nature of the metals themselves, and in the difficulties attaching to the acquisition of them in any considerable quantities, by mining operations. Their luster and beauty are of themselves good recommendations for their use as currency; but much stronger recommendations exist in the fact that they are incorrosive, and they are not found in sufficiently large quantities to rapidly deteriorate the value of the gold and silver which is already in market. It is true that the quantity of gold or silver mined has a tendency to depreciate its own value; but it must be remembered that property itself is increasing in quantity—more rapidly in this country than in any other—and this offsetting the increased yield of gold and silver, is still another influence operating to keep gold at par.

The auriferous mines within the limits of the United States are vast in number and of untold productive power. Our resources in gold and silver are equal to

those of the most favored foreign nations. This fact, in view of our increasing national debt, the absorption of which rests upon our ability to promptly pay the interest, and ultimately the principal in gold, is one of transcendent importance. California is now producing 70 to 80 millions of dollars' worth of gold per annum, while Colorado is producing at least six millions. The following tables show the estimated production of gold in California from its discovery to the present time; and the sources and the total amount of domestic gold deposited at the United States mint and branches to the year 1862:—

Years ending Dec. 31.	Estimated Production According to World, 8th June, 1861.	Exported from California to all parts.	Received per steamer at New York.
1848	\$58,902	\$10,000,000	\$.....
1849	8,196,673	40,000,000	4,921,250
1850	48,241,168	50,000,000	27,676,340
1851	84,134,355	55,000,000	45,989,000
1852	80,150,000	60,000,000	45,779,000
1853	99,864,753	65,000,000	54,965,000
1854	90,000,756	60,000,000	51,429,095
1855	79,969,603	55,000,000	45,182,631
1856	88,715,603	55,000,000	50,697,534
1857	85,556,955	55,000,000	48,976,697
1858	83,043,287	50,000,000	47,548,025
1859	83,055,757	59,000,000	47,744,462
1860	74,068,750	45,000,000	42,325,916
1861	70,000,000	41,880,000	41,676,658
1862	74,000,000	42,540,000	42,561,761
Total	\$1,049,356,572	\$734,220,000	\$596,473,372

SOURCES OF DOMESTIC GOLD DEPOSITED AT THE UNITED STATES MINT AND BRANCHES.

States, &c.	Previous to 1848.	Since 1847.	Total.
Virginia (1825-1862)	\$945,294	\$613,511	\$1,558,805
North Carolina (1804-1862)	5,525,005	3,586,989	9,111,994
South Carolina (1828-1862)	735,540	619,430	1,354,970
Georgia (1828-1861)	5,345,193	1,563,196	6,908,389
Alabama (1838-1861)	158,107	43,224	198,331
Tennessee (1838-1861)	62,866	18,561	81,427
Atlantic gold fields	\$12,770,725	\$6,448,911	\$19,214,636
California (1848-1862)	\$.....	\$528,145,666	.....
Nevada (1861-1862)	.....	53,546	.....
Utah (1860-1862)	.....	80,067	.....
New Mexico (1848-1862)	.....	56,929	.....
Arizona (1860-1862)	.....	21,500	.....
Colorado (1860-1862)	.....	4,753,050	.....
Nebraska (1860-1862)	.....	1,402	.....
Washington (1862)	.....	216	.....
Oregon (1853-1862)	.....	963,458	.....
Western gold fields	\$.....	\$534,076,134	\$534,076,134
Other sources	\$37,850	\$44,669	\$82,519
Parted from silver (1862)	.....	1,132,717	1,132,717
Miscellaneous	\$37,850	\$1,177,386	\$1,215,236
Grand total	\$12,808,575	\$541,697,431	\$554,506,006

To comprehend our future resources we should bear in mind the vast extent of our mining regions, in which lie, still undiscovered, a wealth of gold and silver far surpassing any human calculation, and the new facilities which science and the inventive genius of the age are bringing to bear upon the future yield of our mines.

The whole extent of the Rocky Mountain ranges in the States of California and Oregon and the Territories of Colorado, Nevada, Utah, Arizona, New Mexico and Nebraska, abound in mines of gold and silver. Immense regions are yet open to the explorer; and there are mines still undiscovered, whose probable yield will render insignificant our former successes. We do not imagine that there will be another excitement equal to that which resulted on the discovery of gold in California; but there will be a steady emigration toward our new territories, and a steadily increasing yield of the precious metals in return. Scientific investigations show that the quartz mines of Colorado, in reality, contain gold in larger quantities and more evenly diffused than the quartz mines of California. It is more easily separated from California quartz than from Colorado quartz, and hence the conclusion has been drawn that the California quartz is the richest. But in the one case the gold is saved, while in the other case it remains in the quartz. As a general rule but one-third of the gold is separated from Colorado quartz, while two-thirds are lost in the tailings and water races. The reason that it is obtained in the one case and lost in the other, is found in the different nature of the ores with which the gold is associated. While California quartz is comparatively free from, the Colorado ores contain, sulphurets of iron, copper, lead and antimony, and these greatly interfere with the separation of the gold by the ordinary processes of washing and amalgamation.

When scientific men and inventors shall have succeeded in saving this additional two-thirds of gold, now being constantly lost by means of inadequate mining apparatus, the entire yield of the Colorado mines will be three times as large. Already new processes having this object in view are being invented, and we know of two inventions which are now being put in actual operation at the Pike's Peak mines. One of these is a desulphurizing process, patented by Mr. Keith. His process desulphurizes the ore, and if in this respect it is effective and econ-

omical, it will liberate much of the gold heretofore held in such combination as to resist the action of mercury. The other process is the invention and patent of Mr. Edward N. Kent, of the United States Assay Office. His machine is intended to save, by amalgamation, all that has heretofore been saved at the mines, and in addition, in the form of a concentrated residue, much of the gold heretofore wasted. One of the results obtained by his invention is the removal of the quartz from a given quantity, say a ton of ore, leaving the gold before diffused throughout the whole mass, and which will not amalgamate, combined with but a few pounds of the original ore or sulphurets. This concentrated residue may be smelted at the mines or at New York and the gold entirely liberated.

There should be two sources of direct revenue to the government from the national gold mines. There should be a land rent charged for the privilege of mining, and a royalty charged upon the quantity of gold actually mined. The national gold mines belong of right to the whole people, and individuals who desire the privilege of exclusive possession and property should be willing to pay the people for a right which the people alone can confer. There is no production of labor which can be taxed with so great profit to the government, because the tax would be payable in the bullion itself, thus giving to the government the advantage of any premium it might bear. The tax would not be felt by the public at large, because as long as gold is principally used as a currency, the community gain nothing, but are rather losers, by an increase in the volume of currency; and if taxation resulted in a decrease of the number of miners or mining companies, the loss would never be felt by the public at large.

Business Prosperity.

More business of a commercial character, connected with manufactured goods, has been done in New York during the past month than in any previous similar month, with the whole Southern trade. One mercantile house in this city which once enjoyed a large Southern business, has lately sold goods to the value of \$50,000 per diem, whereas its whole former trade never exceeded in value \$30,000 per diem. Owing to the great rise in the price of goods, however, the quantity was about the same; but the company state that their loss of the Southern trade has been made up by a greatly increased Western business. Most all our merchants have been equally prosperous this fall; indeed, it is the prevailing feeling that if the Southern trade were to be completely extinguished hereafter the loss would not be sensibly felt. Domestic manufactures have been in great demand, especially woolen fabrics. It is not perhaps generally known that as good cloth is now made in America as in Europe. It has been supposed that the colors of foreign woolen goods were more permanent than those dyed in America, and many merchants and others entertain such opinions. They should be abandoned at once; because such notions are erroneous and injurious. The same substances and processes that are employed in Europe are employed in America by skilful European dyers. Some persons also imagine that the water and the air of Europe are more favorable for dyeing good colors; this is also an erroneous notion, as there is no difference in the character of the water and air in the two sections of the globe.

Manufacturers of hardware have also been very successful and busy this fall. When the people are kept busily employed, the country will be proportionately prosperous; for honest industry is the wealth of nations.

New York Canals.

The quantity of flour, wheat, corn and barley which has come through the canals to tide water, from the commencement of navigation until the 21st of August last, was as follows:—

	Flour—bbls.	Wheat—bush.	Corn—bush.	Barley—bush.
1862	840,500	15,129,600	10,828,500	372,100
1863	725,000	10,067,100	14,666,100	73,100

The canals opened May 1st. Although the business of the railroads has increased prodigiously during the past two years, the trade of the canals has not diminished, but has increased also, though not to the same extent.