



The beautiful white buildings of the Exposition are to be sold as junk. They are soon to be advertised and knocked down to the highest bidder. About the only things of future use in them are the iron and steel arches and timbers. It is thought that not more than \$1,000,000 can be realized from the auction. The most expensive buildings will probably bring the least money. The Manufactures and Liberal Arts building, which \$1,600,000, and which has \$500,000 in arches alone, will of necessity, it is believed, be given to the man who will tear it down and carry the material away. The magnitude of the undertaking will be realized when it is stated that each arch contains twenty car loads of steel, all the pieces being firmly riveted together. The salvage in the Administration building will also be very small. The Mines building, on the contrary, is regarded as a more favorable prospect. The steel arches are much lighter than those of almost any other building on the ground, and could be taken down and set up again for a large workshop or factory. They would also be available for a depot of moderate size.

Two hundred and ninety-one West Point cadets arrived in Chicago August 18. They encamped on the plaza between the Government building and the Illinois, the brick battleship. The United States Military Academy band accompanied the party.

Aug. 19 was dedicated to Britain's glory, and loyal sons and daughters of the empire flocked to Victoria House to see the Union Jack floating from the top, and to Festival Hall to hear "Rule Britannia," "God Save the Queen," and other selections fitted to the occasion, as well as enthusiastic speeches full of loyalty to England and good Queen Victoria. The attendance was large, and when the evening closed with splendid fireworks it was agreed by all that British day was fully as successful as German day.

The Rocky Mountain and Pacific States and Territories in the Palace of Mines and Mining.—The most depressed pessimist in these days of financial disaster could hardly fail to be cheered by visiting the sections of the Mining building occupied by our most Western Territory. The abundance of treasure there displayed gives one the sense of a practically exhaustless supply.

For the untraveled visitor from the Atlantic seaboard, there are many surprises. He is not prepared to see large quantities of crude petroleum from Wyoming and from Colorado, not only the crude oil, but naphtha, paraffine and the other light oils. He has supposed that the Lake Superior region and Arizona were our chief sources of copper, but in the Montana section he reads that "in 1892 Montana produced more copper than all the rest of the United States together." Utah has not been famous for its coal, but the Territory has a great display, showing, indeed, much of the history of its production and the results of its distillation in the specimens of albertite, uintahite, asphaltane, lignite, natural coke and coal of various degrees of bitumenization. New Almaden has been known as the source of our mercury, but Utah has this, too, in abundance, alloyed with gold, and in the realgar and cinnabar ores.

While there is much similarity in the exhibits of all this group of States and Territories, I have studied them with reference to noting the characteristic specimens in each, and of these chiefly I write.

Utah's section is large and crowded, but not well arranged. Much space is given to a black, highly lustrous substance resembling albertite and labeled "Gibsonite, from Fort Duchesne." I have never been fortunate enough to find any one in charge of the section, and men in those adjoining are as ignorant as your correspondent about this mysterious-looking substance. But the quantities of stibnite, sulphur and copper ores tell their own story. In unguaranteed cases are rubies and onyx of great value. Salt is shown in massive cubes. Matrix alum in large quantities, asbestos and mica are conspicuous.

Montana's display is among the most showy. People who have no interest in her minerals look with wide-eyed admiration at the graceful figure of Justice. I am told that Ada Rehan was the model for the statue, which was cast in Chicago of Montana silver. It stands on an appropriate pedestal near the center of the section. But the display of silver in its unworked condition is, to some eyes, even more beautiful; the native crystals are wonderful in their perfection, and the quantity in strings is surprising. The fine crystals of quartz incrustated with rhodochrosite, of baryta, calcite and selenite are most satisfying to the mineralo-

gist. One prominent case contains a magnificent display of gold in grains and nuggets; sapphires, rare and beautiful for size and luster, are under the same glass, and yet the most conspicuous display in this section is that of copper in immense sheets and long bars. They are sent by the Parrot Silver and Copper Company, whose mines and reduction works are at Butte City.

Colorado's coal exhibit is most interesting. It is shown in all the forms, from lignite, bituminous, semi-bituminous, up to anthracite, whose analysis shows: Carbon, 89.45 per cent; hydrogen, 3.33 per cent; oxygen, 1.19 per cent; and sulphur (only), 0.78 per cent.

Here is powdered silica as white and apparently as well suited to the glassmaker's use as that from the Massachusetts deposits. Gypsum in its natural state and reduced to plaster of Paris is shown in large quantities. From what is supposed to be the only source in the United States, the Cheyenne Mountains, have been brought quantities of cryolite, whose analysis is given as: Aluminum, 13 per cent; fluorine, 54.50 per cent; sodium, 32.50 per cent. There is a wealth of lead, silver, iron, and copper ore. Zinc is shown in the various stages of smelting.

The display of gold is especially interesting, because it includes the telluride petzite and a large number of crystals of the native metal. Some are arranged under magnifying glasses. The right of this State to much space is told in the following figures, which show that between 1876 and 1893 Colorado mines have added to the wealth of the world:

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| Silver..... | \$378,106,528 |
| Gold..... | 63,943,263 |
| Lead..... | 66,068,000 |
| Coal..... | 49,734,736 |
| Copper..... | 4,168,040 |

The display made by Arizona is not so wide in its range as that of the States mentioned; but for beauty it is unsurpassed. The specimens of petrified wood from Apache County are not finer than those Tiffany has, but the great fragments of trunks reassure one about the vast extent of the forest changed into this gorgeous mass of color, which no artist can approach in mosaic. There are very interesting crystals, red and yellow, of sulphur and arsenic, formed in the process of roasting ore. One cubical mass of azurite weighs 5,695 pounds and assays 35 per cent of copper. The crystals of both azurite and malachite are magnificent. Many of them are drusy, and the effect is that of the richest velvet. Such specimens are too beautiful to be reduced for the metal. Let us hope that the sight of the table tops of malachite shown in the Russian section of the Liberal Arts building may induce some one in this country to utilize some of the Arizona deposits in this way. They should be cut instead of melted. A philanthropist might undertake it, in the cause of æsthetics.

The boundaries of New Mexico's display are defined by walls formed of masses of quartz and ore pyrite, galena, malachite, etc. There are beautiful crystals of vanadinite, fluor spar, aragonite and selenite; some of the last are three feet long. Idaho has sent a piece of rock containing a great number of fossil fish. Her exhibit of ore is very rich and interesting. Native silver in quartz and in strings is shown in large quantities, and argentite assaying 80 per cent of silver. Of the lead ores, the specimens of yellow pyromorphite, cerusite and galena are remarkable for size and beauty. Mineral water in bottles occupies a prominent place in the section, and suggests the locality of the Saratoga of the future.

Wyoming shows great masses of coal and rich gold, iron, lead, copper and tin ores; of the sulphates, gypsum in fine crystals and magnesium and sodium in large masses suggest exhaustless quantities to be had for the taking. Of building materials, red sandstone is exhibited. Among the many minerals, both rough and polished, in this collection, none are so rare as the blue and white moss agates. One is tempted to linger long in this section, for the clear, large photographs of the Yellowstone Park are so arranged that he feels he is actually among the geysers and other wonders of the strange, wild region. The photographs in the other sections of which I have spoken are hardly less interesting; some of them show the color of the rocks, all of them give such an impression of grandeur that the lover of scenery is tempted almost as much as the would-be finder of a fortune to risk his all in actually getting a view *in situ* of all these mountain marvels.

Of the Pacific States, Washington makes a brave display of iron, silver and gold ore heaped in pyramids. Among the gold nuggets from Kittitas County is one valued at \$500. A unique exhibit in this section is that of colored sands arranged in glass jars. There are eleven shades, ranging from pure white through grays, yellows, etc., to garnet. What a paradise for future glass and porcelain makers! This State shares with Colorado in being a source of molybdenum.

California's display of gold and silver is not significantly larger than that of her neighbors on the east and north. The effort of her exhibitors seems rather to have been to show her other treasures, of which the

world has heard less, and they are truly bewildering in quantity, variety and loveliness.

Such skill in transmutation as the alchemist never dreamed of, nature has shown in that marvelous place. Out of masses of carbonate of lime have been cut thin pieces varying in size from a few square inches to two or three square feet. The pictures are polished, and arranged on easels like transparencies; they show cloud and mountain effects in pale greens and yellows; the touch of gray in the white gives all the appearance of a haze in the atmosphere. These exquisite pictures are sold under the name of onyx, at hundreds of dollars apiece. They are far more delicate and beautiful than the marble called Mexican onyx. A slab of moss agate measuring four feet by four vies with the marble in beauty. Cinnabar is shown from the Bradford mine in Lake County, so rich that the product for the month of January, 1893, was 760 flasks of mercury. Aluminum is obtained from a clay whose analysis shows:

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| Aluminum..... | 42.97 per cent. |
| Silica..... | 12.54 " |
| Oxide of iron..... | 0.63 " |
| Alkalies..... | 4.70 " |
| Water..... | 0.39 " |

Among the iron ores are found magnetite, limonite, chromic and bog ore. Among the copper, the red oxide and the green carbonate. Stibnite is there with ingots of antimony beside it, and specimens of pyrolusite found in paying quantities. Salt is displayed in both translucent and opaque cubes. Borax and asbestos swell the list. Nothing is more noticeable than the masses, large and small, of rebellite. There is a profusion of it from San Diego County. One must see the radiate crystals of red tourmaline set in the lilac lepidolite to know the exquisite beauty of this mineral. A case of rocks of the State shows many representatives of both metamorphic and igneous—basalt, graphic granite, gneiss, diabase, trachyte, diorite, porphyry, porphyritic syenite, etc. Possibly, it is in the study of these California rocks, where almost every known metal is hidden, that geologist and mineralogist alike are to find the answer to some of their most puzzling problems.

The Columbian Exposition.

To the average mechanic there is here a vast amount of what he may deem unimportant to the inventor, or even the ordinary mechanic, as he views the vast collections. Yet as he studies the articles and machines, so numerous and vast in their variety, he will not tire of instruction. New articles of use are here before him, and from all civilized, half civilized, down to the real barbarian, from the flint ax to the wonderful dynamo, is a vastness of inconceivable wonder. No one man or woman of natural genius can afford to remain away, if they can possibly procure means to bring them here.

Those of foreign birth who have made this land for any considerable time their home will find here erected facsimile buildings and relics of those in their far native land, from that of massive public buildings down to the humble dwellings like the poor Irishman's thatched roof, to the famous Blarney Castle; and to an American who has traveled abroad out of curiosity these remarkable resemblances are exceedingly interesting. Chicago is remarkably fitted and located for this wonderful exhibit, being located on the great lake. Naval and marine exhibits are shown to great advantage. Here is everything in this line, from the war ship and beautiful yacht to the crudest dugout from Canada's backwoods, which brought its remarkable adventurer in his patched-up craft over one thousand miles, and really a beggar, to see the marvelous wonder of the world.*

I got a sight at Brousseau's log canoe, self, and dog. It is photographed here, but I failed to get hold of one. Your reporter should get one and illustrate it in the SUPPLEMENT.

One never tires of the strange collections of the far off regions. I was to-day through the India house, where wooden images of worship and ingenious carving and the very finest fabrications are collected. To the inventor, the mechanic, the mineralogist, the chemist, the fabricator, the designer, the learned and the unlearned, here is your school that will never be seen again in this generation.

J. E. EMERSON.

* The man's name is Antoine Brousseau. Although unable to read or write, he heard of the Fair and made up his mind to visit it. He found an old leaky punt about 15 feet long which had been abandoned, patched it up, and decided to use it as his means of transportation. With the aid of favorable winds, a horse blanket, and an old wooden paddle, he succeeded in reaching Chicago after travelling a distance of something like 1,000 miles. His only companion was his dog Pete. Before he left his northern home he had never seen a railroad or an electric light; had never heard a band of music or the whistle of a steamboat. At one of the points on his way a band of music was playing, and there also he first gazed upon the wonders of electricity. He was so carried away with what he saw and heard that he thought he had reached heaven. The region whence Brousseau comes is as wild to-day as it was when Chicago was only a trading post, the temporary stopping place of men like himself. He says that he has lived in the woods for months at a time without seeing a human face. He was born and raised in the wilderness, and until he started on this wonderful voyage of his he was ignorant of the conditions of life in the great world beyond the "clearings."