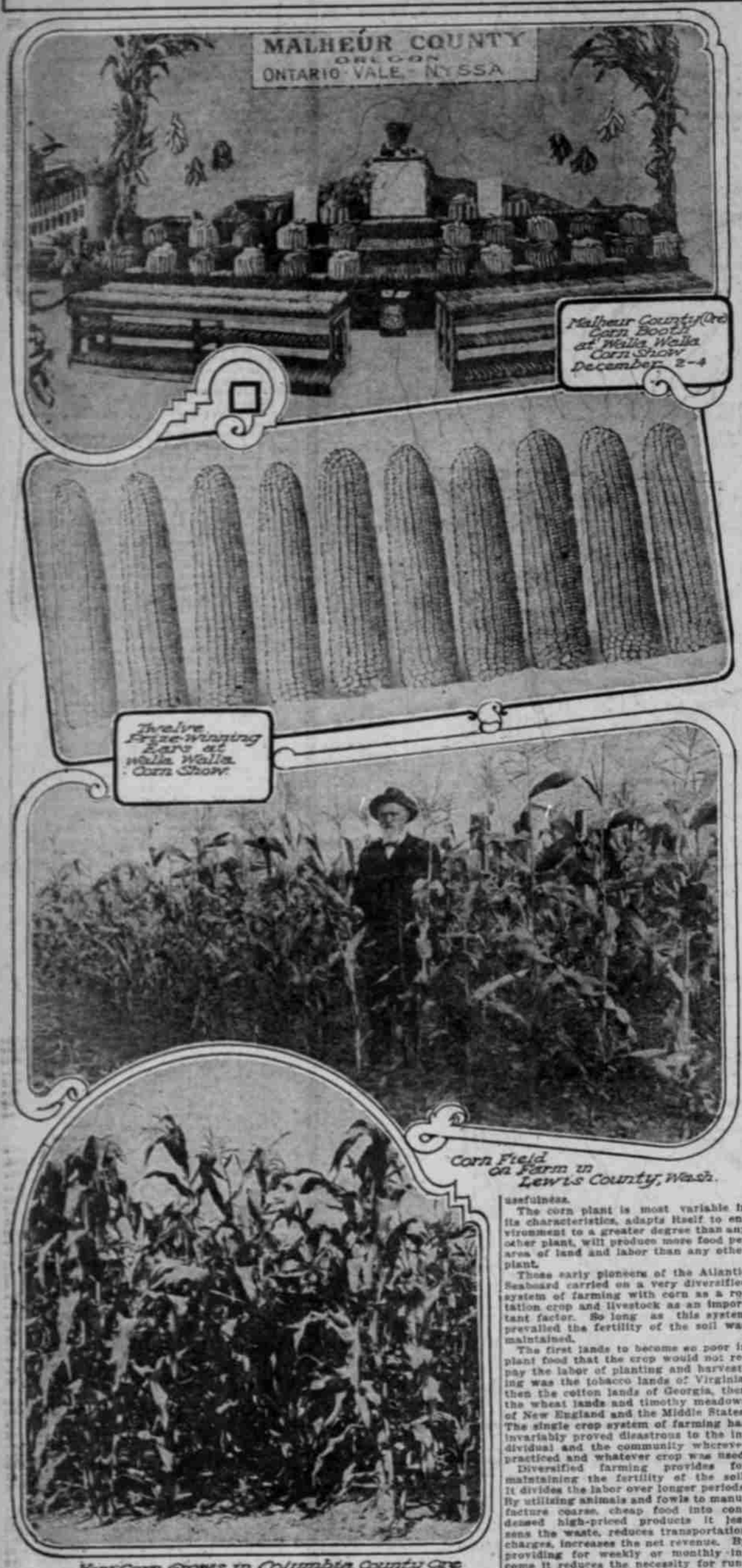
Agricultural Development Begun in Colony at Plymouth Forms Era in World's History

Process of Bringing Land Covered by Timber Under Cultivation at First Is Slow, but Wonders Are Accomplished in 300 Years—Progress in Raising of Corn Keeps Pace.



Malheur County (Ore.) Corn Booth at Walla Walla Corn Show December 2-4

Twelve Prize-Winning Ears at Walla Walla Corn Show

Corn Field on Farm in Lewis County, Wash.

How Corn Grows in Columbia County, Ore

By C. L. Smith, Agriculturist of O.-W. R. & N. Company.

THE STORY of agriculture in this country from the time the first white settlers began to cultivate the soil and make homes on the land, 296 years ago down to this year 1916, is one of the most marvelous in the world's history.

All of the earlier explorers were traders and adventurers. They gave no thought to the cultivation of the land. Their one idea was trading. The list of the first Jamestown colony gives "forty-eight gentlemen, six masons, four blacksmiths, four carpenters and 12 common laborers." Not one farmer.

The Plymouth colony, while different in character, was in no sense an agricultural company. The first food they found was corn, but an Indian showed them how to plant and cultivate it. Corn was the first crop grown and saved them from starvation.

As the land was all covered with timber, the process of bringing it under cultivation was slow. Beans, peas, vegetables and fruit were added, but for more than 200 years corn was the principal food of the people, not only of New England, but of the entire country. Rye and buckwheat were used in limited quantities, wheat was gradually introduced; but the smaller yields per acre, the greater labor of harvesting and threshing were such that until the introduction of harvesting machinery, wheat flour was a luxury. Corn was the staple food of the small farmer, the common laborer and all others who counted the cost of living.

Corn History Reviewed.

In the South with slave labor, cotton and tobacco had become commercial products. Elsewhere agriculture had not been commercialized. All those early pioneers were on the land to make, first of all, a home. This usually was a log cabin. Then they cut and burned the trees, planted corn among the stumps. Consumption of the crop began as soon as the kernels reached the dough stage. "Corn on the cob" was almost the only daily ration of many a sturdy boy who in after years became a leader in commerce, in legislative halls or on the battlefield. Shaved from the cob and stewed with the new beans it made delicious succotash. As the corn began to harden the thrifty housewife would grate or shave off the kernels and make "samp" that was sweeter and far cheaper than the modern corn flakes sold in paper boxes with nice pictures on the wrapper. Before the frost came the stocks would be cut close to the ground, shocked in moderate-sized bundles to cure, and later on, stored in the barn. Here was where the annual "husking bee" gave social recreation for the youngsters while saving work for the farmer. The stalks and leaves were fed to the cows, the "nubbins" put aside for the calves and pigs, the finest ears selected for seed and hung to the rafters. As soon as the corn was dry enough to shell, a sackfull was sent to the mill to be ground into meal. The first kettle of mush from that new meal always seemed to taste sweeter and carry more flavor than the meal from old corn. Some times the corn was scalded in strong lye to loosen the hulls, then rubbed and washed and boiled until tender. "Hulled" corn and milk has satisfied the appetite of many a hungry boy.

Corn Leads Other Crops.

The pigs that had grown up in the woods, gathering their food from roots and "mast," which made soft meat and oily lard, would be penned up and fed corn for a month before butchering to harden the meat and lard. The housewives soon learned that the tallow from corn fed steers made the best candles. Many a boy grasped the fact that when old Brindle had a few ears of corn each day the butter would come quicker and churning was not such a back and arm-aching task.

One company manufacturing corn syrup, glucose, starch and other products, uses over 1,000,000 bushels of corn annually. Through all these 296 years it has led all other crops in value and usefulness.

The corn plant is most variable in its characteristics, adapts itself to environment to a greater degree than any other plant, will produce more food per area of land and labor than any other plant.

These early pioneers of the Atlantic Seaboard carried on a very diversified system of farming with corn as a rotation crop and livestock as an important factor. So long as this system prevailed the fertility of the soil was maintained.

The first lands to become so poor in plant food that the crop would not repay the labor of planting and harvesting was the tobacco lands of Virginia, then the cotton lands of Georgia, then the wheat lands and timothy meadows of New England and the Middle States. The single crop system of farming has invariably proved disastrous to the individual and the community wherever practiced and whatever crop was used.

Diversified farming provides for maintaining the fertility of the soil. It divides the labor over longer periods. By utilizing animals and fowls to manufacture coarse, cheap food into condensed high-priced products it lessens the waste, reduces transportation charges, increases the net revenue. By providing for weekly or monthly income it reduces the necessity for running into debt. With cows, pigs, chickens, sheep, bees and a good garden, the farmer and his family can enjoy the fat of the land without handling much money.

"Home-Making" Idea Praised.

At a recent meeting where we were discussing the advantages of giving the "home-making" idea the right of way, one grouchy individual met every statement with the question, "But are they making any money?" Just as if every problem of life was to be measured in dollars! This unhappy frame of mind has been brought about by the commercialization of the business of farming. Gang plows, combined harvesters, hobo labor, quack reform, political demagogues and economic theorists who charge to the community as a whole all of the ills from which the individual suffers as a result of carelessness, idleness, greed, vice or crime.

The story of agriculture in America for 300 years demonstrates the fact that East or West, North or South, the man on the land who gives his best thought and energy to home-making, growing everything he can grow for the use of himself and family, caring for domestic animals, not so much for the dollars they will bring as the pleasure of seeing them grow and develop under his care and attention, who cultivates plants because he loves to see them grow, one who appreciates his partnership with Nature in producing new things, will succeed, will find satisfaction and happiness in his work, will contribute his full share to "the sum total of human happiness, will make the world better for his living and gladder for his human speech."

Before the Oregon-Washington Railroad & Navigation Company began its corn campaign, the idea that corn could not be grown successfully or profitably in the Pacific Northwest had been so frequently expressed that the average individual in town or country accepted it as a fact and repeated it as a truism until men, women and children, lawyers and doctors, bankers and preachers, merchants and mechanics, wherever corn was mentioned would say: "You can't grow corn in this country." Yet every year men were growing corn, seed was becoming acclimated. While it was a fact that seed corn brought from other localities would show a tendency to reversion toward the original grass from which all our corns have been produced, yet each year that the variety was grown the quality and quantity increased.

Corn Thrives in Northwest.

In the foothills of the Cascades men had planted and grown corn year after year, until as one of them fruthfully said, "Have educated it so it doesn't pay any attention to cold nights"—and he could produce 70 bushels to the acre of matured corn on red clay land. In the irrigated valleys they said: "We cannot afford to grow corn on land that will produce seven or eight tons of alfalfa to the acre," but when some corn crank demonstrated that he could produce 25 to 30 tons of corn silage to the acre, his neighbors began to sit up and take notice.

The Third Annual Corn Show of the O.-W. R. & N. Co., held at Walla Walla, Wash., December 2-4, 1915, brought out a display of corn from over 300 growers that for average quality and yields per acre has never been excelled. The highest yield reported was by J. B. Boyer, 149 bushels per acre of shelled corn on irrigated land. A large percentage of the reports ran over 100 bushels per acre. The reports also indicated a marked increase in the number of silos being built; the questions asked also showed increasing interest in seed selection, the drying and saving of seed.

Everywhere the prevailing sentiment expressed by visitors was that the question, "Can we grow corn satisfactorily and profitably in the Pacific Northwest?" had been answered in the affirmative. Next, that it was an important step in the direction of introducing a more diversified system of farming with livestock as the leading factor.

Birth of Columbia River Highway Is Due to Boosters

Enthusiasm Inspired by Work of Samuel Hill and S. Benson, at Taxpayers' Meeting — Smaller Counties to Be Helped.

By Julius L. Meier, President of Columbia River Highway Association.

THE birth of the Columbia River Highway idea grew out of the pictures that had been drawn of the unsurpassed scenery by such men as Samuel Hill and S. Benson. The first positive step taken in Multnomah County for the realization of the Columbia River Highway, which has already become world-famous, was a meeting of the largest taxpayers of the city at the Benson Hotel. It was my privilege to preside at this meeting, which was called by Simon Benson, A. S. Benson, J. B. Yeon and myself.

At this meeting it was decided that the development of the Columbia River Highway by Multnomah County to the boundary of Hood River County was a work of very great importance which should be undertaken at once. As president of the Columbia River Highway Association, authority was vested in me to name committees to call upon the County Commissioners and determine whether or not they could be persuaded to accept the meeting's viewpoint. This was done. As a result of those meetings, the work took shape very rapidly and the superb good roads workers, who have been on the firing line since, were duly enlisted and have had their shoulders at the wheel every day since that time.

At the second annual meeting of the association, held at Gearhart-by-the-Sea, when we were getting in definite form the programme for construction of the road between Portland and Seaside, it was resolved to extend the scope of the association's work up the Columbia River east of Portland.

Variety of Scenery Great.

It was seen at the meeting that the Columbia River Highway, the first unit of which we had urged for the stretch between Portland and the sea, must be a grander avenue of travel. To provide all of the variety of scenic charm that can be found on the Pacific Coast on one ride it was necessary to link the seaside with the most rugged gorges of the Cascade Mountains. In this stretch of territory is found every attraction and every opportunity for recreation that the sea, river, canyon, gorge, forest, snowcapped peak and waterfall can afford. To make the Highway convey to the world the concrete thought of this magnificent composite panorama, the meeting felt that an immediate programme should be inaugurated to have the work extended up the river beyond Portland and ultimately to the heart of the Inland Empire.

When this splendid conception was first broached it was met with the usual shower of doubts. It meant money for construction and paving on a larger scale than the territory affected had been accustomed to give for country roads. Where that money should come from, how it should be disbursed, and the time when the expenditure would be warranted, were all brought up in the form of great interrogation points, but the people who conceived the purpose had more optimism. They were satisfied that where a great opportunity was found, the means of attainment would develop if only a group of strong men would take hold of the issue and work it out in good faith. Bound together with this purpose and moved with this optimism, they did take hold of it and one of the most remarkable achievements in highway construction that the state has seen has been partly realized.

Value of Highway Tremendous.

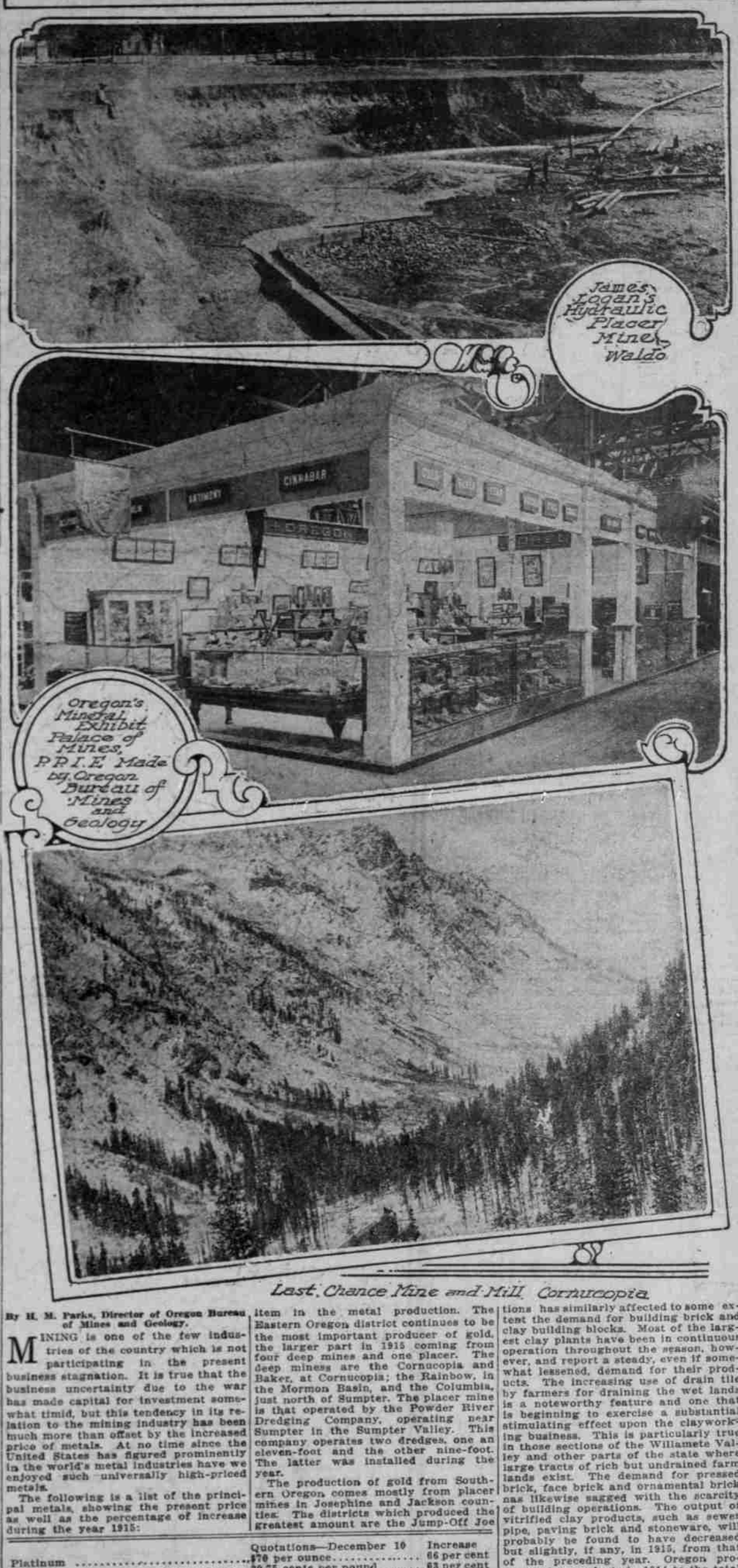
It is not finished, and many difficulties have been encountered in the progress already made. The Multnomah section of the construction has been the quickest of realization of all. This part of the road has not only been graded, but paved. Those people of Multnomah County who at first doubted the business aspects of the work have been converted. They realize now we have here a gem of scenic charm that is unsurpassed. They are coming to appreciate how to estimate the profit on the expenditure. The tourists came in large numbers in the year 1915, even when the work was but barely under way, and the advertising that these delighted people are giving throughout the United States guarantees that the travel on this highway will, in coming years, be greater than that on any other that has ever been developed in the Pacific Northwest.

With vastly more fortitude and courage than the people of Multnomah County have shown in their work, the residents of Columbia and Clatsop counties have gone ahead with their share of the burden. With a sparse population, low property values and a low stage of development in the past to guide as to what should be expected in the future, these people have bonded their properties for a sum greater in proportion to their holdings than any of the communities of the State of Oregon.

Whenever the people realise that there is a positive necessity and that its achievement means much to the state, they have but to commit themselves to the work with the spirit of do or die, and they are bound to be successful. If we will only approach the next stage of this work, which is the construction of feed lines to this highway, in the same manner that we went at the trunk-line construction, we will have a highway traffic system that will be the comment of the entire West.

Mining Progress Is Unhampered by Tendency Towards Stagnation in Other Industries

Increase in Prices Is Attributed in Part to War and Partly to Fact That Uses for Some Metals Are Increasing Faster Than Supply.



James Logan's Hydraulic Placer Mine, Waldo

Oregon's Mineral Exhibit, Palace of Mines, P.P.I.E. Made by Oregon Bureau of Mines and Geology

Last Chance Mine and Mill, Cornucopia

By H. M. Parks, Director of Oregon Bureau of Mines and Geology.

MINING is one of the few industries of the country which is not participating in the present business stagnation. It is true that the business uncertainty due to the war has made capital for investment somewhat timid, but this tendency in its relation to the mining industry has been much more than offset by the increased price of metals. At no time since the United States has figured prominently in the world's metal industries have we enjoyed such universally high-priced metals.

The following is a list of the principal metals, showing the present price as well as the percentage of increase during the year 1915:

	Quotations—December 10	Increase
Platinum	$70 per ounce	66 per cent
Copper	20.75 cents per pound	63 per cent
Tin	43 cents per pound	28 per cent
Lead	5.70 cents per pound	50 per cent
Silver	56 cents per ounce	17 per cent
Zinc	18.75 cents per pound	234 per cent
Pig iron	$17 per ton	24 per cent
Steel	$27 Bessemer billets	46 per cent
Aluminum	69 cents per pound	215 per cent
Antimony	41 cents per pound	193 per cent
Quicksilver	$105 for 75-pound flask	120 per cent
Nickel	50 cents per pound	11 per cent
Bismuth	$3 per pound	260 per cent
Cobalt	$2 per pound	5 per cent
Nitrate of soda	2.95 cents per pound	60 per cent

This increase is due in part to war trade and in part to the fact that the usefulness of some metals for a number of years has been increasing faster than the supply. Aluminum has more than trebled in price during the year, but war munition trade has been a small factor. The most important factor in the increased price of this metal is the material diminution in foreign supply.

As another interesting illustration of the rapid increase of the value of a metal, mention may be made of the 15-ounce exhibit of platinum at the Oregon booth in the Palace of Mines at the Panama-Pacific International Exposition, loaned by James Logan, of Josephine County. This 15-ounce exhibit of platinum occupied less space than could be contained in an ordinary after-dinner coffee-cup, and yet this seemingly small amount of platinum was worth over $500 more to Mr. Logan at the close of the exposition than when he loaned it to the state last April.

By consulting the above table it will be seen that all of the metals are demanded increasingly as shown by the unprecedented advance in prices; all of which contributes to the present extremely healthy condition of the mining industry.

It is probable that the metal production from Oregon in 1915 will come very close to the $2,000,000 mark. If very close to the $2,000,000 mark. If this figure is reached it will be the largest production in 21 years.

Gold is by far the most important item in the metal production. The Eastern Oregon district continues to be the most important producer of gold, the larger part in 1915 coming from four deep mines and one placer. The deep mines are the Cornucopia and Baker, at Cornucopia; the Rainbow, in the Mormon Basin, and the Columbia, just north of Sumpter. The placer mine is that operated by the Powder River Dredging Company, operating near Sumpter in the Sumpter Valley. This company operates two dredges, one an eleven-foot and the other nine-foot. The latter was installed during the year.

The production of gold from Southern Oregon comes mostly from placer mines in Josephine and Jackson counties. The districts which produced the greatest amount are the Jump-Off Joe and the Waldo, in Josephine County. Owing to the period of business depression during the past year, many men who do not make mining their regular business have taken up that work, especially placer mining. On this account we should look for some increase in the production of gold from Southern Oregon.

The copper production of the state will show a large increase. The high price of this metal has stimulated prospecting considerably, and some half dozen properties in the state have become shippers during the last few months of the year, and, although the copper production will not be a large item as compared with gold, it will be many times greater than for the past few years.

The effect of the general depression of the past year has been felt most decidedly in the building stone and clay industries. Considerable quantities of stone for local use and for road construction have been quarried at various points in the state, but the output for building purposes has been less than for several years. With the exception of the Federal buildings at Medford and The Dalles, contracts calling for stone in any quantity have been few in 1915. Sandstone for the Medford Postoffice was furnished from the Pioneer quarry in Lincoln County. This quarry has in the past produced much excellent building stone but was idle for several years prior to its reopening in 1914.

The slowing-up of building operations has similarly affected to some extent the demand for building brick and clay building blocks. Most of the largest clay plants have been in continuous operation throughout the season, however, and report a steady, even if somewhat lessened, demand for their products. The increasing use of drain tile by farmers for draining the wet lands is a noteworthy feature and one that is beginning to exercise a substantial stimulating effect upon the clayworking business. This is particularly true in those sections of the Willamette Valley and other parts of the state where large tracts of rich but undrained farm lands exist. The demand for pressed brick, face brick and ornamental brick has likewise sagged with the scarcity of building operations. The output of vitrified clay products, such as sewer pipe, paving brick and stoneware, will probably be found to have decreased but slightly, if any, in 1915, from that of the preceding year. Oregon produced clay products in 1914 to the total value of $594,166. The 1915 production will likely be a little less than this.

In the same field with stone and clay products are the building brick and blocks, pipe and drain tile made of cement concrete. These are made in various parts of the state, usually where suitable clays or stone are not available. The value of concrete products made and marketed in the past year has suffered in common with that of other materials of construction. No statistics of production are available.

Though the mining of coal in Oregon has never been considered one of the important industries of the state, nevertheless in the last six years alone 340,728 tons have been mined, having a total value of $946,903. The statistics of the coal production for 1915 are not as yet available, but in 1914 there were 51,558 short tons mined, with a value of $143,556. This is a slight increase over the production in 1913, which was 46,063 tons, valued at $116,724.

Coal Deposits Extensive.

All the coal mined in Oregon comes from the Coos Bay coal field, so named from the fact that it entirely surrunds that body of water. This field occupies a total area of about 230 square miles. The two largest producing mines are those operated by the Beaver Hill Coal Company and the Coos Bay Coal and Fuel Company. In 1914 the average number of workmen at the Beaver Hill was 77, and at the Coos Bay Coal and Fuel Company's mine 62.

Other coal fields have been prospected in different parts of the state. Among them are the Upper Nehalem field in Columbia County, the Lower Nehalem, in Clatsop and Tillamook Counties; the Yaquina field, in Lincoln County; the Eckley and Shasta Costa fields, in Curry County; the Eden field, in Coos County, and the Rogue River field, in Jackson County.

The sand and gravel production for 1914 was $390,177. The lime, limestone and gypsum produced in 1914 amounted to $76,257. There will probably be little change in these figures for 1915.