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THE WEST SHORE.

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It would be well if more of our business centers would follow the example set by the town of Cheney. It has provided a house where immigrants can leave their families while searching for land upon which to settle. It is furnished with stoves and bedsteads, and no rental is charged for its use. Though it is always better for an intending settler to leave his family behind when he comes West in search of a new home, since they are but an additional expense and hindrance to him while examining the country, still many men are accompanied by their families, and a place like this is a convenience they soon learn to appreciate. The merchants of our towns rely upon immigrants for much of their trade, and they know that the rapid settlement of the country means an equally rapid increase in business and property values. They should not confine their attention to simply advertising their section in order to induce settlers to come there in preference to some other point, but should show their good intentions by doing something to aid and encourage the immigrant after he arrives. The effort made in Cheney is a good one, but the thing most needed is a local bureau of information in every county seat and prominent town in the West, a place where plats of the vacant land in the county are kept, and where the immigrant can obtain needed information and advice, free of

charge and courteously given. Let him realize that you have an interest in him beyond the present dollar or two he drops in the way of trade, and the chances are that where he is thus treated he will elect to remain. Such a bureau would do more to facilitate the settlement of a county than cords of pamphlets and boom circulars.

THE annual influx of immigrants from the East will soon begin, and beyond question the number of people who will come to the extreme West this year to settle upon Government and railroad land, or to engage in some mercantile pursuit or manufacturing industry, will be largely in excess of any previous year in our history. Two lines of railroad now reach us, when only a year ago there was none. One of the causes of the enormous immigration which has flowed into Dakota is the facility of reaching all portions of the Territory by rail. The different roads, embracing half a dozen trunk lines and their branches, have been taxed to their utmost capacity to transport the goods, furniture, stock and families of intending settlers. Equal facilities would be equally employed in this region. The Pacific Northwest holds a favorable place in the minds of Eastern people contemplating a removal to some Western home; they know that here they will not be on the "frontier," in the sense in which that term is usually understood; but the former difficulty and expense of reaching this region have caused many to select some point further east and many others to defer the time of their departure until such obstacles were removed. These have disappeared before the advance of the railroads, and we may reasonably anticipate a great addition to our population and wealth within the next eight months. It will expand the area of our cultivated lands, will increase the quantity and variety of our products, will put new life into our industries and stimulate business in every channel of trade.

IN whatever position Henry Villard may be left by the reverses of fortune, Oregon should always hold his name in kindly remembrance for the many favors bestowed by him outside his official capacity. One of these, for which he has never received sufficient credit, was the endowment from his private means of the State University at Eugene City. He contributed \$7,000 to lift a debt hanging over the institution, \$1,760 for the salary of a professor one year, \$1,000 for apparatus, \$1,000 for a library, \$250 for a scholarship, and \$50,000 in six per cent. Northern Pacific Railroad bonds as an endowment fund, making a total of \$61,010. Mr. Villard owns no property at Eugene City, and was entirely unselfish in his gratuity.

THE recent flood in the Ohio, exceeding even the great one of last year, warns us of what we may expect when our mountains are denuded of timber.

OUR INDUSTRIES AND RESOURCES.

I.

The completion of transcontinental railroads to this region opens the question of its power to support them, and this leads to the deeper question whether this section can sustain itself in competition with the thriving industries of the East and of the vast interior. The problem cannot be solved by the transfer of raw materials across the continent to be returned in finished goods. This policy proves suicidal to every country which merely supplies raw materials for the manufactories of England and New England. When the South raised cotton chiefly and bought food and clothing it became poor. Its lands were worn out. Its planters were compelled to find new fields west of the Mississippi. India, Africa, South America and Russia make little progress—barely exist—while shipping their coarse natural productions to the marts of Great Britain and the United States, to receive back cargoes of manufactured goods.

When the Central Pacific Railroad was completed to San Francisco, and the last spike driven in Utah connecting it with the Union Pacific Railroad and all Eastern lines, it was seen that these roads would flood California with merchandise and drain off all its gold and silver, leaving the State full of pauper laborers. To avert this calamity William C. Ralston, among other wealthy citizens, rallied all whom he could enlist to establish and extend manufactories, start new industries and develop resources hitherto untouched. Bold in adventure, as he was over-sanguine of success, he sunk his own fortune, involved his friends and sacrificed himself. But the many productive industries of that State have turned the tide of prosperity in its favor. This experience is a valuable testimony to our region, which borders the same vast ocean and has more natural advantages. Gentlemen have come among us to inquire what industries are in progress here, and what can be profitably increased and what new ones wisely commenced.

The object of this series of articles is to answer such inquiries as far as possible, and to cite some specially favorable conditions.

The tropics and the frigid zones have failed to develop either varied or important industries. Intense heat or cold is unsuitable. But the climate of Western Europe has proved eminently propitious. The Atlantic Ocean tempers its summers and winters. The Pacific, on a broader scale, modifies ours. Both shores are made alike salubrious by oceanic and aerial currents. Work can be done here in or out of doors every month of the year with but occasional exceptions. Within a hundred miles of the coast the rivers seldom freeze over. Plowing and wheat sowing continue far into the winter and begin early in spring. The logging camps form their booms in rivers and bays at all seasons, and lumber mills stop only for repairs and the Sabbath. The laborer breathes mild yet invigorating air. He has abundant food and continues his work through the year with increased vitality. These conditions impart vigor to all animal life, and

under them thrives a luxuriant vegetation which supplies unfailing resources for many important industries.

The rich and abundant food supply of a country is essential to its most numerous and valuable industries. We have the advantage of soil and climate, prolific in cereal, vegetable and fruit power, often and widely tested and assured by unfailing harvests, with areas sufficient for tenfold our present population. Added to that from the land is the fish food from rivers, bays and ocean, abundant and within the means of the poorest. Demand will create supply for multitudes larger than we may expect to see. The laborer on this Northwest Coast has always been well fed. It is a sign that he need never suffer in this respect or be stinted like his fellow workman in Western Europe, unless he wastes and destroys himself by evil habits.

Our resources have been found more and more numerous and valuable in the qualities required for industrial pursuits. Grander forests, more extensive coal, iron and lime beds, and new mines of gold, silver and copper, will invite capital and labor during the centuries to come. Millions of acres wait for the plow. Herds and flocks will have their pastures on the mountains. The wilderness can be made a garden.

I desire to speak of a few of our leading industries in detail, to show what they have become and to point out their needs and possibilities for the future, and will begin with one of the most important.

SALMON FISHERIES.

Every stream and bay on the coast of Oregon, Washington, British Columbia and Alaska is thronged at certain seasons of year with that great food fish, the salmon, and on many of them are establishments, employing thousands of hands in the aggregate, engaged in canning, salting and drying these and other food fishes for market. This industry has grown in twenty years to large proportions. The success of one salmon cannery on the Columbia River, with a few nets and an output of a few hundred cases, has caused the erection of more than fifty on this and other streams, bays and sounds, requiring over 500 miles of nets, from 18 to 24 feet deep. The catch of over 2,000,000 fish, as estimated, furnished last year an output of not less than 800,000 cases, 634,000 cases being from the Columbia River alone. This product, at \$4.50 per case, gives a value of \$3,600,000, one-half of which, at least (\$1,800,000), is paid for labor.

Failure of this industry is not to be feared or expected except by the destruction of salmon. The rivers of New England, formerly stocked with them, now have none, unless recently replenished. No doubt the Columbia can also be deprived of them, yet a few hatcheries on its upper streams would supply it permanently. These have been successful in the Sacramento. Much more they can be in this grander stream.

This industry, at first an experiment, continues and grows. Over-supply, with some loss to the producer, has made it in some seasons a little uncertain. But its trade marks are known and new home markets have been opened, while foreign ones have been held firmly. The

sales have increased 100 per cent. in the last six years. Six years hence, at the same ratio, 1,500,000 cases will be sold. With proper care these enterprises ought annually to pay to labor \$3,200,000, leaving fair margins to capital. This sum disbursed in a community would have a currency or debt-paying power of ten times the amount and add much to the general prosperity.

G. H. ATKINSON.

THE OSTRICH AND ITS HABITS.

A correspondent of the *New York Times* thus speaks of Dr. Sketchley's ostrich farm near Anaheim, Cal.: The birds lay eggs every other day. Age does not affect them. I have seen a pair of birds which were eighty-two years old, and they were just as valuable for breeding and feather raising as ever. Were they decrepit? You could not tell the difference in any way between them and very much younger birds. I have known birds thirty years old, a pair, valued at \$1,000. You can see the chances here. If the birds are in proper condition I expect that we shall have 600 chickens in a year. The difficulty in ostrich farming is in raising the chickens. They catch cold. But when they are over a month old they are all right. Ostriches have no disease that I know of, and I have had eight years' experience with them. When a chicken is six months old the value of its feathers is about \$10; when it is fourteen months old the value is between \$20 and \$30; and when the bird is between three and a half and four years old the value is about \$250 annually. Sixteen years ago the business of ostrich farming was begun; now \$40,000,000 are invested in it. An ostrich is apparently about the most ill-tempered bird in existence. They never acquire a fondness for any one. They have no particular preference ordinarily as for mating. They are always on the lookout to kick some one, and if the kick has the intended effect it is pretty sure to be fatal. The blow is aimed forward and is accurate. For this reason the person who pulls the stocking over the ostrich's head at the time when the feathers are to be cut must be wary and experienced. As Dr. Sketchley walked along by the corrals, of which there are about a baker's dozen, the ostriches, with a few exceptions, followed along with an evident desire to get a kick at him. The birds, when they found he was out of their reach, lay down in the dust of the corral and, rocking violently from side to side, beat their bodies with their heads with all their available force, which from the sound seemed to be considerable. It was such a sound as might come from a muffled drum. Having indulged in this outburst for a while, they stalked about with that peculiar gait, which seemed to be their property in common only with the camel or dromedary. A striking difference exists between the corraled and farmed ostriches and those running over the African deserts, inasmuch as the latter never fight. The birds have to be hunted scientifically. Certain facts are known—one being that the birds will always run in a semi-circle. First they will run with the wind, that they may use their wings to

help them. After they get what the sailors call "a head wind," they go around the other way. They must be run down. One horse cannot "wind" them. The great trouble is to keep them in sight. They will run forty miles on a stretch. If they ever get a breathing spell they will get away. The hunter starts out with a fresh horse. A Bushman boy rides another and leads one. As soon as it is seen which way the bird will run, the boy takes his cue and drives to where he thinks the hunter will need the fresh horse. In the meantime the ostrich singled out for the chase and the hunter are speeding along like the wind, the latter straining every nerve to keep in sight of the bird, and the bird making its most prodigious strides for freedom. A great deal now depends on the Bushman boy's judgment, in having the fresh horse at the right place, that no time may be wasted. It is seldom that the boy makes a mistake. The hunter leaps on the fresh horse and gains on the bird, which, growing tired, goes more and more awkwardly. The hunter has only, when he catches it, to rap it on the head with his hunting whip and the chase is over. There are really only two kinds of ostriches, the North African and South African birds. The males are black and the females drab. All are of one color, drab, until after they are two years old.

RAILROAD NOTES.

Garrison, on the Northern Pacific, will hereafter be known as Lloyd, and the Utah & Northern Junction, a mile distant, will be called Garrison.

A bill is before the Legislature of British Columbia to incorporate the Okanagan & Shuswap Railway Company, to construct a road from Lake Okanagan, via Spallumcheen Valley, to Seven Mile (or Tenas) Lake.

Trains on the Oregon & California road now run to Medford, the new town in Rogue River Valley, and the line will soon be completed to Ashland. How long the latter place will remain the terminus will depend upon the progress made in the Siskiyou tunnel. The contractors were ordered to suspend work on the tunnel February 7, and the time when it will be resumed is not announced, though officials say the delay is only temporary.

The Oregon Pacific Railroad Company is displaying much energy at Yaquina Bay. The steamer *Yaquina* has sailed from New York with a large cargo of material, and after her arrival will run as a passenger and freight boat between Yaquina Bay and San Francisco. The tug *Favorite* has been purchased in San Francisco for service on the bar, and rails are being shipped from that city for completing the track. Everything indicates a vigorous prosecution of the work the coming season.

The Yellowstone & Missouri River Navigation Company has been incorporated to run a line of steamers between Glendive, Fort Buford, Poplar River, Bismarck and Pierre, connecting at Pierre with the Chicago & Northwestern Railroad.



THE land of Clatsop County, as it is improved, increases greatly in value. It is not adapted for wheat, but is admirable for root crops, oats, and, above all, for grass land and dairy products. The rivers—Lewis and Clarke's, John Day's, Young's and Klaskanine—afford excellent communication to thousands of acres of splendid land, which, when once reclaimed, will prove a never-failing source of wealth to its owners. Near Clatsop, for instance, is a tract of land that has been dyked by D. K. Warren, on which he has raised 100 bushels of oats to the acre. The value of such a piece of land for stock cannot be overestimated. The country on the south side of Young's River is equally good. F. Bartoldes, J. G. Nurnburg and others have fine places. W. E. Dement has about 600 acres on Lewis and Clarke's, about seven miles from here, which is illustrative of what can be done. The process of dyking it is apparently expensive—\$20 an acre—but its great fertility and closeness to a good market justifies the outlay. Fifty acres that he has dyked this season have been seeded in timothy, and ought to support forty cows. If all that we hear about the profit in cows is true, a man that can raise grass for thirty or forty cows has a good business. A party to which we refer says that one cow which he owns gives him milk and butter sufficient for his family, and he sells sixty cents worth of milk a day beside. Farther south are large tracts of bottom or "brush" land. This brush land is hard to clear. It costs comparatively nothing, but takes an average outlay of \$100 an acre to get it ready for cultivation. Every valley and water course in the county has an abundance of this land, and in time it will all be taken up and tilled. The cultivation of the soil and the production of dairy products will go far toward settling the present problem of high prices and limited supply.—*Astorian*.

The Dalles has always been an important point in the commerce between Portland and the vast grain, mineral and grazing region lying east of the Cascade Mountains. All freight passing either way by steamer was reloaded there in former days, and now that the railroad passes up the river it seems to have lost none of its former importance and prosperity. The approach on the west is over a long series of trestle-work, from which the view of the city, as shown in our engraving, imparts a most favorable impression. This is fully confirmed, upon a closer inspection, by its streets, stores, hotels, machine shops and general business-like and prosperous appearance. The Dalles is the gateway of the Cascades, and receives toll from the two great empires on the east and west.

Canyon City, the county seat of Grant County, has been one of the leading mining camps of Oregon since 1861. It lies on Canyon Creek, a tributary of John Day River, on the western slope of the Blue Mountains. The quartz and placer mining interests of this region are quite

extensive, while further south in the same county are grazed vast bands of cattle, and from these industries the city enjoys a steady prosperity. It is connected with The Dalles by a daily line of stages. Its picturesque location, as shown in our engraving, and its healthful climate render it a pleasant place of residence.

The new town in Rogue River Valley, which is to be the railroad shipping point for Jacksonville, is called Medford. Considerable building has already been done and more is in progress. Several business houses have located there, much activity is displayed in the sale of lots, and the appearances indicate the growth of a town of considerable importance. Phoenix, further south, has awakened into new life under the influence of the railroad, and displays symptoms of future growth.

During the past year \$543,850 were expended in Astoria in new buildings and improvements, and nearly the entire sum was for the increase of business facilities or the addition of conveniences necessary in a city. Gas works, water works and a handsome school house are among the leading improvements.

A coasting steamer 136 feet long, with a capacity of 400 tons, will be constructed this spring on the Coquille River. It will ply between the Coquille and San Francisco and other coast ports.

The *Portland Commercial Herald* makes its appearance with a neat cover and is enlarged to twelve pages. Its value is daily becoming better appreciated in commercial circles.

The *Washington Enterprise*, E. L. E. White, editor, has made its appearance at Forest Grove. Its initial numbers give promise of an excellent paper.

A grain elevator, 40x60 feet, with a capacity of 60,000 bushels, will be erected in Silverton in the spring.

A new traction engine for farm work has been invented by D. L. Remington, of Woodburn.

PARTIES contemplating a trip to Europe or visits to the hundreds of pleasure resorts in America, should communicate with or call upon Messrs. Leve & Alden, No. 207 Broadway, New York. This is an old and substantial agency for the convenience of travelers, and the firm makes a specialty of preparing routes for tourists and acting as agents for travelers. Branch agencies are established in all the leading cities of the Union. The *Tourist Gazette*, published by Leve & Alden for \$1 per annum, is an illustrated monthly magazine, containing much valuable information for travelers.

THE *Illustrated Australian News* is one of the few publications that are of interest to the people of every country. Especially will Americans who desire information about Australia and her affairs find the *News* a valuable guide. Its illustrations are representative and artistic, and its contents complete in every department.



KITTITAS Valley, the chief agricultural portion of the new county of Kittitas, is some thirty miles long by eight to ten wide, and lies on either side of Yakima River. The valley is a succession of small hills, but level enough to answer all the purposes of agriculture. There are several small streams, and two rivers nearly as large as the Puyallup, which empty into the Yakima. Along the creeks are found willow, quaking aspen and cottonwood trees, varying in size from small brush to trees a foot in diameter, and occasionally a cottonwood or quaking aspen is found eighteen inches through. Away from the streams sage brush and bunch grass cover the soil of the valley to the base of the large hills surrounding it, where bunch grass occupies the whole land until timber is reached on the tops. The view is rather fine as the eye passes from sage brush to brown bunch grass and pine-clad hills, and in the distance the lofty, jagged peaks of Swauk mountains, covered with snow nine months in the year. The Cle-elm and Te-an-a-wan are rivers joining the Yakima in the upper or northern end of the valley. The bottom lands of Te-an-a-wan are narrow, but several claims have been taken and the soil is said to be productive, each year bringing additional settlers who feel disposed to remain, which is the best evidence that they are satisfied. Still farther north and over Swauk mountains flows the Wenatche, a stream of considerable size, pouring its waters into the Columbia. Several settlers have located in Wenatche Valley. They report the soil good and grazing excellent.

The valley of the Snoqualmie, in King County, will average one and one-half miles in width by ten in length. The Snoqualmie River rises in the Cascade Mountains and flows northwesterly until it empties into the Snohomish. Besides the rich body of valley land along the river, there are a number of smaller valleys on the tributary streams and an extensive area of fertile hill land, covered with pine timber, adjacent to the river. The whole is a country very desirable for settlement, and affords ample room for a large and prosperous community. It can be readily reached by intending settlers by way of the Snohomish River, which is navigable nearly to the mouth of the Snoqualmie. The celebrated Snoqualmie Falls are at the junction of these streams. The river precipitates itself a distance of 270 feet into a rugged canyon, the water being dashed into spray against huge masses of rocks, while the roar of the cataract resounds through the surrounding forest.

Clallam County occupies the extreme northwest corner of the Territory. It has a coast line of eighty miles on the Straits of Fuca and fifty on the ocean south of Cape Flattery. Dungeness, the county seat, has the largest and most prosperous farming settlement. About half a dozen post offices are located in the county, all of

which are supplied by a weekly mail, carried by steamer leaving Port Townsend every Monday. The principal industries are general farming, dairying and getting out saw logs for lumber, and the inhabitants are generally prosperous. During the past year prices for all kinds of products have been high, materially assisting the settlers. In the Quilleute Valley is a flourishing young farming and stock raising settlement. Plenty of excellent arable land can still be found in the vicinity, and settlers with means to develop the country are desired.

The commerce of Puget Sound is yearly increasing in volume and importance. The shipments to foreign ports, chiefly consisting of lumber in its various forms, amounted to \$1,601,147, of which three-fourths were carried in American vessels. The countries to which the greater portion of these shipments was made are China, British Columbia, Australia, Hawaiian Islands, Chile, Peru, Colombia and Belgium. The coastwise exports amounted to \$8,500,000, as against \$7,700,000 in 1882, \$4,450,000 in 1881, and \$3,100,000 in 1880. There were shipped, chiefly to San Francisco, 213,499 tons of coal. The total of coal shipments from Puget Sound now amounts to 1,900,000, of which 1,300,000 were from the mines of King County, and the remainder from Puyallup, Bellingham Bay and other points.

The most northerly port in Washington Territory is Draton Harbor, in Whatcom County, and it is one of the best on the coast. It is completely landlocked and has an area of 3,700 acres at low tide. The boundary line of British Columbia touches the bay. The country lying between the Nooksack and the boundary is one of the best agricultural sections on Puget Sound, and is receiving many settlers. It is naturally tributary to Draton Harbor, from which a good wagon road is being constructed. A large store has been erected at Draton and a town will doubtless spring up.

A new town in Yakima County is that of Prosser Falls, on the lower Yakima. It is in the center of a fine agricultural district, which is now receiving many settlers, and several stores and other buildings have recently been erected there. The falls are not only beautiful but useful, since they supply a splendid water power which will soon be utilized. The town is on the stage road from Ainsworth to Yakima City, and the railroad will pass through it.

The *Cœur d'Alene Miner* is a new publication issued at Spokane Falls. It is devoted to disseminating news in regard to the new mines, especially in reference to their relations to Spokane Falls.

Atlanta is a town recently laid out on the Samish peninsula, in Whatcom County, where the post office of Samish is located. A hotel has been built and a store will soon be erected.

In 1883 thirty vessels were built on Puget Sound to engage in local traffic. They aggregate 3,946 tons and are valued at \$417,000.



GENERAL James G. Brisbin, a gentleman well posted on Montana affairs, says that a strange development of recent times is the shipment of cattle westward from the States. In 1883 Eastern Montana sent 24,000 beeves to market and received 34,000 head of cattle, an excess of 10,000 over shipments. These are nearly all young cattle purchased in Ohio, Iowa, Illinois, Wisconsin and Minnesota, and brought out for dairy and breeding purposes, or to grow to maturity and fatten on the nutritious bunch grass, and then be sent back for beef. He is of the opinion that the experiment will prove entirely successful if care is taken of them the first winter. Cattle quickly become acclimated. A Montana calf is as capable of withstanding the severe winters there as is a buffalo calf. Nature quickly adapts animals to the requirements of food and climate of the country in which they live. Cattle born in that region have longer hair and thicker hides than those in lower latitudes. Stockmen, too, are becoming more careful of their herds. They now put up considerable hay for use during the occasional weeks when cattle cannot reach the grass through the snow. A mowing machine and a little labor have been found to be the cheapest insurance on a herd of cattle. Wind is the stockman's friend. It sweeps the ridges bare of snow so that the cattle, which can always find shelter from the blasts in the numerous ravines and gulches, can reach the bunches of grass. They quickly learn how to "rustle," and it is seldom that hay is required.

The speedy opening to settlement of a large proportion of Northern Montana, now embraced within the limits of enormous Indian reservations, is confidently expected. Fort Benton, which is the chief trade center of that region, is enjoying great prosperity. During the past year many new buildings were erected, and the improvements projected for the present season are very extensive. Real estate is in active demand both for business and residence purposes. The territory to be released is 200 miles long, east and west, and 120 miles wide, containing 15,000,000 acres, and embraces vast tracts of fine agricultural and grazing land.

As a sample of what irrigation does for the dry valleys of Montana, the following case is in point: In Gallatin Valley William Heron entered land under the Desert Land Act, and raised a crop of oats on it in 1881 which only yielded twenty bushels to the acre. In 1882 he irrigated his crop once and realized sixty bushels, and in 1883, with two irrigations, the same land yielded an average of ninety bushels per acre in a field of sixty acres.

The total assessment of the Territory is \$46,560,000, and total county indebtedness, \$956,173. There are 475,000 cattle, valued at \$14,250,000; 700,000 sheep, \$2,100,000; and 90,400 horses, \$6,780,000.



THE valleys of Idaho are generally long, narrow strips, sometimes but a mile in width, and because irrigation is generally necessary it was formerly the impression that the Territory possessed but little agricultural land. Such, however, is not the case, for these fertile valleys aggregate an area of 10,000,000 acres of rich bottom lands or gently undulating plateaus. Nature has provided for the lack of rain by the mountain streams of never-failing water which course through the valleys, and from which they can be irrigated at comparatively slight expense. The valleys of Northern Idaho do not require irrigation. The following list embraces the most prominent valleys, though there are numerous smaller ones not included in it:

Name and Location.	Length, Miles.	Breadth, Miles.
Snake River, South Fork, Eastern Idaho.....	30	2 to 4
Snake River, North Fork, Eastern Idaho.....	60	2 to 10
Salt River Valley, Eastern Idaho.....	20	1 to 2
Bear River Valley, Eastern Idaho.....	40	3 to 5
Blackfoot Valley, Eastern Idaho.....	20	2 to 5
Round Valley, Eastern Idaho.....	30	8 to 12
Wood River Valley, Central Idaho.....	50	1 to 2
Camas Prairie, Central Idaho.....	80	18 to 25
Boise Valley, Western Idaho.....	60	2 to 6
Payette Valley, Western Idaho.....	75	2 to 15
Weiser Valley, Western Idaho.....	40	2 to 5
Lemhi Valley, Northeastern Idaho.....	70	3 to 6
Pah-Simari Valley, Northeastern Idaho.....	25	1 to 5
Camas Prairie, Northern Idaho.....	30	20 to 25
Potlatch Valley, Northern Idaho.....	25	10 to 15
Palouse Valley, Northern Idaho.....	20	5 to 10
St. Joseph Valley, Northern Idaho.....	15	5 to 10

Aside from the thousands that will rush into the Cœur d'Alene mines of Northern Idaho the coming season, the Territory will receive large additions to its permanent population by the settling of immigrants upon the thousands of acres rendered accessible by the Oregon Short Line. The benefit of this road to Southern Idaho cannot be computed. The impulse to trade and the mining industry has already been felt, and this will be still more the case when the people realize the fact that Idaho is no longer "out of the world," but as accessible to the East as any of the Western States or Territories.

The New York Canal Company has located a canal from Boise River, ten miles above Boise City, across the plain to Snake River. This will furnish means to irrigate several hundred thousand acres of choice sage brush land, and will also supply much needed water for working the Snake River placers. The country thus made available to settlement is tributary to Boise City.

Lewiston has two flouring mills, one saw mill, two hotels, six wholesale and retail stores, several retail stores, three banking houses, a brewery, the usual number of saloons, numerous shops of various kinds and two excellent newspapers. It is the county seat of Nez Perce County.

The Banner Mine, in the Banner District, twenty-eight miles northeast of Idaho City, has been sold to a New York company for \$400,000. This property includes the mill and fifteen locations besides the famous Banner.



THE Philadelphia Mining and Smelting Company of Ketchum, Idaho, shipped 269 car loads of twelve tons each of bullion from the Wood River mines, during the six months from May to November, 1883. The smelter consists of two 40-ton and two 50-ton stacks. The company handles ore from more than eighty mines. The general average yield is \$149 per ton, and the average price paid for ore is \$102 per ton. E. Green is General Manager of the company and G. B. Moulton is Superintendent. During the same period 3,322 tons of crude ore were shipped from the same region. These figures embrace only shipments by the Oregon Short Line since it was completed to Wood River.

D. O. Crane has invented a machine for saving the fine flour gold of Snake River, and if it will do what is claimed for it, that stream will be mined for 300 miles along its course in Idaho. Instead of being exposed to one surface—as on the ordinary plates—in this machine it is not only exposed to many surfaces, but by the motion of the shaft and the wings is thrown against the interior of the cylinder. The inside of the machine and also the wings are quicksilvered, so that the gold will adhere. In working tests near Blackfoot it is claimed that every particle of gold was saved.

A new method for separating gold from sand without the aid of water is reported to have been discovered. A wheel, fifteen feet in diameter, throws sand by centrifugal force against a moving surface of mercury, which amalgamates the gold, while an air blast blows away the sand. This is a new application of the old style of "dry washing" used by the Mexicans and in California in early days.

The new concentrating works of the Helena Mining and Reduction Company, at Corbin, Montana, are the most complete in the Territory. They have a capacity of 125 tons in twenty-four hours, and cost in the neighborhood of \$60,000. It is located midway between Jefferson City and Wickes, and will treat the ores of the Alta Mine chiefly.

The transfer of coal properties at Coos Bay to outside capitalists has been followed by an increased output. A new iron collier is being constructed to run from there to San Francisco, and the outlook for greater development of the mines at Coos Bay is very bright.

A rich ledge of carbonate and galena was discovered last summer on the Columbia, twenty miles above the mouth of the Spokane, and is now being thoroughly prospected. The vein is eight feet wide. Wood and water are abundant.

The quartz of the Cariboo and Independence mining districts, near Deer Lodge, Montana, is attracting considerable attention from capitalists.

The smelter recently erected at Stevensville, in Missoula County, Montana, is proving a great success.

Sampling works will be erected at Dillon, Montana, in the spring.

INDUSTRIAL NOTES.

The shipment of spars from Puget Sound to Eastern and Australian shipyards is increasing.

The new saw mill at Port Ludlow, W. T., has been running several weeks. An electric light is used to illuminate the mill and wharf at night.

A saw mill, with a daily capacity of 40,000 feet, was recently completed at Springbrook, at the mouth of the Nasel River, seven miles from Oysterville, W. T.

The several lime manufacturers on Orcas Island, Puget Sound, did a flourishing business the past year. Three firms shipped 50,000 barrels, principally by the schooner *Rustler*.

A saw mill, with a capacity of 30,000 feet per day, is being constructed on Big Potlatch Prairie, in Nez Perce County, Idaho. Settlers in that region have felt the need of a mill severely.

The Echo Roller Mills of Spokane Falls have been running since November. The present capacity is 150 barrels of flour, but the mills are so planned that this can be increased to 800 barrels daily.

A match factory has been established at Albany, Or., which will have a capacity sufficient to supply the whole trade of the Northwest. The proprietors are experienced manufacturers and capable of producing superior goods.

The salmon canneries of British Columbia, located chiefly on Fraser River, Smith's Inlet and Skeena and Naas rivers, have an invested capital of \$600,000, employ 2,500 men, and put up about 250,000 cases of salmon annually. Last year 7,000 barrels of the fish were salted.

The Chehalis is rapidly becoming one of the great lumbering streams of the coast. Eligible timber lands are in great demand. Several new saw mills are being erected at various points. One on Thayer's Island, in Gray's Harbor, is nearly completed, and will have a daily capacity of 100,000 feet.

At Eugene City 20,000 bottles of cider were put up last year by W. H. Abrams, who is also engaged in drying fruit by the evaporation process. His establishment has a capacity of 300 bushels of apples and 200 of plums daily. This is a business that should receive more attention. Oregon fruit can in this way be rendered highly profitable and independent of fluctuating markets.

The works of the Skidgate Oil Company are located on Graham Island, and consist of boilers, retorts, drying pans, settling tanks, etc. The oil of the dog fish, whose liver yields eighty per cent. of oil of a light amber color, is refined by the company. The fish are caught in deep water with trawl lines, as many as 250 being taken at one lifting of the trawls. This oil is coming into general use as a lubricator.

CŒUR D'ALENE GOLD FIELDS.

It is many years since the Northwest Coast has witnessed such a mining furore as is now raging over the newly discovered gold fields of Cœur d'Alene. Not desiring to aid in creating a boom, for the mines have already been advertised to the extent of their merit, but simply as a matter of general information and interest, THE WEST SHORE presents a brief description of them, accompanied by appropriate illustrations and an outline map showing their location and surroundings.

The Cœur d'Alene Range extends from Lake Pend d'Oreille, a distance of 200 miles southeastward, until it disappears in the main ridge of the Rocky Mountains, being called at the southern end the Bitter Root Mountains, the summit ridge of the whole range forming the boundary line between Idaho and Montana. Near the western base of the extreme northern end lies Lake Cœur d'Alene, one of the most beautiful sheets of water in the world, and into this pour the Cœur d'Alene and St. Joseph rivers, flowing down from the mountain summits. At the northern end of the lake is Fort Cœur d'Alene, a United States military post, the land on the east, south and west side of the lake being embraced in an Indian reservation. Thirty miles up the Cœur d'Alene River, at the extreme northeast corner of the reservation, is the Cœur d'Alene Mission, a Catholic institution of long standing. The United States military road laid out in 1862, from Walla Walla to Fort Benton, by Captain John Mullan, and known as the Mullan Road, runs from Spokane Falls to the Fort, thence to the Mission, and thence across the mountains into Montana. A military telegraph line connects the Fort with Spokane Falls.

The mines, such as are located, are on the north fork of Cœur d'Alene River and its affluents, such as Eagle, Pritchard and Beaver creeks, and the many gulches that put into them. At the junction of Eagle and Pritchard creeks is Eagle City, the present metropolis, a bustling mining camp of brush shanties and log cabins, which has sprung up during the fall and winter, and which is rapidly increasing in size by the stream of adventurers who are daily struggling in through the snow.

The routes of travel are numerous, and as usual there is great rivalry between the towns lying along the Northern Pacific as to which shall become the favorite point of departure for the mines and the transshipping point for supplies. On the west side of the mountains Spokane Falls and Rathdrum aspire to this honor, each of which has a daily stage line to the Fort. From the former it is twenty-seven miles and from the latter ten. From the Fort there are two routes—one by the way of the Mullan Road to the Mission, a distance of thirty miles, and thence by trail thirty-five miles to Eagle City, and the other by steamer across the lake and up the river. Cœur d'Alene City is a town laid out on a beautiful site near the Fort, from which the steamer line will run. Two steamers are being constructed, which will be placed on the line by the 1st of April, and are expected to take passengers up the river to within eight miles of

Eagle City. Cœur d'Alene City is expected to be the great depot for supplies, the rallying point in winter and the outfitting and final starting point for the mines. A transportation company has been organized at Spokane Falls, which will build a good road from the Mullan Road to Eagle City, and will run daily stages from Spokane Falls, making the trip in twenty-three hours. As Spokane Falls is the largest place on the railroad within reach of the mines, this will no doubt be a favorite route. Rathdrum, in Idaho, is a few miles nearer the Fort than its rival, and has always been the railway station for that section. There is much talk of constructing a road across the mountains and make a short cut to the mines, instead of following the circuitous route by the way of the Fort and Mission. Sand Point, at the foot of Lake Pend d'Oreille, also enters the list, proposing to put on a line of steamers, running forty miles south, from which place it will be only a few miles to the mines.

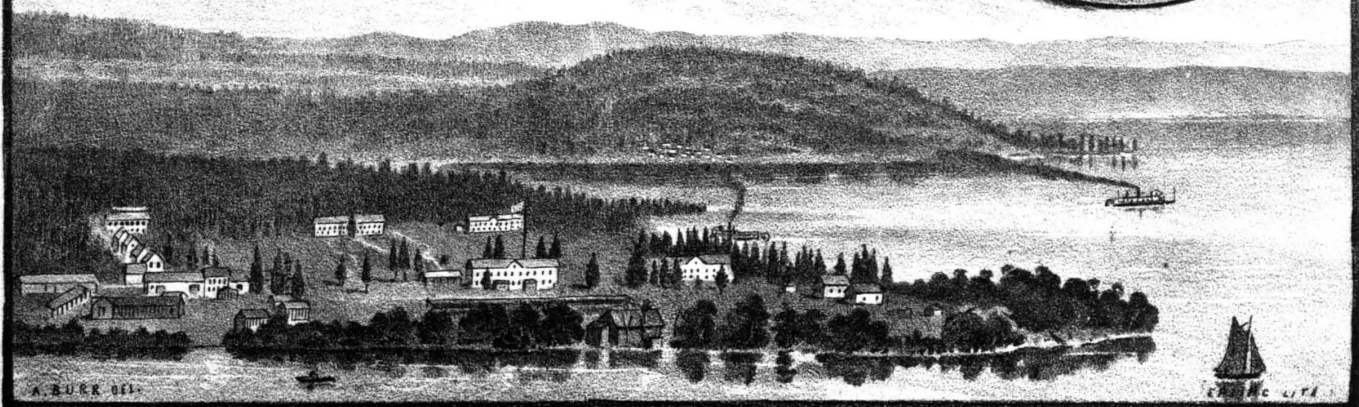
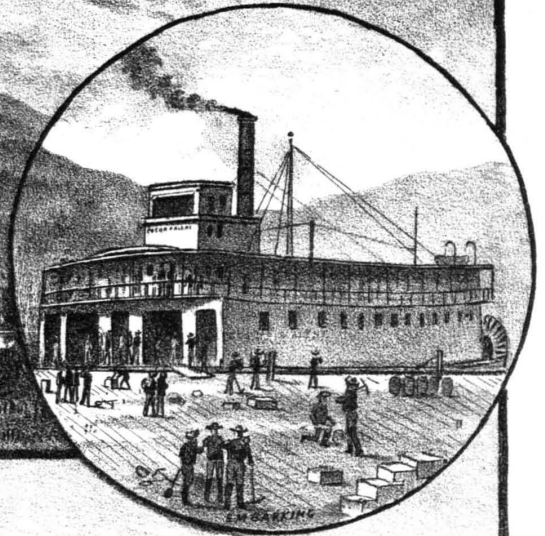
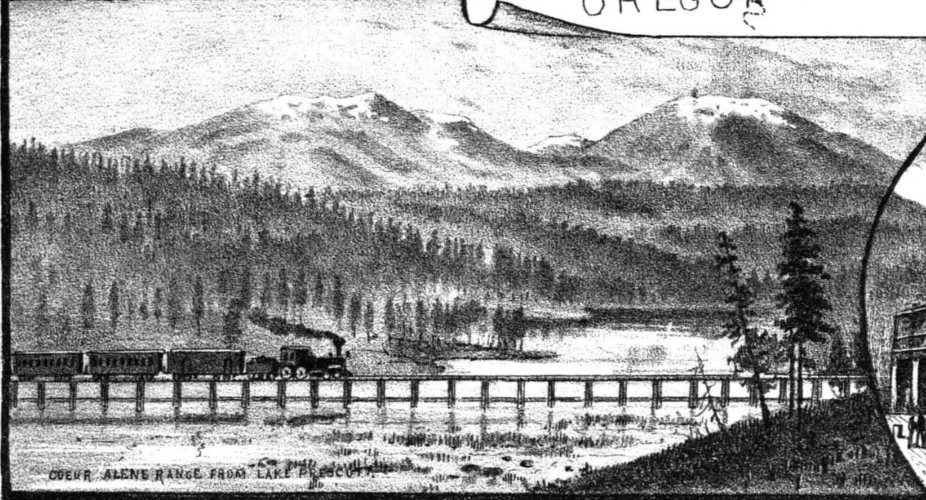
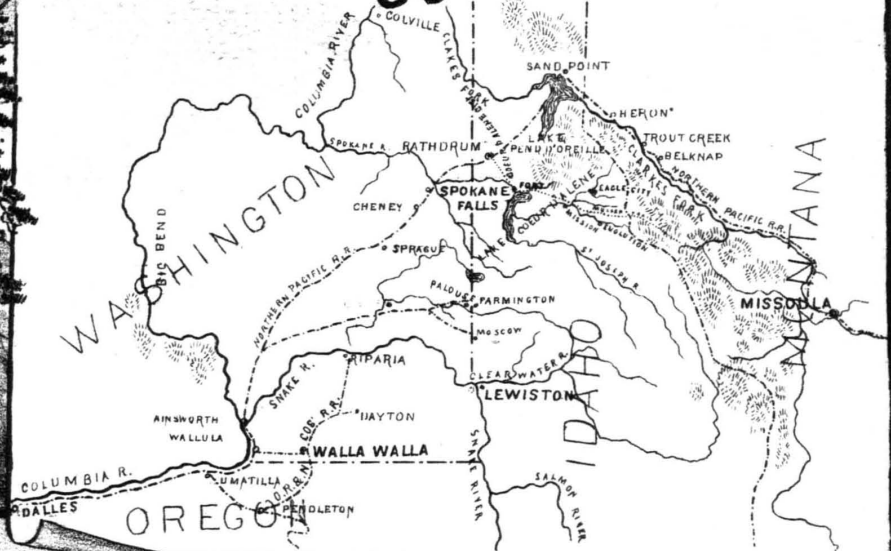
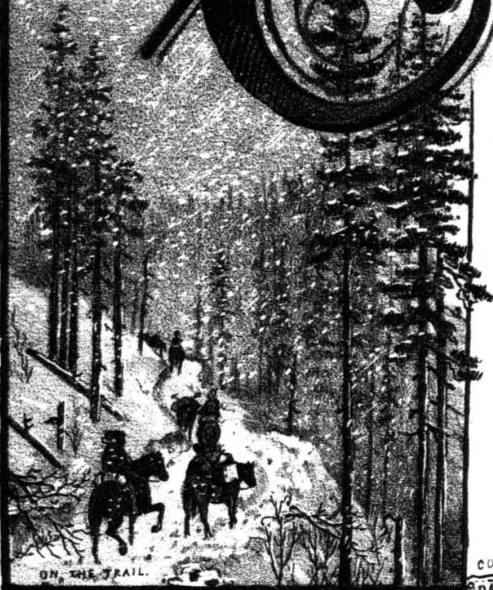
On the Montana side, Heron, Trout Creek (or Tone City) and Belknap, all stations on the Northern Pacific, are rival starting points to the mines, with which they are connected by trails only. Heron is the nearest, as the crow flies, but not by the trail. Trout Creek, or Tone City, where there is much excitement over town lots, has until recently been considered the most accessible point, being about thirty-five miles from Eagle City by the trail. Belknap is ten miles south of Trout Creek, and has been put forward by the Northern Pacific as a railroad town, from which it is claimed a good trail exists, which makes the distance to Eagle City but twenty-eight miles. Projected wagon roads will soon furnish numerous ways of reaching the mines with ease.

As to the richness and extent of these mines, there is no question about their having been overestimated by enthusiastic individuals; yet beyond doubt these are the richest placer diggings which have attracted public attention for years, while valuable gold and silver quartz ledges have been discovered and located. There is also a large tract of unprospected country, which will no doubt be examined from end to end the coming summer. Great preparations are being made to take in saw mills, quartz mills and large stocks of goods as soon as the trails are passable for them. Various estimates are made of the number of men who will crowd into the gold fields in the spring, some being satisfied with 20,000, while others place it as high as 100,000. One thing is certain, there is great excitement from Colorado to California and from Washington to Arizona, and the hundreds already defying the drifts of snow and inclement weather indicate the rush of thousands as soon as spring sets in. The various transportation companies, those who administer to the physical necessities of the crowd, the dealers in supplies, and a certain percentage of the miners, will probably profit largely by the excitement, but that a majority of those who hasten thither without any definite plan will pay dearly for their experience is equally probable. The growth of a prosperous mining district and the increasing demand for our products which it will create, will be highly beneficial to our people in every avenue of trade.

THE WEST SHORE.

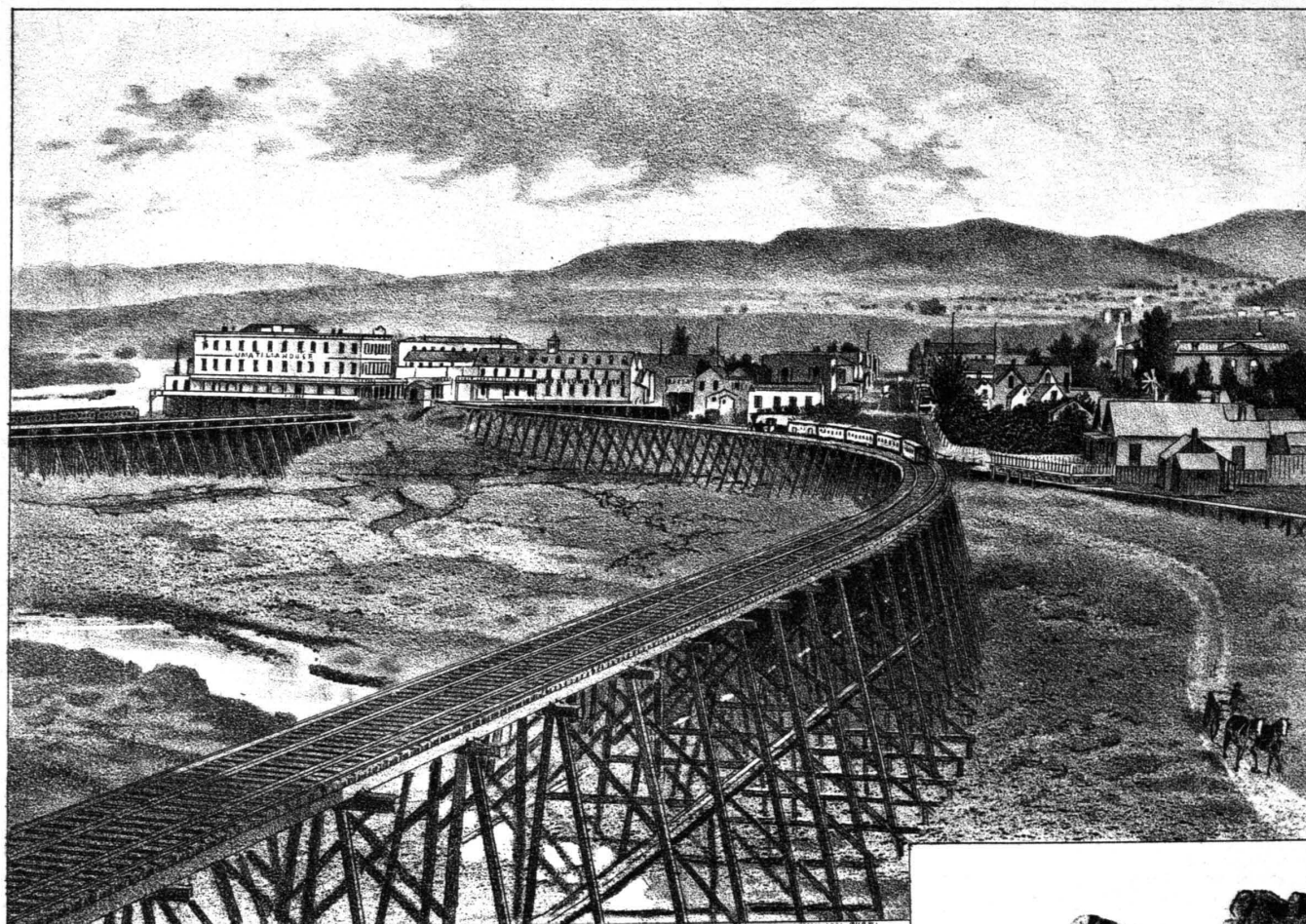
COEUR D'ALENE

GOLD FIELDS



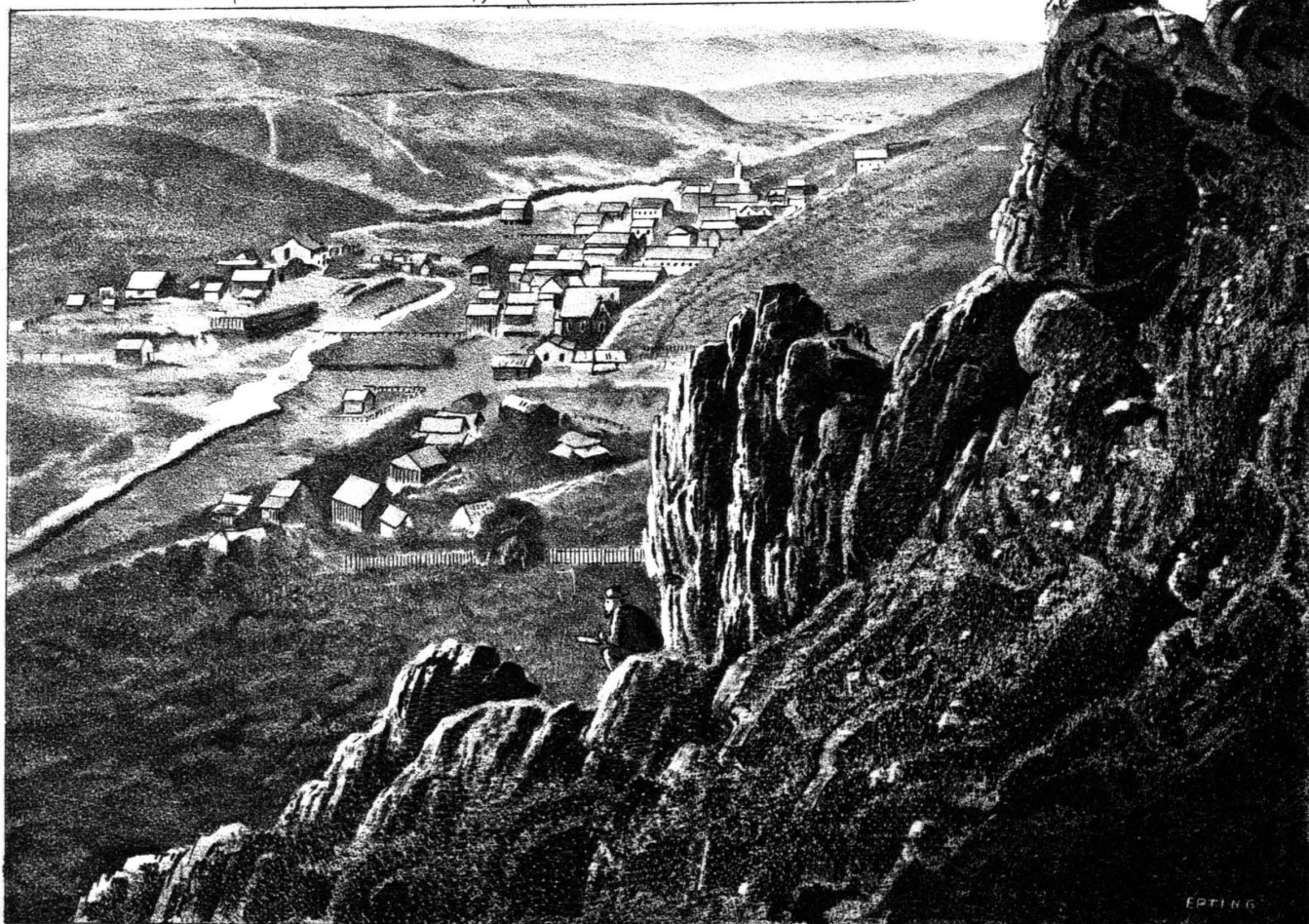
LAKE AND FORT COEUR D'ALENE.

THE WEST SHORE.



APPROACH TO THE DALLES, OREGON.

DAVIDSON, PHOTO.



CANYON CITY, OREGON.

EPTING

WEST SHORE 1178

THE GREAT NORTHWEST.

II.

In the previous number of this series I mentioned the great tidal wave which was observed by Jeremiah Lamson, Esq., referring to it as an evidence of a "bank" not far distant. Anxious that even the most non-scientific reader may have a clear understanding of the matter, I will now make some explanations.

In navigation a bank is understood to mean "an elevation of the bottom of the sea," which in no way resembles the bank of a lake or river. If the bank is tolerably smooth on its surface, it is called a *flat*, *shoal* or *shallow*; if rocky, a *ridge*, *reef* or *key*. Cod and other fish seek these banks for the purpose of feeding, spawning, etc., and it is worthy of note that the color of the codfish partakes of the color of the bank which he inhabits or frequents. Hence, those caught on banks where the dark, golden seaweed abounds are of a rich, golden hue, and on the Atlantic coast are called *rock cod*. I frequently caught them there in my younger years, having once been engaged for several months as a hand on board a fishing schooner in Penobscot and Frenchman's bays. I have never seen any of the "golden fish" caught by the Indians off Salmon River, and therefore cannot pronounce them a species of the cod, but from the description given me by a half-breed, who had eaten them, I am of the opinion that they belong to the same *genera*, if not species, as the codfish. The "rock cod" I consider only a *variety* and of the same species as the cod of commerce. I return to the tidal wave seen by Mr. Lamson.

The upheavals of the bottom of the ocean are spasmodic, or convulsive. Imagine, then, several thousand acres suddenly raised a hundred feet perpendicularly. The water immediately above would be raised seventy-five feet, at least—perhaps more. Then, as water always seeks its level, it would roll away in all directions, constantly diminishing in altitude until the desired level is found. It is not very unfrequent that these huge waves are encountered by vessels at sea. Many a ship has sailed from port and never been heard of again, even at times when no violent storms prevailed. May they not have been engulfed in a tidal wave?

I have conversed with intelligent mariners engaged in the coast trade between Victoria and San Francisco, who inform me that they have often found shallow water at various distances from the shore along the coast, even more than fifty miles away, and some have told me of catching fish on these shoals while becalmed. It seems to me that all these pointers furnish stronger presumptive evidence of the existence of a bank near the eastern shore of the Pacific than Columbus had of the existence of a "new world." True, cod have been caught off this coast, and a few men make a business of it, but I am satisfied that the real bank has never been discovered. Furthermore, I feel assured that if discovered it will prove a source of greater national wealth than any dozen gold mines ever have.

The geological history of North America, as recorded

in the rocks, demonstrates that the growth of our continent has been the result of upheavals along the western coast, while on the east, instead of gaining by upheavals, accretions or by any other process, it is observed to be gradually disappearing again beneath the waters. At Cape May, from 1804 to 1820, the ocean encroached upon the land the alarming distance of 144 feet, as proved by measurement. Reasoning by analogy, Columbus concluded that there should be a great continent far away in the west, as a compensating balance for the continents in the east. Adopting this style of logic, we must conclude that the law of compensation will raise up dry land in the west, as an atonement for its disappearing in the east. Finally, not only geology, but anthropology, proves that for thousands of years progress and new development have tended constantly in a westerly direction. It has even passed into a proverb, "Westward the star of empire takes its way." Scientists have estimated that 1,000 tons of earthly matter are transported seaward from the coast of Long Island every day. Three hundred and sixty-five thousand tons every year! It is only a question of time when Long Island will be no more. A similar state of affairs exists at Long Branch, and, in fact, all along the coast. But in the great Northwest, instead of constantly losing a portion of our territory, we have reason to expect its extension many miles westward by additional upheavals.

Let us take a broad and comprehensive view of the subject. Judging the future by the past, upheavals upon the west, and depredations on the east, continuing for untold thousands of years, it is only a question of time when the upheavals on the west will span our globe. New York will then calmly repose at the bottom of a mighty ocean. Monsters of the deep will swim above it, and great ships, carrying the commerce of the world, will sail proudly over what was once the greatest city on the earth. But as the ages roll on it shall be again resurrected—perhaps a coral reef or sandy waste, again to mature into a home for the deer and buffalo, finally for man himself, and again become the metropolis of a continent. It is thus that great Nature works.

Or it may be that after a few more ages—perhaps ten thousand—of depredations upon the eastern line of North America, another of those sublime catastrophes, when land and water suddenly change places, may in a moment send our continent to the bottom of the ocean and return Atlantis, "the lost continent," once more to the surface. But we need not speculate, for the solution of problems like these belong to the unknown and unknowable.

A vast region, large enough for a powerful kingdom, lies between the Rocky Mountains and Coast Range. Reading Nature's hieroglyphics, according to the established rules of science, there was a time in the remote past when the Rocky Mountains formed the eastern shore of the Pacific Ocean. Even after the Cascade system had appeared above the waters, forming groups of islands, the tireless waves of the grand old Pacific still continued to beat upon the flanks of the Rockies. Grande Ronde Valley, in Eastern Oregon, a beautiful circular plain,

thirty miles in diameter, belted on all sides by the Blue Mountains, was subsequently the site of a huge volcano. The Blue Mountains were then a system of islands, growing up from the water into a range of mountains. The upheavals, whether secular (by the century) or paroxysmal, together with the volcanic disturbances, caused deep canyons and a most rugged surface. But all this unevenness was converted into a level plain by the flowing down of the lava during the time of eruptions, and this has been converted into the smiling valley we see to-day.

In all probability this ancient volcano was the highest peak of the Blue Mountains, and therefore the first to rear its head above the vast expanse of waters. What a field for the play of the imagination! Let us imagine a million of years condensed into the space of an hour. We are hovering in mid-air above the heaving ocean. We see a dark speck slowly rising amid the white-capped waves. Higher and still higher it rises. The sea gulls gather about it and their screams echo along the rolling billows. Millions of acres of land, rough and broken, surround the base of this majestic peak. Shell fish of every species are clinging to the rugged rocks which form the outer wall of defence against the aggressive waves. Here the sea fowl lay their eggs and hatch their young. The seal and walrus climb up the rugged cliffs to bask in the glorious sunlight. "But hark! a deep sound strikes like a rising knell!" The whole island seems convulsed. The walrus and seal glide into their natural element. The birds shriek and cleave the air with frantic wing. The rocks are rent in twain, and, with the roar of ten thousand cannon, the molten lava bursts forth from the summit of this lofty peak, pours down its sides, rolling far out over the uneven surface, licking up the waters in the urns of the reft rocks with the tongue of a vampire and the hiss of a dragon. As the water seeks its level so does the liquid fire, and we witness the formation of a plain more than a hundred miles in circumference. Time rolls on, and the lofty peak melts away until level with the plain, which is guarded on all sides by the lofty cliffs that are to form spurs of the Blue Mountains. It was thus great Nature spoke, not in words but deeds, and Grande Ronde Valley sprang from chaos.

In support of this theory of formation Nature has everywhere stamped her hieroglyphics on the summits, the flanks and at the bases of the Blue and Cascade ranges, in fossils, in shells and in marine deposits, in the secondary formations, in the shales and sandstones, in the washed gravel, all visible in the present day, and in the ripple marks, on which the Eastern tourist gazes with wonder. These are her witnesses, speaking as no tongue spake, forever telling us of the grandeur of her works.

These ripple marks, like those found on the Potsdam sandstone of New York and Canada, were made by the wavelets, as we see them to-day on some sandy beach. These are obliterated at every flow of the tide and new ones formed at every ebb; those formed by an ancient ebb have been preserved by an upheaval that followed before they could be washed out by the rising tide.

When the mountain systems had been perfected, encircling the waters between the Rocky Mountains and Cascade Range, forming a great inland sea, the tide no longer ebbd and flowed there "twice in twenty-four hours." But when the alarm of the storm was sounded; when the thick clouds were mustered for the black tempest, and the winds burst forth in their mad fury, then the waves dashed up the steep sides of the sand cliffs and each left its ripple marks as it receded. In the process of time the sand was changed to stone, the wave lines still remained—mementoes of a past epoch.

As the upheaval of the bed of the imprisoned waters continued, their surface gradually rose until far above the level of the ocean, unable to escape, the mountain chain that formed an impenetrable barrier to their egress. If there was a diminution from evaporation, it was more than compensated by the rainfall during the rainy season. Then as now, the sea breeze carried eastward the ocean-formed clouds, when the moisture was condensed by the cold and the rainfall was general. Streams and rivers were formed, all flowing into the imprisoned waters, which were thus constantly increasing. Leaving this great basin to fill up, we now turn our eyes toward the setting sun.

See! the Coast Range is beginning to emerge. The elevating force is greater at the south than the north, for at this day the mountains decrease in height as they approach the Columbia River. Passing the northern boundary of Washington Territory, the Coast Range dwindles into a system of islands which can be traced to Alaska. After the Coast Range Mountains had emerged as far north as Puget Sound, the Cascades, previously the eastern shore of the Pacific, were cut off from communion with the ocean, and the Coast Range became the eastern boundary. Then another great inland sea of imprisoned waters was formed, bounded on the east by the Cascades and on the west by the Coast Range. All of Willamette Valley was then calmly reposing beneath the waters.

We return to the great sea lying between the Rocky Mountains and Cascades. During the lapse of ages, since we last gazed upon it, the imprisoned waters have reached the summit of the Cascades. A storm arises. Great waves are rolling across its surface. See! what a monster billow approaches! It would overwhelm a whole fleet! Now it breaks with the force of a million tons against the rocky barrier interposed between two lofty peaks. Look! a part of the mountain is moved out of its place and borne irresistibly forward. Before it yawns an awful precipice; but, as if exhausted by the gigantic struggle, the waters retire and the loosened mass of rock is once more at rest. Again and again the waters roll forward, like the phalanx of an army, when a third wave, towering like a giant, dashes upon the shattered mass, bearing it grandly on, then hurling it headlong thousands of feet below. The breach has been made, and now the imprisoned waters rush madly on—reeling, falling, foaming—carrying everything before them, wearing their passage through the solid rock, as they cut a channel for the grand old Columbia.

W. H. CHANEY.

MOUNT SHASTA.

"Behold the dread Mount Shasta, where it stands
Imperial midst the lesser heights, and, like
Some mighty, unimpassioned mind, companionless
And cold."

Where the summit ridges of the rocky Coast Range and the graceful Sierra unite to hem in the Sacramento Valley on the north, stands a giant mountain, the noblest in America. This is essentially a region of mountains. Great ridges and spurs reach out in all directions, their canyons, gorges and precipitous bluffs combining, with the green and sloping hills, to form a picture of wonder-

disturbed not with profaning hand the natural order of things about him. The deer, the bear and the antelope roamed the valleys and penetrated the dense forests that cover the mountain sides; the simple natives, unused to toil, subsisted upon game, fish and the natural products of the soil. This was the condition a generation ago, when the magic wand of gold was waved over the mountain tops, and a new race came to supplant the old, to level forests and disembowel the earth, to uproot the soil and deface the brow of Nature with the crown of civilization.

Shasta was a familiar sight to the early settlers of



MOUNT SHASTA. FROM STRAWBERRY VALLEY.

ful beauty wherever the eye may rest. Here it is impossible to withdraw from beholding the loveliness of Nature. When intervening hills obscure from view the hoary crown of Shasta and the grand but lesser peaks that lift themselves into the sky on every hand, the eye rests with pleasure upon the obstructing hills themselves. The deeper we plunge into the rocky canyons that shut us in from the great world without, the more we come into sympathy and union with their rugged grandeur. We sit in some cavernous depth or perch ourselves upon a commanding peak, and think of the long centuries that rolled by while the red man called this his home, and

California long before the feet of white men pressed the green grass at its base. Standing in the Sacramento Valley, we can see its white top lifted proudly above the surrounding hills of blue; from Monte Diablo it is distinctly visible; and from the dome of the capitol at Sacramento it meets the eye of many a gazer who knows not its name nor the great distance it lies to the north. The mariner on the ocean can see it, and emigrants on the parched deserts of Nevada have traveled towards it day after day, an infallible guide to lead them on to the land of gold. When the Russians settled at Bodega in 1812, they beheld this lofty peak from the mountains of

the Coast Range, and called it Tchastal. The early trappers adopted this name and handed it down to us as Chasta, the carelessness of the present generation having still further modified it to Shasta. The same name was applied by the trappers to the valley lying at its base, the river that bears its cold, snow waters to the Klamath, and the Indians occupying the valleys and mountains to the northwest. The various tribes designate the peak by different names. The Shastas call it I-e-ka, the white, and this name still remains to us, though terribly distorted, in Yreka, the chief town of Siskiyou County, within whose limits the mountain stands.

Nothing gives us so good an idea of its magnitude as a comparison with the surrounding hills, dwarfed into insignificance by its overshadowing presence. Professor Whitney gives its altitude as 14,440 feet, and this estimate is the one generally accepted, though observations of the Coast Survey add three feet to these figures. But two peaks in California exceed this altitude—Mount Whitney, 15,000 feet, and Mount Williamson, 14,500 feet. They, however, fall far short of Shasta in grandeur and magnificence, for their bases rest upon high mountain ridges, above which they rise but a few thousand feet; while the base of Shasta, in Strawberry Valley, is but 3,570 feet above the level of the sea, and the mountain towers up in a single peak, 11,000 feet, not with the gracefully sweeping lines of Mount Hood, but rugged and majestic. Towards the top it divides into two peaks, one rising 500 feet above the other. The craters of several extinct volcanoes can be distinctly seen from the apex, the largest one on the lower peak, and having a diameter fully a mile in length. Between these lies a deep gorge choked with snow and ice, while several living glaciers fill the canyons on the northern slope. In winter the mountain wears a spotless mantle of white from the timber line to the very summit; but as the summer months come on dark ridges appear, and in September, before the storms again set in, their blackness forms a strong contrast with the snow lying in the gorges and deep canyons that seam the mountain's sides.

The last evidence of the gigantic forces that heaped up this mighty mass and scattered the almost endless fields of lava that are found for miles around, is to be seen in the hot springs near the apex of the higher peak. They are thus described by the United States Coast Survey: "The extreme summit is a steep ridge, not more than 200 or 300 feet through on a level with the springs, and composed of shattered lava, which looks as though any water falling in rain or formed by melting snow on it would immediately run out through the cracks. There is in the material nothing which, when brought in contact with the air or moisture, would cause heat by chemical action; yet at the bottom of the steep ridge there is a little flat of half an acre full of hot springs, most of them very small, and the largest not more than three feet across. They have a temperature of 100 degrees [this must vary greatly at times, for it has been found by others to be as high as 180 degrees], and their water is strong with sulphur and other minerals. In some the

water bubbles up violently, and there are openings in the earth from which hot steam rushes out with great force and considerable noise. One of these vents throws out a jet of steam two feet in diameter. These springs and the earth around them retain their heat through winter as well as summer, notwithstanding the severe cold that must prevail there."

Until recent years the ascent of Shasta was an undertaking of considerable magnitude; but now, by means of the experience of years and the services of guides, it is possible to all who can endure the fatigue of so long a climb. There are but three months in the year when such a journey is considered safe—July, August and September. Long before the winter rains set in tempests rage about its lofty brow, and woe to him who has to contend with their fury. In the spring storms beat upon its face when all is calm below, and the frozen snow is so hard and slippery that danger attends every footstep. It is only when the weather is fairest, and after the warm rays of the sun have somewhat softened the snow, that the pleasure-seeker attempts to reach the top, though for scientific reasons ascents have been made in April and November. April 29, 1875, Professor John Muir and Jerome Fay went up to select a location for a monument, and were caught in a storm that prevented them from returning. All night they lay in the mud by the hot springs, the wind blowing a perfect hurricane and the thermometer many degrees below zero. Lying first in one position and then in another, they changed as often as the heat of the mud became unendurable, and, as they rolled over, the raw wind swept across the blisters raised by the heat and intensified their agony. As soon as morning dawned they started to descend, weak and almost crazed from suffering, and were met by friends who had gone to their relief, but not until their blistered feet had become frost-bitten, and their clothing had frozen and mercilessly chafed their parboiled flesh. Their experience was a terrible one, and will serve as a warning to any foolhardy man who may think April a safe month in which to test the fitful temper of Old Boreas on Mount Shasta.

It was four years after the miner penetrated this region before any one attempted to climb this peak, in whose very shadow they were washing out the yellow grains of gold. Early in September, 1854, Captain J. D. Pierce, a merchant of Yreka, made the ascent alone, and so incredible did it appear that but few would believe it. He therefore guided a party of thirteen to the top, and prove his claim of being the first mortal to place his foot upon the crown of Shasta; for the reverent fear of the Indians has kept them from thus profaning what they believe to be the abode of the Great Spirit.

Let us also make a journey to the top, but let us go by moonlight, and not in the glare and heat of the sun. In Strawberry Valley there is a little summer resort known as Berryvale, consisting of two hotels, a little store and a post office. This is the rendezvous of all who desire to become intimately acquainted with the mountain monarch.

Alighting from the dusty stage and refreshing ourselves with one of those deliciously toothsome meals that are to be had only in these mountain retreats, we commit ourselves to the care of our host. In a few days the moon is in the right quarter, and, provided with all the necessaries for the journey, we start out in the afternoon and begin climbing the mountain side, following a well-worn trail through the towering pines. After a tramp of several miles in the gradually diminishing forest we arrive at a comfortable cabin, where we eat a hearty supper, smoke our pipes, and then roll snugly up in our blankets and go to sleep. Soon after midnight we are awakened, make our simple preparations, and resume the upward journey.

As we emerge from the last belt of timber that fringes the mountain side, the great white peak rises up before us seemingly higher than from the valley. The moon, now well beyond the meridian, irradiates the scene, and its beams are reflected like sparkling diamonds from the snowy crystals we crunch beneath our feet. The steady climb of an hour begins to tell upon us, yet the top seems as far above us as before, sharply outlined against the background of twinkling stars and the deep blue firmament of night.

"How far have we gone now?" I ask, as we stop for a brief while to catch a breath.

"Oh, we've made a good start," the guide replies. "We are about a quarter of the way up."

With a sigh I thrust my alpinestock into the snow and again toil upward. Though our exertions keep us warm, almost uncomfortably so, we can feel that it is becoming colder as we ascend. The air, too, is more rarified, and we feel a burning sensation as we inhale great draughts of it. Higher and still higher we climb. Just ahead the sharp outline of the snow can be seen against the sky, and encouraged by the apparent nearness of the top we push on with renewed vigor and soon gain the point, only to find it but a ridge, with the apex still looming up beyond, though sensibly nearer than before. Now the cold begins to tingle our noses and finger tips, and the frozen snow is very slippery. Great care has to be exercised, for a false step might send us gliding down the slope with but little chance of stopping.

"This is about the coldest place in California," I assert with the air of a man who feels the confident pride of having made a statement admitting of no dispute.

Softly the guide chuckles to himself as he remarks, "It's the hottest place in California."

"What!"

"If you should do to-morrow noon what you are doing now you would think it the hottest place in the world. The sun's rays beat upon the snow, and though they only soften it a little for the depth of two or three inches, they are reflected back again so bright as to dazzle you almost to blindness, the heat reminding you forcibly of a cook stove. The skin would peel off your nose and cheeks the next day like scales from a fish. That is why we always come up at night or early in the morning."

Mentally resolving to hazard no more assertions, I

struggle along in spite of fatigue and the difficulty of breathing. Suddenly my nose begins to bleed, and little drops of blood ooze from my ears, but the guide laughingly remarks: "A little rest will fix that all right. So long as you do not bleed from the mouth you need have no fear."

The top is now visibly near. The moon sinks below the horizon, and, making a last crowning effort by the light of the stars, we stand on the brink of the hot springs, nearly an hour ahead of the sun's schedule time. We begin to realize the intensity of the cold in this high altitude, and find that to keep warm we must continue our physical exertions; and so we walk forward and back along the margin of the springs and climb to the extreme apex, impatient for the coming of the sun.

The mountain's snowy sides stand out clear and bold in the starlight, while all beneath is darkness, the sloping field of white fading into the black abyss below. In the east the first gray tints of dawn appear, and as they brighten the stars gradually fade from view, though we know that to the few who are watching them from the valley they shine as brightly as before. Soon the east is all aglow with light, while to the west the lofty peak casts a pyramidal shadow of intense gloom, its sides being clearly defined by the increasing light. As the sun steadily mounts the crimson vault, the higher peaks within the mighty shadow pierce through the gloom, while below them still reigns midnight darkness. One by one they thrust themselves up into the light; the mountains slowly evolve themselves, then the valleys, then the ocean, until at last the darkness is conquered and the full beams of the sun irradiate every object. The magnificence of the scene is beyond the power of words to portray, and we can only stand in mute admiration of the power and glory of the celestial warrior as he marches from the east to conquer the kingdom of darkness in the west.

Our attention now turns to the grand panorama spread out beneath us. The great Pacific, a hundred miles to the west, appears as calm as a mountain tarn. So distant is it that the billows blend into one even and apparently unruffled surface. For three hundred miles up and down the coast we can see an unbroken sheet of blue. Turning to the south, the Sacramento Valley lies like a long hollow in the embrace of two parallel hills. With here and there a peak thrusting itself up into prominence, the mountains fuse into one solid mass. Vainly we try to locate well-known objects, for with the exception of Monte Diablo and a spot we take to be Lake Tahoe, we feel a decided uncertainty. Lassen's Peak, near at hand, catches the eye at the first glance. It is the only snow-capped companion Shasta has in Northern California, but is so inferior that companionship can hardly be presumed. Away to the north rise several more worthy associates—Mount Pitt, the Three Sisters, Jefferson, the graceful Mount Hood, Adams, St. Helens and the rugged Tacoma, though several of them are so distant as to sink below the horizon or blend into its dim outlines.

Klamath Lake, Tule Lake and the Lava Beds, the region made famous by Captain Jack and his Spartan band of Modocs, seem almost at our feet. To the east the hills and valleys of the Nevada basin stretch out to the horizon line. At our very feet, and dwarfed into the merest ant hill, is the Black Butte, or Little Mount Shasta, a pigmy counterpart of the great mountain, its black, barren sides thrown into bold relief against the background of green pines surrounding it. The resemblance in contour is wonderful, and suggests the little models we see in the Patent Office at Washington and the great engines of which they are the image.

A little further to the northeast is Sheep Rock, around which the old emigrant trail used to wind, and just beyond stands the Goose Nest. This is a peak that rises to a height of more than 8,000 feet. The top is barren of timber, and at the extreme apex is the crater of a huge extinct volcano, fully a mile in width, and filled with perpetual snow. From Shasta Valley the depression, with its white lining, so closely resembles the downy interior of a nest, that the name seems peculiarly appropriate. From our high position we gaze down into this snowy crater, and think how all things have changed since its now frozen interior blazed with volcanic heat. What a sight it must have been when the hundred craters now within the scope of our vision were belching forth fire, smoke and burning lava! Pilot Rock, in the Siskiyou Mountains, on the border line between California and Oregon, catches the eye, and Scott and Shasta valleys, walled in by the encircling mountains, are smiling and beautiful, like sparkling gems in a massive setting. The courses of the Sacramento and Klamath, with their leading tributaries, can be traced with difficulty.

It is now ten o'clock, and we think of our long journey back to Berryvale; but before going we pay our respects to the monument on the extreme apex, erected in 1875 by the United States Coast Survey. It weighs 2,000 pounds, is cylindrical in form, sixteen feet high and three in diameter, and is made of boiler iron. It is surmounted by a bell-shaped cap of polished composition that reflects the sun's rays, and can be seen with a powerful glass at a long distance.

There are two ways of descending. One is to plod wearily along on foot, and the other to glide down the steep slope like a shooting star. There is one point where a clear stretch of nearly five miles can be had, from near the top almost to the timber line, and seated on a board, with his pole under his arm for a rudder and a brake, one can take a wild meteor-like ride to the bottom. About half way is a little ridge, beyond which the descent is steeper. One at a time we start down the dizzy height, each as the one before him disappears over the ridge. I watch my predecessor with considerable anxiety, but receive little comfort in gazing at a fleeting speck enveloped in a cloud of whirling spray. As he disappears from view I muster all my courage, take a firm hold upon the pole and set the board in motion. Almost in an instant I am shooting down like a bullet, the spray-like snow flying in a perfect cloud about my head and blind-

ing my eyes like the drivings of a storm. The ridge is soon passed and then the speed is terrific, giving me the sensation of falling through interminable space. It is a wild, exciting ride, and before I can imagine it possible I reach the point where the snow disappears in the timber. Gazing up the great mountain down which I came in as many minutes as it took hours to ascend, I for the first time realize the immensity of the journey. Feeling myself all over to see if pieces of my anatomy have not been scattered along the route, and finding myself sound in body and mind, there comes over me an almost irresistible impulse to go up and try it again. The journey to Berryvale is soon accomplished, and refreshed with a hearty meal we recline under the trees and rest our weary limbs.

When the railroads now being extended shall have formed a junction at the Oregon and California line, the route will pass through Strawberry Valley, and Shasta will then be more accessible to tourists than any other mountain peak in America. It will be on the main line of the grand circuit made by all those who come to the coast by the Northern route and return by the Central or Southern. Hundreds will visit it every summer and spend a few days in the mountains at the many inviting resorts. The headwaters of Sacramento, McLeod, Pit, Shasta and Trinity rivers abound in mountain trout, a perfect paradise for the angler, and the dense forests, with their deer, black bear and an occasional grizzly and California lion, offer exciting sport to the huntsman.

HARRY L. WELLS.

Quinine from Gas Tar.

The last contribution of modern chemistry to science is the production of quinine from gas tar. Professor Fischer, of Munich, has succeeded in obtaining from distilled coal a white crystalline powder, which, as far as regards its action on the human system, cannot be distinguished from quinine, except that it assimilates even more readily with the stomach. Its efficacy in reducing fever heat is said to be remarkable, even rendering the use of ice unnecessary. The importance of such a discovery as this consists not so much in the actual fact achieved as in the stimulus given to scientific research by the opening up of a new channel of investigation. The romance of gas tar is evidently far from being exhausted. In addition to the sweetest scents, the most brilliant dyes, the most powerful disinfectants, and even prussic acid, are some of the numerous and wonderful products of its decomposition.—*Scientific American*.

THE *Painter*, of Cleveland, Ohio, comes to us this month with a great improvement even upon its usual neat and artistic appearance. A handsome cover, artistic illustrations and neat typography render it very attractive to the eye, while its instructive articles on the art of painting and decoration are exceedingly interesting to one at all interested in such subjects, as thousands of our people are. America is being rapidly educated in art, and one of the best instructors is the *Painter*.

EL CAPITAN.

Of all the imposing objects which Nature has grouped in the world-famous Yosemite Valley, there is none whose

ing at its base. By the Indians it was called Tu-tock-ah-nu-lah, and with it is associated a legend about the creation of the valley, of which Tu-tock-ah-nu-lah was the great chief and guardian spirit. The legend says:



EL CAPITAN, YOSEMITE VALLEY.

outlines linger in the memory like those of El Capitan. This vast perpendicular mass of rock stands near the lower end of the valley, on the left bank of the Merced, while ascending, and is 3,300 feet above the stream glid-

“But that the Yo-Semites might never forget him, with the hunting knife in his bold hand, he carved the outlines of his noble head upon the face of the rock that bears his name.” El Capitan (the Captain) is the Spanish title.

THE THREE TETONS.

Lying near the boundary line separating Idaho and Wyoming, between Jackson's Lake and Snake River on the east and Pierre's Hole on the west, is a range of needle-pointed granite peaks, extending from the Grand Canyon of Snake River northward, a distance of forty miles, to the southern extremity of the National Park of the Yellowstone. These form a portion of what was in former years termed the "Wind River Mountains," which region bore the deserved reputation among the early trappers and mountaineers of being the most rugged and impassable of all the ranges of that great "backbone of the continent," the Rocky Mountains.

They were first observed by Wilson Price Hunt's party, while crossing the continent in 1811 to assist in establishing at Astoria the headquarters of the Pacific Fur Company. On that memorable journey, which was fraught with more privations and suffering than any overland passage before or since, the three culminating spires served as landmarks for many days, and were called by Mr. Hunt the Pilot Knobs. A few years after the French trappers of the Hudson's Bay Company christened them the Three Tetons, and by this name were they known by the hardy mountaineers who found in the streams and "holes" of this region their richest trapping grounds. Hardy and brave as were these men, they were seldom given to mountain climbing simply to feast their eyes upon Nature's panorama. Yet many of them sought to scale the icy sides of the central and highest one without success. In 1860 James Bridger, that veteran mountaineer, asserted that by his old comrades it was considered impossible for a human being to ascend to the summit of the Grand Teton. In 1871 Professor F. V. Hayden, in reporting his explorations in the National Park, from many places in which they form such a grand feature in the landscape, referred to them as the Shark's Teeth, a name far more in consonance with the appearance of their spire-like tops than the title of the French trappers. The altitude is variously given in the geological reports as 13,858; 13,737, and finally, in 1877, as 13,691 feet.

In 1872 was made the only ascent of this mountain of which there is any record. A portion of Professor Hayden's party, under the leadership of James Stevenson, attempted the ascent, and of fourteen persons who undertook the feat only Mr. Stevenson and N. P. Langford succeeded in gaining the top. They considered that they had fairly won the privilege of naming the peak, and called it Mount Hayden, in honor of the chief of their expedition. Though beyond doubt the only white men who had ever stood on the apex of the mountain, and probably the only ones who will do so for years to come, they found evidences of the prior visits of human beings. Near the top they discovered an enclosure of granite slabs, evidently built as a protection from the wind, which had been so worn by the action of the elements that the eroded detritus lay at the bottom to the depth of a foot. To accomplish this it must have taken hundreds of years;

and the thought carries us away in musings upon our ignorance of the early races of America and speculations upon the nature of the prehistoric people who have left this enduring monument of their existence on the crowning dome of the Tetons.

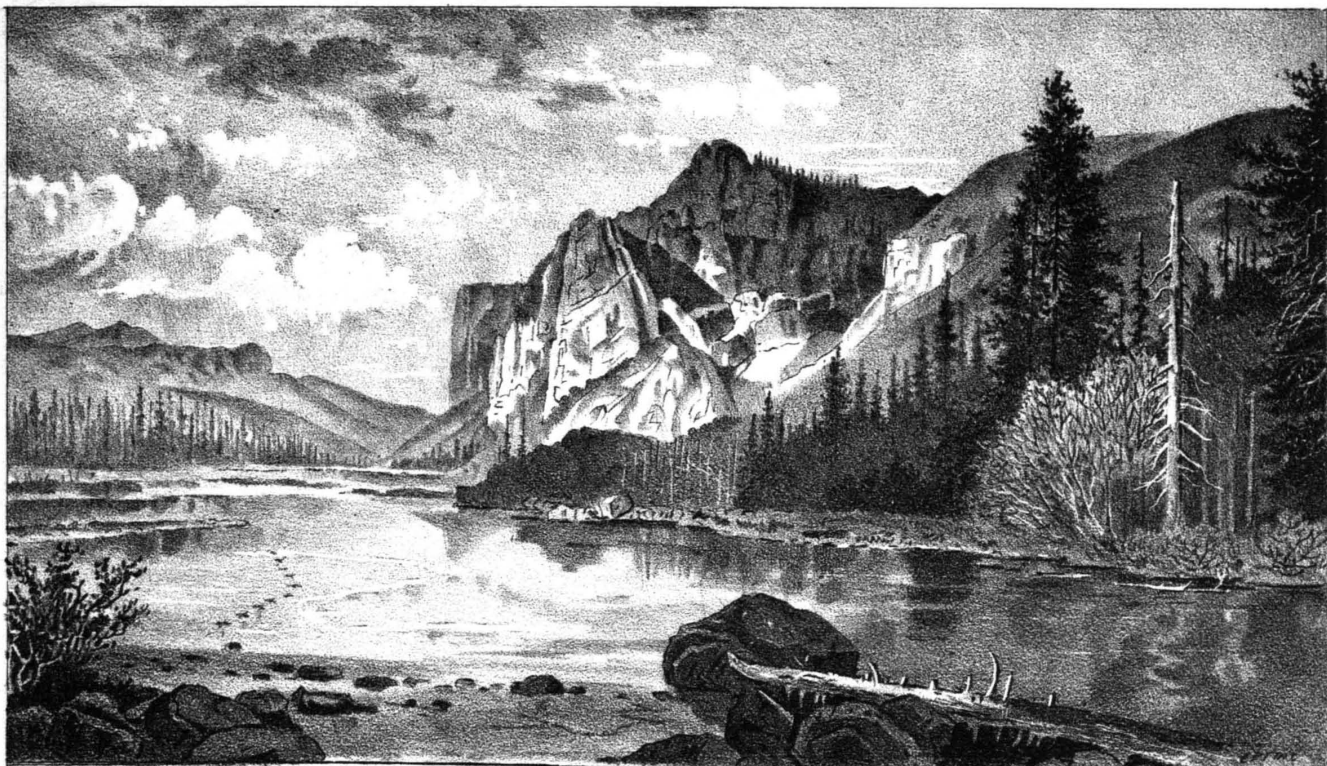
Sponge Fishing in Florida.

Lying on his chest along the boat's deck the fisher, with his water-glass—a pane set in a box fitted with handles—looks down forty feet into the clear depths. With one hand he grasps and sinks a slender pole, sometimes fifty feet in length, fitted at the end with a double hook. The sponge once discovered, the hook is deftly inserted at the rocky base, and by a sudden jerk the sponge is detached to be brought up on deck. When first pulled from the rocks where it grows the sponge looks like a corrugated mass of putty. It is drab in color, exceedingly heavy, has a sickening odor, and is suffused by a stringy mucous which drops from it in long viscous lines. The external pores are partly closed up by a sort of sea bug, which finds refuge in them, and must be an annoying interloper to the sponge builder; while often a red sea worm, an inch or two in length, is found far within the spongy fibres, whither he has worked his way. What is the exact function of the mucous fluid does not yet appear to be clearly settled. But it is certain that when taken from the sponge and placed on still bottoms, new sponges are propagated from it; and if two species of the same living sponge, or of different sponges of the same species, are laid side by side on the sea bottom, they soon grow together. The vitality of the sponge, in fact, coupled with the decrease of the supply, suggests that ere many years artificial propagation may have to be used. This curt description of what seems the simple work of sponge fishing gives no idea of the real skill and exertion needed. The eye of the fisher has to be trained by long experience to peer into the sea and tell the commercially valuable sponges from those that are worthless. He must have a deft hand to manage the swaying hook forty feet down so as to detach the sponge without a tear. Above all, while doing this with one hand, he must manipulate with the other the water-glass as the waves sway it sideways and up or down. The strain on eye and body is most intense, to say nothing of the cramped position and exposure to wind and wet, which, first and last, make almost every sponge fisher a victim of acute rheumatism. Yet with all his arduous toil, a faithful sponge fisher earns not more than \$15 a month besides his "keep" on the boat, which barely deserves the name of existence.—*Tourist Gazette*.

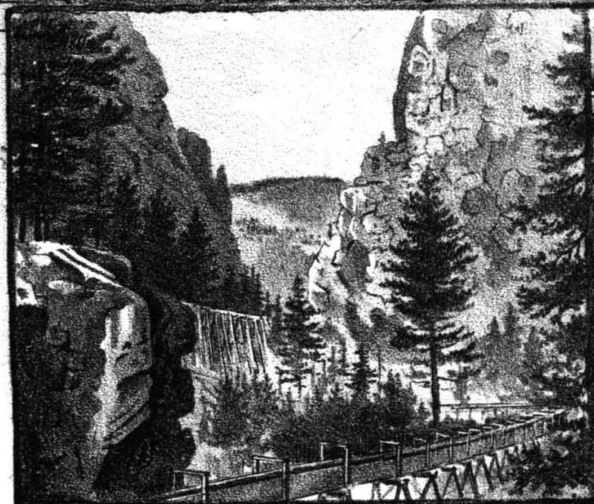
Madison Canyon.

One of the most attractive spots in Montana, and one which will soon be rendered easily accessible to tourists, is the canyon of Madison River, on the edge of the National Park of the Yellowstone. It is reached by the branch line of the Utah & Northern Railroad, which will soon be constructed into the Park. When this is done the scene, of which we present an engraving on the next page, will become a familiar one to travelers.

THE WEST SHORE.



MADISON CANYON, MONTANA.

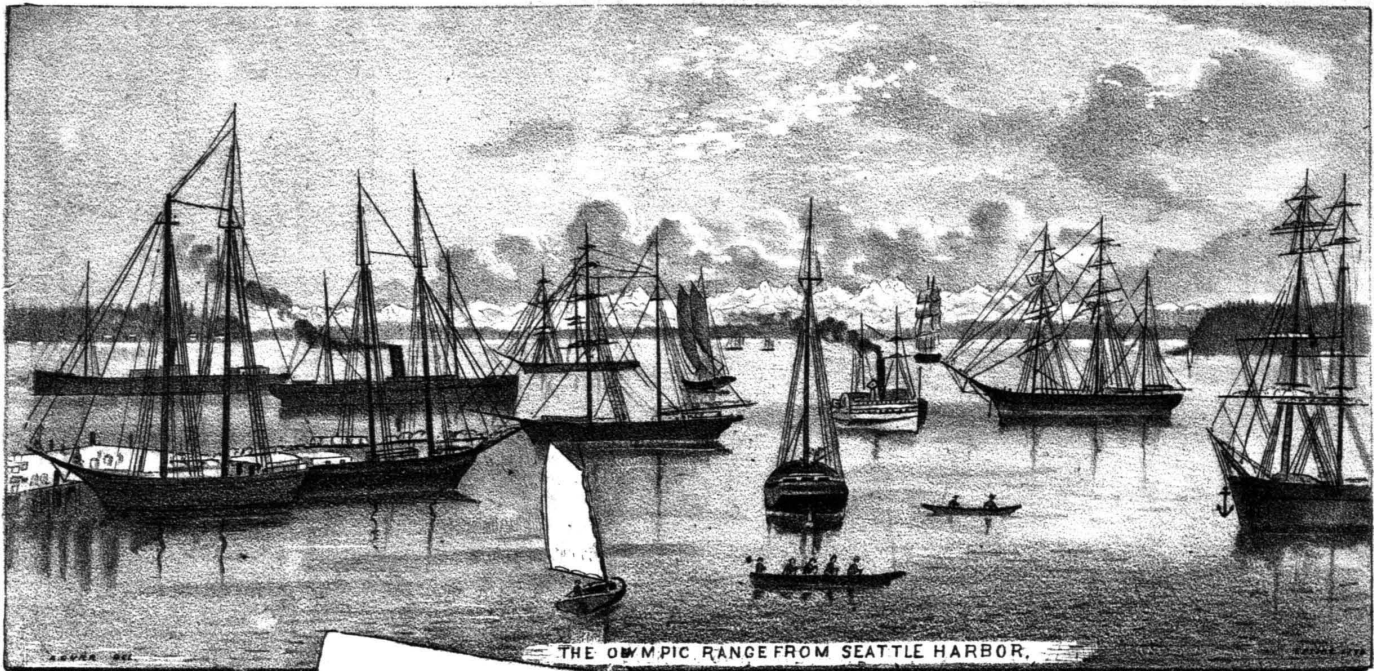


AVALANCHE GULCH, MONTANA.



THE THREE TETONS, WYOMING.

THE WEST SHORE.



SEATTLE HARBOR.

Elliott Bay, the short arm of Puget Sound upon which the city of Seattle is situated, is a beautiful land-locked harbor, and one of the best on that great inland sea. The pine-covered hills which surround it slope gently down to the water's edge, giving it a fringe of never-fading green, while looking from its entrance across the deep Sound, the snow-mantled peaks of the Olympic Range rise in pleasing contrast. Large vessels lie there secure from wind and wave; while steamers reaching every port on the Sound constantly passing in and out; rafts of logs towed in by puffing tugs; vessels loading with coal and lumber; Indian proas darting in and out among the shipping, and the bustle that attends the arrival and departure of the great ocean steamers, all combine to enliven the scene. In her possession of such a magnificent harbor, so accessible to vessels from the ocean and so contiguous to great coal deposits, fertile valley lands and immense forests of excellent timber, Seattle has a prize, the value of which she will more fully appreciate when the railroad across the Cascades connects her with the great interior and gives her a direct route to the East. Elliott Bay was named in 1792 by Captain George Vancouver, the great English navigator, who then, for the first time, explored the bays, canals and straits of Puget Sound, and made known to the world the existence and character of that great arm of the sea which is destined in future years to be such an important factor in the world's commerce.

CANADIAN PACIFIC SCENERY.

The scenery along the route of the Canadian Pacific Railway, especially in the Rocky and Selkirk ranges of mountains and along Fraser River, is characterized by wild and rugged grandeur. After leaving the plains of Manitoba it gradually ascends the slopes of the Rocky Mountains, crossing the summit by the Kicking Horse Pass and thence to the Rogers Pass of the Selkirks. It is through this region of rocky canyons and mountain torrents the company has yet to build its line. After leaving the Selkirks it crosses the Columbia to Fraser River and follows down that stream nearly to the coast. This portion of the road is constructed eastward from the Pacific terminus at Port Moody to a considerable distance above Yale, the only large town on the upper portion of Fraser River. We present an engraving of the river just above the town of Yale, which, with its swift-rushing current, rocky islands and towering cliffs, indicates the character of the scenery along the river canyon for many miles. The railroad track hugs the base of the cliffs at the very edge of the water as it follows the windings of the river, frequently darting through a short tunnel in order to pass some cliff of rocks it cannot circumvent. At Spuzzum Creek the track passes along the narrow canyon on one side of the foaming torrent, while the wagon road follows up the other. The route of the Canadian Pacific across the mountains is nearly that followed by the first white man who crossed the North American continent to the Pacific. In 1793 Alexander Mackenzie, a partner of the Northwest Company, left Fort Chipewyan and crossed the mountains to Fraser River, which he supposed to be the Columbia, and followed it southerly for some distance, and then crossed to the Pacific. This was but one year after Gray entered the mouth of the Columbia, twelve years before Captains Lewis and Clarke followed it from the Rocky Mountains to the sea, and thirteen years before Simon Fraser proved that the stream Mackenzie saw was not that great river, and bestowed his own name upon it.

REVERIES OF A BACHELOR.

BY A CITY GRATE.

Blessed be letters! they are the monitors, they are also the comforters, and they are the only true heart-talkers! Your speech, and their speeches, are conventional; they are moulded by circumstance; they are suggested by the observation, remark and influence of the parties to whom the speaking is addressed or by whom it may be overheard.

Your truest thought is modified half through its utterance by a look, a sign, a smile or a sneer. It is not individual; it is not integral; it is social and mixed—half of you and half of others. It bends, it sways, it multiplies, it retires and it advances, as the talk of others presses, relaxes or quickens.

But it is not so of letters. There you are, with only the soulless pen, and the snow white, virgin paper. Your soul is measuring itself by itself and saying its own sayings; there are no sneers to modify its utterance—no scowl to scare; nothing is present but you and your thought.

Utter it then freely; write it down; stamp it; burn it in the ink! There it is, a true soul-print!

Oh, the glory, the freedom, the passion of a letter! It is worth all the lip-talk in the world. Do you say it is studied, made up, acted, rehearsed, contrived, artistic?

Let me see it then; let me run it over; tell me age, sex, circumstance, and I will tell you if it be studied or real—if it be the merest lip-slang put into words, or heart-talk blazing on the paper.

I have a little packet, not very large, tied up with narrow crimson ribbon, now soiled with frequent handling, which far into some winter's night I take down from its nook upon my shelf, and untie, and open, and run over, with such sorrow and such joy, such tears and such smiles, as I am sure make me for weeks after a kinder and holier man.

There are in this little packet letters in the familiar hand of a mother. What gentle admonition; what tender affection! God have mercy on him who outlives the tears that such admonitions and such affection call up to the eye! There are others in the budget, in the delicate and unformed hand of a loved and lost sister—written when she and you were full of glee and the best mirth of youthfulness; does it harm you to recall that mirthfulness or to trace again, for the hundredth time, that scrawling postscript at the bottom, with its *i*'s so carefully dotted, and its gigantic *t*'s so carefully crossed, by the childish hand of a little brother?

I have added latterly to that packet of letters. I almost need a new and longer ribbon; the old one is getting too short. Not a few of these new and cherished letters a former Reverie has brought to me; not letters of cold praise, saying it was well done, artfully executed, prettily imagined; no such thing; but letters of sympathy—of sympathy which means sympathy.

It would be cold and dastardly work to copy them; I am too selfish for that. It is enough to say that they, the kind writers, have seen a heart in the Reverie—have felt that it was real, true. They know it; a secret influence has told it. What matters it, pray, if literally there was no wife, and no dead child, and no coffin, in the house? Is not feeling, feeling, and heart, heart? Are not these fancies thronging on my brain, bringing tears to my eyes, bringing joy to my soul, as living as anything human can be living? What if they have no material type—no objective form? All that is crude; a mere reduction of ideality to sense—a transformation of the spiritual to the earthy—a levelling of soul to matter.

Are we not creatures of thought and passion? Is

anything about us more earnest than that same thought and passion? Is there anything more real—more characteristic of that great and dim destiny to which we are born, and which may be written down in that terrible word—forever?

Let those who will, then, sneer at what in their wisdom they call untruth—at what is false, because it has no material presence; this does not create falsity; would to Heaven that it did!

And yet, if there was actual, material truth, super-added to Reverie, would such objectors sympathize the more? No, a thousand times, no; the heart that has no sympathy with thoughts and feelings that scorch the soul is dead also—whatever its mocking tears and gestures may say—to a coffin or a grave!

Let them pass and we will come back to these cherished letters.

A mother who has lost a child has, she says, shed a tear—not one, but many—over the dead boy's coldness. And another, who has not lost, but who trembles lest she lose, has found the words failing as she read, and a dim, sorrow-borne mist spreading over the page.

Another, yet rejoicing in all those family ties that make life a charm, has listened nervously to careful reading, until the husband is called home and the coffin is in the house. "Stop!" she says; and a gush of tears tells the rest.

Yet the cold critic will say, "It was artfully done." A curse on him! it was not art; it was nature.

Another, a young, fresh, healthful girl-mind, has seen something in the love-picture—albeit so weak—of truth, and has kindly believed that it must be earnest. Aye, indeed is it, fair and generous one, earnest as life and hope! Who, indeed, with a heart at all, that has not yet slipped away irreparably and forever from the shores of youth—from that fairy land which young enthusiasm creates and over which bright dreams hover—but knows it to be real? And so such things will be real till hopes are dashed and Death is come.

Another, a father, has laid down the book in tears.

God bless them all! How far better this than the cold praise of newspaper paragraphs or the critically contrived approval of colder friends!

Let me gather up these letters carefully, to be read when the heart is faint and sick of all that there is unreal and selfish in the world. Let me tie them together with a new and longer bit of ribbon; not by a love-knot, that is too hard; but by an easy slipping knot, that so I may get at them the better. And now they are all together, a snug packet, and we will label them, not sentimentally (I pity the one who thinks it) but earnestly, and in the best meaning of the term—*Souvenirs du Cœur*.

Thanks to my first Reverie, which has added to such a treasure!

And now to my Second Reverie.

I am no longer in the country. The fields, the trees, the brooks, are far away from me, and yet they are very present. A letter from my tenant—how different from those other letters!—lies upon my table, telling me what fields he has broken up for the autumn grain, and how many beeves he is fattening, and how the potatoes are turning out.

But I am in a garret of the city. From my window I look over a mass of crowded house-tops—moralizing often upon the scene, but in a strain too long and sombre to be set down here. In place of the wide country chimney, with its iron fire-dogs, is a snug grate, where the maid makes me a fire in the morning and rekindles it in the afternoon.

I am usually fairly seated in my chair—a cosily stuffed office chair—by five or six o'clock of the evening. The

fire has been newly made, perhaps an hour before; first, the maid drops a withe of paper in the bottom of the grate, then a stick or two of pine-wood, and after it a hod of Liverpool coal; so that by the time I am seated for the evening the sea-coal is fairly in a blaze.

When this has sunk to a level with the second bar of the grate, the maid replenishes it with a hod of anthracite; and I sit musing and reading, while the new coal warms and kindles; not leaving my place until it has sunk to the third bar of the grate, which marks my bedtime.

I love these accidental measures of the hours, which belong to you and your life, and not to the world. A watch is no more the measure of your time than of the time of your neighbors; a church clock is as public and vulgar as a church-warden. I would as soon think of hiring the parish sexton to make my bed as to regulate my time by the parish clock.

A shadow that the sun casts upon your carpet, or a streak of light on a slated roof yonder, or the burning of your fire, are pleasant time-keepers, full of presence, full of companionship and full of the warning—time is passing!

In the summer season I have even measured my reading and my night-watch by the burning of a taper; and I have scratched upon the handle to the little bronze taper holder that meaning passage of the New Testament—the night cometh!

But I must get upon my Reverie. It was a drizzly evening; I had worked hard during the day, and had drawn my boots, thrust my feet into slippers, thrown on a Turkish loose dress and Greek cap, souvenirs to me of other times and other places, and sat watching the lively, uncertain, yellow play of the bituminous flame.

I.

SEA-COAL.

It is like a flirt, mused I; lively, uncertain, bright, colored, waving here and there, melting the coal into black, shapeless mass; making foul, sooty smoke and pasty, trashy residuum! Yet withal, pleasantly sparkling, dancing, prettily waving, and leaping like a roebuck from point to point.

How like a flirt! And yet is not this tossing caprice of girlhood, to which I liken my sea-coal flame, a native play of life, and belonging by nature to the play-time of life? Is it not a sort of essential fire-kindling to the weightier and truer passions, even as Jenny puts the soft coal first, the better to kindle the anthracite? Is it not a sort of necessary consumption of young vapors, which float in the soul, and which is left thereafter the purer? Is there not a stage somewhere in every man's youth for just such waving, idle heart-blaze, which means nothing, yet which must be got over?

Lamartine says somewhere, very prettily, that there is more of quick running sap and floating shade in a young tree, but more of fire in the heart of a sturdy oak: "*Il y a plus de sève folle et d'ombre, flottante dans les jeunes plants de la forêt; il y a plus de feu dans le vieux cœur du chêne.*"

Is Lamartine playing off his prettiness of expression, dressing up with his poetry—making a good conscience against the ghost of some accusing Graziella—or is there truth in the matter?

A man who has seen sixty years, whether widower or bachelor, may well put such sentiment into words; it feeds his wasted heart with hope; it renews the exultation of youth by the pleasantest of equivocation and the most charming of self-confidence. But, after all, is it not true? Is not the heart like new blossoming field plants, whose

first flowers are half-formed, one-sided, perhaps, but by and by, in maturity of season, putting out wholesome, well-formed blossoms, that will hold their leaves long and bravely?

Bulwer, in his story of the Caxtons, has counted first heart-flights mere fancy passages—a dalliance with the breezes of love, which pass and leave healthful heart-appetite. Half the reading world has read the story of Trevanion and Pisistratus. But Bulwer is past; his heart-life is used up—*epuise*. Such a man can very safely rant about the cool judgment of after years.

Where does Shakespeare put the unripe heart-age? All of it before the ambition, that alone makes the hero-soul. The Shakespeare man "sighs like a furnace," before he stretches his arm to achieve the "bauble, reputation."

Yet Shakespeare has meted a soul-love, mature and ripe, without any young furnace sighs, to Desdemona and Othello. Cordelia, the sweetest of his play creations, loves without any of the mawkish matter which makes the whining love of a Juliet. And Florizel, in the "Winter's Tale," says to Perdita, in the true spirit of a most sound heart:

My desires
Run not before mine honor, nor my lusts
Burn hotter than my faith.

How is it with Hector and Andromache? No sea-coal blaze, but one that is constant, enduring, pervading; a pair of hearts full of esteem and best love—good, honest and sound.

Look now at Adam and Eve, in God's presence, with Milton for showman. Shall we quote by this sparkling blaze a gem from the "Paradise Lost"? We will hum it to ourselves—what Raphael sings to Adam—a classic song:

Him, serve and fear!
Of other creatures, as Him pleases best
Wherever placed, let Him dispose; joy thou
In what He gives to thee, this Paradise
And thy fair Eve!

And again:

Love refines
The thoughts and heart enlarges: hath his seat
In reason, and is judicious; is the scale
By which to heavenly love thou mayst ascend!

None of the playing sparkle in this love, which belongs to the flame of my sea-coal fire, that is now dancing, lively as a cricket. But on looking about my garret chamber, I can see nothing that resembles the arch-angel Raphael or "thy fair Eve."

There is a degree of moisture about the sea-coal flame, which, with the most earnest of my musing, I find it impossible to attach to that idea of a waving, sparkling heart which my fire suggests. A damp heart must be a foul thing to be sure! But whoever heard of one?

Wordsworth, somewhere in the "Excursion," says:

The good die first,
And they whose hearts are dry as summer dust
Burn to the socket!

What, in the name of Rydal Mount, is a dry heart? A dusty one I can conceive of; a bachelor's heart must be somewhat dusty as he nears the sixtieth summer of his pilgrimage, and hung over with cobwebs in which sit such watchful gray old spiders as Avarice and Selfishness, forever on the lookout for such bottle-green flies as Lust.

"I will never," said I, griping at the elbows of my chair, "live a bachelor till sixty; never, so surely as there is hope in man, or charity in woman, or faith in both!"

And with that thought my heart leaped about in playful coruscations, even like the flame of the sea-coal; rising and wrapping round old and tender memories, and images that were present to me, trying to cling, and yet no sooner fastened than off; dancing again, riotous in its exulta-

tion—a succession of heart-sparkles, blazing and going out!

—And is there not, mused I, a portion of this world forever blazing in just such lively sparkles, waving here and there as the air currents fan them?

Take, for instance, your heart of sentiment and quick sensibility—a weak, warm-working heart, flying off in tangents of unhappy influence, unguided by prudence and, perhaps, virtue. There is a paper by Mackenzie in the *Mirror* for April, 1780, which sets this untoward sensibility in a strong light.

And the more it is indulged the more strong and binding such a habit of sensibility becomes. Poor Mackenzie himself must have suffered thus; you cannot read his books without feeling it; your eye, in spite of you, runs over with his sensitive griefs, while you are half ashamed of his success at picture-making. It is a terrible inheritance, and one that a strong man or woman will study to subdue; it is a vain sea-coal sparkling, which will count no good. The world is made of much hard, flinty substance, against which your better and holier thoughts will be striking fire; see to it that the sparks do not burn you!

But what a happy, careless life belongs to this bachelorhood, in which you may strike out boldly right and left! Your heart is not bound to another which may be full of only sickly vapors of feeling; nor is it frozen to a cold man's heart under a silk bodice, knowing nothing of tenderness but the name to prate of, and nothing of soul-confidence but clumsy confession. And if, in your careless outgoings of feeling, you get here only a little lip vapidness in return, be sure that you will find elsewhere a true heart-utterance. This last you will cherish in your inner soul—a nucleus for a new group of affections—and the other will pass with a whiff of your cigar.

Or if your feelings are touched, struck, hurt, who is the wiser, or the worse, but you only? And have you not the whole skein of your heart-life in your own fingers, to wind or unwind in what shape you please? Shake it, or twine it, or tangle it, by the light of your fire, as you fancy best. He is a weak man who cannot twist and weave the threads of his feeling—however fine, however tangled, however strained or however strong—into the great cable of purpose, by which he lies moored to his life of action.

Reading is a great and happy disentangler of all those knotted snarls—those extravagant vagaries—which belong to a heart sparkling with sensibility; but the reading must be cautiously directed. There is old placid Burton, when your soul is weak and its digestions of life's humors is bad; there is Cowper, when your spirit runs into kindly, half-sad, religious musing; there is Crabbe, when you would shake off vagary by a little handling of sharp actualities; there is Voltaire, a homeopathic doctor, whom you can read when you want to make a play of life, and crack jokes at Nature and be witty with destiny; there is Rousseau, when you want to lose yourself in a mental dreamland, and be beguiled by the harmony of soul-music and soul-culture.

And when you would shake off this, and be sturdiest among the battlers for hard world success, and be forewarned of rocks against which you must surely smite, read Bolingbroke; run over the letters of Lyttleton; read, and think of what you read, in the cracking lines of Rochefoucauld. How he sums us up in his stinging words! how he puts the scalpel between the nerves; yet he never hurts, for he is dissecting dead matter.

If you are in a genial, careless mood, who is better than such extemporizers of feeling and nature—good-hearted fellows—as Sterne and Fielding?

And then again there are Milton and Isaiah, to lift up

one's soul until it touches cloud-land, and you wander with their guidance, on swift feet, to the very gates of Heaven.

But this sparkling sensibility to one struggling under infirmity, or with grief or poverty, is very dreadful. The soul is too nicely and keenly hinged to be wrenched without mischief. How it shrinks, like a hurt child, from all that is vulgar, harsh and crude! Alas, for such a man! he will be buffeted from beginning to end; his life will be a sea of troubles. The poor victim of his own quick spirit, he wanders with a great shield of doubt hung before him, so that none, not even friends, can see the goodness of such kindly qualities as belong to him. Poverty, if it comes upon him, he wrestles with in secret, with strong, frenzied struggles. He wraps his scant clothes about him to keep him from the cold, and eyes the world as if every creature in it was breathing chill blasts at him from every opened mouth. He threads the crowded ways of the city, proud in his griefs, vain in his weakness, not stopping to do good. Bulwer, in the "New Timon," has painted, in a pair of stinging Pope-like lines, this feeling in a woman:

What had been pride, a kind of madness grown,
She hugged her wrongs, her sorrow was her throne!

Cold picture! yet the heart was sparkling under it, like my sea-coal fire—lifting and blazing, and lighting and falling,—but with no object, and only such little heat as begins and ends within.

Those fine sensibilities, ever active, are chasing and observing all; they catch a hue from what the dull and callous pass by unnoticed—because unknown. They blunder at the great variety of the world's opinions; they see tokens of belief where others see none. That delicate organization is a curse to a man; and yet, poor fool, he does not see where his cure lies; he wonders at his griefs, and has never reckoned with himself their source. He studies others without studying himself. He eats the leaves that sicken and never plucks up the root that will cure.

With a woman it is worse; with her this delicate susceptibility is like a frail flower, that quivers at every rough blast of Heaven; her own delicacy wounds her; her highest charm is perverted to a curse.

She listens with fear; she reads with trembling; she looks with dread. Her sympathies give a tone, like the harp of Æolus, to the slightest breath. Her sensibility lights up, and quivers and falls, like the flame of a sea-coal fire.

If she loves (and may not a bachelor reason on this daintiest of topics), her love is a gushing, wavy flame, lit up with hope, that has only a little kindling matter to light it; and this soon burns out. Yet intense sensibility will persuade her that the flame still scorches. She will mistake the annoyance of affection unrequited for the sting of a passion that she fancies still burns. She does not look deep enough to see that the passion is gone, and the shocked sensitiveness emits only faint, yellowish sparkles in its place; her high-wrought organization makes those sparks seem a veritable flame.

With her, judgment, prudence and discretion are cold, measured terms, which have no meaning, except as they attach to the actions of others. Of her own acts she never predicates them; feeling is much too high to allow her to submit to any such obtrusive guides of conduct. She needs disappointment to teach her truth; to teach that all is not gold that glitters; to teach that all warmth does not blaze. But let her beware how she sinks under any fancied disappointments. She who sinks under real disappointment lacks philosophy; but she who sinks under a fancied one lacks purpose. Let her flee as the plague such brooding thoughts as she will love to cherish;

let her spurn dark fancies as the visitants of hell; let the soul rise with the blaze of new kindled, active and world-wide emotions, and so brighten into steady and constant flame. Let her abjure such poets as Cowper, or Byron, or even Wordsworth; and if she must poetize, let her lay her mind to such manly verse as Pope's, or to such sound and ringing organry as Comus.

My fire was getting dull and I thrust in the poker; it started up on the instant into a hundred little angry tongues of flame.

—Just so, thought I, the over-sensitive heart, once cruelly disturbed, will fling out a score of flaming passions, darting here and darting there, half smoke, half flame—love and hate, canker and joy—wild in its madness, not knowing whither its sparks are flying. Once break roughly upon the affections, or even the fancied affections of such a soul, and you breed a tornado of maddened action—a whirlwind of fire that hisses and sends out jets of wild, impulsive combustion, that make the bystanders, even those most friendly, stand aloof until the storm is past.

But this is not all that the dashing flame of my sea-coal suggests.

—How like a flirt! mused I again, recurring to my first thought; so lively, yet uncertain; so bright, yet so flickering! Your true flirt plays with sparkles; her heart, much as there is of it, spends itself in sparkles; she measures it to sparkle, and habit grows into nature, so that anon it can only sparkle. How carefully she cramps it, if the flames show too great a heat; how dexterously she flings its blaze here and there; how coyly she subdues it; how winningly she lights it!

All this is the entire reverse of the unpremeditated dartings of the soul at which I have been looking; sensibility scorns heart-curbings and heart-teachings; sensibility inquires not how much? but only, where?

Your true flirt has a coarse-grained soul; well modulated and well tutored, but there is no fineness in it. All its native fineness is made coarse by coarse efforts of the will. True feeling is a rustic vulgarity the flirt does not tolerate; she counts its healthiest and most honest manifestation all sentiment. Yet she will play you off a pretty string of sentiment which she has gathered from the poets; she adjusts it prettily as a Gobelin weaver adjusts the colors in his *tapis*. She shades it off delightfully; there are no bold contrasts, but a most artistic mellow of *nuances*.

She smiles like a wizard and jingles it with a laugh, such as tolled the poor home-bound Ulysses to the Circean bower. She has a cast of the head, apt and artful as the most dexterous cast of the best trout-killing rod. Her words sparkle and flow hurriedly, and with the prettiest doubleness of meaning. Naturalness she copies and she scorns. She accuses herself of a single expression or regard which nature prompts. She prides herself on her schooling. She measures her wit by the triumphs of her art; she chuckles over her own falsity to herself. And if by chance her soul—such germ as is left of it—betrays her into untoward confidence, she condemns herself as if she had committed crime.

She is always gay, because she has no depth of feeling to be stirred. The brook that runs shallow over hard, pebbly bottom always rustles. She is light hearted, because her heart floats in sparkles, like my sea-coal fire. She counts on marriage, not as the great absorbent of a heart's love and life, but as a happy, feasible and orderly conventionality, to be played with and kept at distance, and finally to be accepted as a cover for the faint and tawdry sparkles of an old and cherished heartlessness.

She will not pine under any regrets, because she has no appreciation of any loss; she will not chafe at indiffer-

ence, because it is her art; she will not be worried with jealousies, because she is ignorant of love. With no conception of the soul in its strength and fullness, she sees no lack of its demands. A thrill she does not know; a passion she cannot imagine; joy is a name; grief is another; and life, with its crowding scenes of love and bitterness, is a play upon the stage.

I think it is Madame Dudevant who says in something like the same connection: "*Les hiboux ne connaissent pas le chemin par où les aigles vont au soleil.*"

—Poor Ned! mused I, looking at the play of the fire, was a victim and a conqueror. He was a man of a full, strong nature—not a little impulsive, with action too full of earnestness for most of men to see its drift. He had known little of what is called the world; he was fresh in feeling and high of hope; he had been encircled always by friends who loved him, and who maybe flattered him. Scarce had he entered upon the tangled life of the city before he met with a sparkling face and an airy step that stirred something in poor Ned that he had never felt before. With him to feel was to act. He was not one to be despised; for notwithstanding he wore a country air, and the awkwardness of a man who has yet the *bienseance* of social life before him, he had the soul, the courage and the talent of a strong man. Little gifted in the knowledge of face-play, he easily mistook those coy maneuvers of a sparkling heart for something kindred to his own true emotions.

She was proud of the attentions of a man who carried a mind in his brain, and flattered poor Ned almost into servility. Ned had no friends to counsel him; or if he had them his impulses would have blinded him. Never was dodger more artful at the Olympic Games than the Peggy of Ned's heart-affection. He was charmed, beguiled, entranced.

When Ned spoke of love she staved it off with the prettiest of sly looks that only bewildered him the more. A charming creature to be sure; coy as a dove.

So he went on, poor fool, until one day—he told me of it with the blood mounting to his temples and his eye shooting flame—he suffered his feelings to run out in passionate avowal, entreaty, everything. She gave a pleasant, noisy laugh, and manifested—such pretty surprise!

He was looking for the intense glow of passion, and lo! there was nothing but the shifting sparkle of a sea-coal flame.

I wrote him a letter of condolence, for I was his senior by a year. "My dear fellow," said I, "diet yourself; you can find greens at the up-town market; eat a little fish with your dinner; abstain from heating drinks; don't put too much butter to your cauliflower; read one of Jeremy Taylor's sermons and translate all the quotations at sight; run carefully over that exquisite picture of George Dandin in your Moliere, and my word for it, in a week you will be a sound man."

He was too angry to reply; but eighteen months thereafter I got a thick, three-sheeted letter, with a dove upon the seal, telling me that he was as happy as a king. He said he had married a good-hearted, domestic, loving wife, who was as lovely as a June day, and that their baby, not three months old, was as bright as a spot of June day sunshine on the grass.

—What a tender, delicate, loving wife, mused I, such flashing, flaming flirt must in the end make. The prostitute of fashion; the bauble of fifty hearts idle as hers; the shifting make-peace of a stage scene; the actress, now in peasant and now in princely petticoats. How it would cheer an honest soul to call her—his. What a culmination of his heart-life; what a rich dreamland to be realized!

—Bah! and I thrust the poker into the clotted mass of fading coal; just such, and so worthless, is the used heart of a city flirt; just so the incessant sparkle of her life and frittering passions fuses all that is sound and combustible into black, sooty, shapeless residuum.

When I marry a flirt I will buy second-hand clothes of the Jews.

—Still, mused I, as the flame danced again, there is a distinction between coquetry and flirtation.

A coquette sparkles, but it is more the sparkle of a harmless and pretty vanity than of calculation. It is the play of humors in the blood and not the play of purpose at the heart. It will flicker around a true soul like the blaze around an *omelette au rhum*, leaving the kernel sounder and warmer.

Coquetry, with all its pranks and teasings, makes the spice to your dinner—the mulled wine to your supper. It will drive you to desperation, only to bring you back hotter to the fray. Who would boast a victory that cost no strategy and no careful disposition of the forces? Who would bulletin such success as my Uncle Toby's in a back garden, with only the Corporal Trim for assailant? But let a man be very sure that the city is worth the siege!

Coquetry whets the appetite; flirtation depraves it. Coquetry is the thorn that guards the rose—easily trimmed off when once plucked. Flirtation is like the slime on water plants, making them hard to handle, and when caught, only to be cherished in slimy waters.

And so, with my eye clinging to the flickering blaze, I see in my reverie a bright one dancing before me with sparkling, coquettish smile, teasing me with the prettiest graces in the world; and I grow maddened between hope and fear, and still watch with my whole soul in my eyes; and see her features by and by relax to pity, as a gleam of sensibility comes stealing over her spirit; and then to a kindly, feeling regard; presently she approaches—a coy and doubtful approach—and throws back the ringlets that lie over her cheek, and lays her hand—a little bit of white hand—timidly upon my strong fingers, and turns her head daintily to one side, and looks up in my eyes as they rest on the playing blaze; and my fingers close fast and passionately over that little hand, like a swift night cloud shrouding the pale tips of Dian; and my eyes draw nearer and nearer to those blue, laughing, pitying, teasing eyes, and my arm clasps round that shadowy form—and my lips feel a warm breath, growing warmer and warmer—

Just here the maid comes in and throws upon the fire a panful of anthracite, and my sparkling sea-coal reverie is ended.

II.

ANTHRACITE.

It does not burn freely, so I put on the blower. Quaint and good-natured Xavier de Maistre would have made, I dare say, a pretty epilogue about a sheet-iron blower; but I cannot.

I try to bring back the image that belonged to the lingering bituminous flame, but with my eyes on that dark blower how can I?

It is the black curtain of destiny which drops down before our brightest dreams. How often the phantoms of joy regale us, and dance before us, golden-winged, angel-faced, heart-warming, and make an Elysium in which the dreaming soul bathes, and feels translated to another existence; and then—sudden as night or a cloud—a word, a step, a thought, a memory will chase them away, like scared deer vanishing over a gray horizon of moorland!

I know not justly if it be a weakness or a sin to create these phantoms that we love, and to group them into a

paradise—soul-created. But if it is a sin, it is a sweet and enchanting sin; and if it is a weakness, it is a strong and stirring weakness. If this heart is sick of the falsities that meet it at every hand, and is eager to spend that power which Nature has ribbed it with on some object worthy of its fullness and depth, shall it not feel a rich relief, nay more, an exercise in keeping with its end, if it flow out, strong as a tempest, wild as a rushing river, upon those ideal creations which imagination invents, and which are tempered by our best sense of beauty, purity and grace?

—Useless, do you say? Aye, it is as useless as the pleasure of looking hour upon hour over bright landscapes; it is as useless as the rapt enjoyment of listening, with heart full and eyes brimming, to such music as the "Miserere" at Rome; it is as useless as the ecstasy of kindling your soul into fervor, and love, and madness, over pages that reek with genius.

There are, indeed, base-moulded souls who know nothing of this; they laugh; they sneer; they even affect to pity. Just so the Huns under the avenging Attila, who had been used to foul cookery and steaks stewed under their saddles, laughed brutally at the spiced banquet of an Apicius!

—No, this phantom-making is no sin; or if it be, it is sinning with a soul so full, so earnest, that it can cry to Heaven cheerily, and sure of a gracious hearing—*peccavi, misericorde!*

But my fire is in a glow, a pleasant glow, throwing a tranquil, steady light to the farthest corner of my garret. How unlike it is to the flashing play of the sea-coal!—unlike as an unsteady, uncertain working heart to the true and earnest constancy of one cheerful and right.

—After all, thought I, give me such a heart; not bent on vanities, not blazing too sharp with sensibility, not throwing out coquettish jets of flame, not wavering and meaningless with pretended warmth, but open, glowing and strong. Its dark shades and angles it may have; for what is a soul worth that does not take a slaty tinge from those griefs that chill the blood? Yet still the fire is gleaming; you see it in the crevices; and anon it will give radiance to the whole mass.

—It hurts the eyes, this fire; and I draw up a screen painted over with rough but graceful figures.

The true heart wears always the veil of modesty (not of prudery, which is a dingy, iron, repulsive screen). It will not allow itself to be looked on too near—it might scorch; but through the veil you feel the warmth; and through the pretty figures that modesty will robe itself in you can see all the while the golden outlines, and by that token you *know* that it is glowing and burning with a pure and steady flame.

With such a heart the mind fuses naturally—a holy and heated fusion; they work together like twins-born. With such a heart, as Raphael says to Adam,

Love hath his seat
In reason, and is judicious.

But let me distinguish this heart from your clay-cold, lukewarm, half-hearted soul; considerate, because ignorant; judicious, because possessed of no latent fires that need a curb; prudish, because with no warm blood to tempt. This sort of soul may pass scatheless through the fiery furnace of life; strong only in its weakness; pure, because of its failings; and good only by negation. It may triumph over love, and sin, and death; but it will be a triumph of the beast, which has neither passions to subdue, or energy to attack, or hope to quench.

Let us come back to the steady and earnest heart, glowing like my anthracite coal.

I fancy I see such a one now; the eye is deep and reaches back to the spirit; it is not the trading eye,

weighing your purse; it is not the worldly eye, weighing position; it is not the beastly eye, weighing your appearance; it is the heart's eye, weighing your soul! It is full of deep, tender and earnest feeling. It is an eye which, looked on once, you long to look on again; it is an eye which will haunt your dreams—an eye which will give a color, in spite of you, to all your reveries. It is an eye which lies before you in your future, like a star in the mariner's heaven; by it, unconsciously, and from force of deep soul-habit, you take all your observations. It is meek and quiet; but it is full, as a spring that gushes in flood; an Aphrodite and a Mercury—a Vacluse and a Clitumnus.

The face is an angel face. No matter for curious lines of beauty; no matter for popular talk of prettiness; no matter for its angles or its proportions; no matter for its color or its form—the soul is there, illuminating every feature, burnishing every point, hallowing every surface. It tells of honesty, sincerity and worth; it tells of truth and virtue; and you clasp the image to your heart as the received ideal of your fondest dreams.

The figure may be this or that, it may be tall or short; it matters nothing—the heart is there. The talk may be soft or low, serious or piquant—a free and honest soul is warming and softening it all. As you speak it speaks back again; as you think it thinks again (not in conjunction, but in the same sign of the Zodiac); as you love it loves in return.

It is the heart for a sister, and happy is the man who can claim such! The warmth that lies in it is not only generous, but religious, genial, devotional, tender, self-sacrificing, and looking heavenward.

A man without some sort of religion is at best a poor reprobate, the football of destiny, with no tie linking him to infinity and the wondrous eternity that is begun with him; but a woman without it is even worse—a flame without heat, a rainbow without color, a flower without perfume!

A man may in some sort tie his frail hopes and honor, with weak, shifting ground tackle, to business or to the world; but a woman without that anchor which they call Faith is adrift and a wreck! A man may clumsily contrive a kind of moral responsibility out of his relations to mankind; but a woman in her comparatively isolated sphere, where affection and not purpose is the controlling motive, can find no basis for any system of right action but that of spiritual faith. A man may craze his thought and his brain to trustfulness in such poor harborage as fame and reputation may stretch before him; but a woman—where can she put her hope in storms, if not in Heaven?

And that sweet trustfulness, that abiding love, that enduring hope, mellowing every page and scene of life, lighting them with pleasantest radiance, when the world-storms break like an army with smoking cannon; what can bestow it all but a holy soul-tie to what is above the storms, and to what is stronger than an army with cannon? Who that has enjoyed the counsel and the love of a Christian mother but will echo the thought with energy and hallow it with a tear?—*et moi, je pleurs!*

My fire is now a mass of red-hot coal. The whole atmosphere of my room is warm. The heart that with its glow can light up and warm a garret with loose casements and shattered roof is capable of the best love—domestic love. I draw farther off, and the images upon the screen change. The warmth, the hour, the quiet, create a home feeling; and that feeling, quick as lightning, has stolen from the world of fancy (a Promethean theft) a home object, about which my musings go on to drape themselves in luxurious reverie.

—There she sits, by the corner of the fire, in a neat

home dress of sober yet most adorning color. A little bit of lace ruffle is gathered about the neck by a blue ribbon, and the ends of the ribbon are crossed under the dimpling chin, and are fastened neatly by a simple, unpretending brooch—your gift. The arm, a pretty taper arm, lies over the carved elbow of the oaken chair; the hand, white and delicate, sustains a little home volume that hangs from her fingers. The forefinger is between the leaves, and the others lie in relief upon the dark embossed cover. She repeats, in a silver voice, a line that has attracted her fancy; and you listen—or, at any rate, you seem to listen—with your eyes now on the lips, now on the forehead and now on the finger, where glitters like a star the marriage ring—little gold band at which she does not chafe—that tells you she is yours!

—Weak testimonial, if that were all that told it. The eye, the voice, the look, the heart, tells you stronger and better that she is yours. And a feeling within, where it lies you know not, and whence it comes you know not, but sweeping over heart and brain like a fire-flood, tells you, too, that you are hers! Irremediably bound as Hortensio in the play:

I am subject to another's will, and can
Nor speak, nor do, without permission from her.

The fire is warm as ever; what length of heat in this hard burning anthracite! It has scarce sunk yet to the second bar of the grate, though the clock upon the church tower has tolled eleven.

—Aye, mused I, gayly, such a heart does not grow faint; it does not spend itself in idle puffs of blaze; it does not become chilly with the passing years; but it gains and grows in strength and heat, until the fire of life is covered over with the ashes of death. Strong or hot as it may be at the first, it loses nothing. It may not, indeed, as time advances, throw out, like the coal fire when new lit, jets of blue sparkling flame; it may not continue to bubble and gush like a fountain at its source, but it will become a strong river of flowing charities.

Clitumnus breaks from under the Tuscan mountains almost a flood. On a glorious spring day I leaned down and tasted the water as it boiled from its sources. The little temple of white marble, the mountain sides gray with olive orchards, the white streak of road, the tall poplars of the river margin were glistening in the bright Italian sunlight around me. Later I saw it when it had become a river—still clear and strong, flowing serenely between its prairie banks, on which the white cattle of the valley browsed; and still farther down I welcomed it where it joins the Arno—flowing slowly under wooded shores, skirting the fair Florence and the bounteous fields of the bright Cascino, gathering strength and volume, till between Pisa and Leghorn, in sight of the wondrous Leaning Tower and the ship masts of the Tuscan port, it gave its waters to its life's grave—the sea.

The recollection blended sweetly now with my musings over my garret gate, and offered a flowing image to bear along upon its bosom the affections that were grouping in my reverie.

It is a strange force of the mind and of the fancy that can set the objects which are closest to the heart far down the lapse of time. Even now, as the fire fades slightly and sinks slowly towards the bar, which is the dial of my hours, I seem to see that image of love which has played about the fire-glow of my grate years hence. It still covers the same warm, trustful, religious heart. Trials have tried it; afflictions have weighed upon it; danger has scared it and death is coming near to subdue it; but still it is the same.

The fingers are thinner; the face has lines of care and sorrow, crossing each other in a web-work that makes the golden tissue of humanity. But the heart is fond and

steady; it is the same dear heart, the same self-sacrificing heart, warming, like a fire, all around it. Affliction has tempered joy and joy adorned affliction. Life and all its troubles have become distilled into an holy incense, rising ever from your fireside—an offering to your household gods.

Your dreams of reputation, your swift determination, your impulsive pride, your deep-uttered vows to win a name, have all sobered into affection; have all blended into that glow of feeling which finds its centre and hope and joy in home. From my soul I pity him whose soul does not leap at the mere utterance of that name.

A home! it is the bright, blessed, adorable phantom which sits highest on the sunny horizon that girdeth life! When shall it be reached? When shall it cease to be a glittering day-dream and become fully and fairly yours?

It is not the house—though that may have its charms; nor the fields carefully tilled and streaked with your own footpaths; nor the trees—though their shadow be to you like that of a great rock in a weary land; nor yet is it the fireside, with its sweet blaze-play; nor the pictures which tell of loved ones; nor the cherished books; but more far than all these—it is the presence. The *Lares* of your worship are there; the altar of your confidence is there; the end of your worldly faith is there; and adorning it all, and sending your blood in passionate flow, is the ecstasy of the conviction that *there* at least you are beloved; that there you are understood; that there your errors will meet ever with gentlest forgiveness; that there your troubles will be smiled away; that there you may unburden your soul, fearless of harsh, unsympathizing ears, and that there you may be entirely and joyfully yourself.

There may be those of coarse mould—and I have seen such, even in the disguise of women—who will reckon these feelings puling sentiment. God pity them! as they have need of pity.

—That image by the fireside, calm, loving, joyful, is there still; it goes not, however my spirit tosses, because my wish and every will keep it there unerring.

The fire shows through the screen, yellow and warm as a harvest sun. It is in its best age, and that age is ripeness.

A ripe heart! now I know what Wordsworth meant when he said:

The good die first.
And they whose hearts are dry as summer dust
Burn to the socket!

The town clock is striking midnight. The cold of the night wind is urging its way in at the door and window crevice; the fire has sunk almost to the third bar of the grate. Still my dream tires not, but wraps fondly round that image, now in the far-off, chilling mists of age, growing sainted. Love has blended into reverence; passion has subsided into joyous content.

—And what if age comes? said I, in a new flush of excitement; what else proves the wine? What else gives inner strength, and knowledge, and a steady pilot hand, to steer your boat out boldly upon that shoreless sea where the river of life is running? Let the white ashes gather; let the silver hair lie where lay the auburn; let the eye gleam farther back and dimmer; it is but retreating toward the pure sky-depths, an usher to the land where you will follow after.

It is quite cold and I take away the screen altogether; there is a little glow yet, but presently the coal slips down below the third bar, with a rumbling sound, like that of coarse gravel falling into a new dug grave.

—She is gone!

Well, the heart has burned fairly, evenly, generously, while there was mortality to kindle it; eternity will surely kindle it better.

—Tears indeed; but they are tears of thanksgiving, of resignation, and of hope.

And the eyes—full of those tears which ministering angels bestow—climb with quick vision upon the angelic ladder, and open upon the futurity where she has entered and upon the country which she enjoys.

It is midnight, and the sounds of life are dead.

You are in the death chamber of life; but you are also in the death chamber of care. The world seems sliding backward, and hope and you are sliding forward. The clouds, the agonies, the vain expectancies, the braggart noise, the fears, now vanish behind the curtain of the past and of the night. They roll from your soul like a load.

In the dimness of what seems the ending present, you reach out your prayerful hands toward that boundless future, where God's eye lifts over the horizon like sunrise on the ocean. Do you recognize it as an earnest of something better? Aye, if the heart has been pure and steady—burning like my fire—it has learned it without seeming to learn. Faith has grown upon it as the blossom grows upon the bud or the flower upon the slow-lifting stalk.

Cares cannot come into the dreamland where I live. They sink with the dying street noise and vanish with the embers of my fire. Even ambition, with its hot and shifting flame, is all gone out. The heart in the dimness of the fading fire-glow is all itself. The memory of what good things have come over it in the troubled youth-life bear it up, and hope and faith bear it on. There is no extravagant pulse-glow; there is no mad fever of the brain; but only the soul, forgetting, for once, all save its destinies and its capacities for good. And it mounts higher and higher on these wings of thought, and hope burns stronger and stronger out of the ashes of decaying life, until the sharp edge of the grave seems but a foot scraper at the wicket of Elysium.

But what is paper and what are words? Vain things! The soul leaves them behind; the pen staggers like a starveling cripple, and your heart is leaving it a whole length of the life course behind. The soul's mortal longings, its poor baffled hopes, are dim now in the light of those infinite longings which spread over it, soft and holy as day-dawn. Eternity has stretched a corner of its mantle toward you, and the breath of its waving fringe is like a gale of Araby.

A little rumbling and a last plunge of the cinders within my grate startled me, and dragged back my fancy from my flower chase, beyond the Phlegethon, to the white ashes that were now thick all over the darkened coals.

—And this, mused I, is only a bachelor dream about a pure and loving heart! And to-morrow comes cankerous life again. Is it wished for? or, if not wished for, is the not wishing wicked?

Will dreams satisfy, reach high as they can? Are we not, after all, poor, grovelling mortals, tied to earth and to each other? Are there not sympathies, and hopes, and affections which can only find their issue and blessing in fellow-absorption? Does not the heart, steady and pure as it may be, and mounting on soul-flights often as it dare, want a human sympathy perfectly indulged to make it healthful? Is there not a fount of love for this world, as there is a fount of love for the other? Is there not a certain store of tenderness cooped in this heart which must and *will* be lavished before the end comes? Does it not plead with the judgment and make issue with prudence year after year? Does it not dog your steps all through your social pilgrimage, setting up its claims in forms fresh and odorous as new blown heath bells, saying, Come away from the heartless, the factitious, the vain,

and measure your heart, not by its constraints, but by its fullness and by its depth? Let it run and be joyous!

Is there no demon that comes to your harsh night-dreams, like a taunting fiend, whispering, Be satisfied; keep your heart from running over; bridle those affections; there is nothing worth loving?

Does not some sweet being hover over your spirit of reverie like a beckoning angel, crowned with halo, saying, Hope on, hope ever; the heart and I are kindred; our mission will be fulfilled; Nature shall accomplish its purpose; the soul shall have its paradise?

—I threw myself upon my bed; and as my thoughts ran over the definite, sharp business of the morrow, my Reverie, and its glowing images that made my heart bound, swept away like those fleecy rain clouds of August, on which the sun paints rainbows, driving southward by a cool, rising wind from the north.

—I wonder, thought I, as I dropped asleep, if a married man with his sentiment made actual is, after all, as happy as we poor fellows in our dreams?

IK MARVEL.

Mineral Product of the West.

J. J. Valentine, Superintendent of Wells, Fargo & Co., has made the following statement of the mineral product in 1882 and 1883, west of the Mississippi, deduced from the business of the company:

	1882.	1883.
California.....	\$16,332,408	\$15,073,314
Nevada.....	10,366,376	3,771,621
Oregon.....	646,535	592,980
Washington.....	140,838	63,526
Alaska.....	240,000	105,000
Idaho.....	3,325,738	3,805,827
Montana.....	8,004,000	9,879,000
Utah.....	8,143,175	7,017,682
Colorado.....	25,933,265	24,310,000
New Mexico.....	3,637,132	3,413,519
Texas.....	257,597
Arizona.....	9,298,267	8,133,743
Dakota.....	2,855,127	2,823,009
Mexico (west coast).....	2,532,441	5,022,384
British Columbia.....	671,845	652,016
Total.....	\$92,411,835	\$90,113,612

The product of 1883 is divided as follows:

	Per Cent.	Total.
Gold.....	32.36	\$29,236,492
Silver.....	52.30	47,229,644
Copper.....	6.30	6,483,921
Lead.....	9.04	8,163,550
Total.....	100.00	\$90,113,612

CHRONOLOGY OF EVENTS.

January.

- 1—Fire at Jacksonville, Or.; loss, \$50,000.
- 2—Railway collision near Toronto, Can.; 26 killed and many wounded.
- 3—Work suspended on Baker City branch O. R. & N. Co.
- 4—Henry Villard resigns the Presidency of N. P. R. R. Co.... Cold wave in the East; thermometer at zero in Atlanta, Ga.
- 5—Cold wave continues; 24 degrees below zero at Indianapolis.... Convent destroyed by fire at Belleville, Ill.; 26 lives lost.
- 7—Perpetual injunction granted by United States Circuit Court against hydraulic miners in California.... Supreme Court sustains Portland high license ordinance.
- 8—Severe wind and snow storm on Atlantic Coast.
- 9—Khedive of Egypt decides to abandon the Soudan.
- 10—Chinese block the Canton River.
- 13—Constitutional Convention of Montana convenes at Helena.
- 14—Steamer *Celtic* towed into Queenstown by *Britannic*, disabled.... Body of Charles Delmonico, the great restaurateur, found near New York.... Hoadly inaugurated Governor of Ohio.... George F. Edmunds re-elected President of the Senate.
- 15—Great railroad disaster in the oil regions of Pennsylvania; train runs into burning river of oil.... Abbott inaugurated Governor of New Jersey.... John Elfus hanged at Walla Walla for the murder of Dan Haggerty.... Statue of Oliver P. Morton unveiled at Indianapolis.
- 16—Delegates representing 150,000 workmen demand employment of the French Chamber of Deputies.... Khartoum captured by followers of the False Prophet and many people massacred.... Woman Suffrage bill passes the House in British Columbia.
- 17—Opening of Canadian Parliament.... Robert Harris elected President of N. P. R. R. Co.
- 18—Mexican reciprocity treaty rejected by the Senate.... Steamer *City of Columbus* wrecked on coast of Martha's Vineyard, Mass.; 97 lives lost.... Slight earthquake in New Hampshire and North Carolina.... \$20,000 fire at Dayton, Or.
- 19—\$10,000 fire at Prineville, Or.
- 20—\$50,000 fire at The Dalles, Or.
- 21—Sweeping resolutions in favor of forfeiting unearned land grants pass the House almost unanimously.
- 24—Explosion of gas in Crested Butte coal mine, Colorado; many lives lost.
- 27—Wind storm does great damage in England.
- 29—Attempt to assassinate the Governor of Chihuahua, Mexico.