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THE  
RESOURCES  
OF THE  
ROCKY MOUNTAINS,

BEING A BRIEF DESCRIPTION OF THE  
MINERAL, GRAZING, AGRICULTURAL AND TIMBER RESOURCES  
OF  
COLORADO, UTAH, ARIZONA, NEW MEXICO,  
WYOMING, IDAHO, MONTANA,  
AND DAKOTA.

BY  
E. J. FARMER,  
AUTHOR OF STATISTICS IN RELATION TO GOLD AND SILVER.

"WESTWARD THE STAR OF EMPIRE TAKES ITS WAY."  
*Course?*

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## ARIZONA.

**"The Copper Queen of the Rockies"—Her Mines of Gold, Silver, Copper and Lead—Extensive Coal Fields, Lagoons of Salt, and Forests of Petrified Trees—Grand Canons, Indian Tribes, and Painted Desert—Mining Output for 1882, \$11,700,000.**

The Territory of Arizona, long infested by hostile savages, is fast coming under the wand of civilization. It is a portion of territory, ceded to the United States by Mexico, by virtue of the Gaudalupe Hidalgo treaty, and the Gadsen purchase, in 1854. The origin of the name is in some obscurity; but the following definitions are given as the most authentic:

First, that it is derived from the Pima Indian words, "Ari," a maiden; and "Zon," a valley. Second, from the Mohave Indian words, "Ari," beautiful, and "Urnia," a maiden; and, third, from "Ari," beautiful, and "Zona," from the Spanish, a zone, and meaning the beautiful zone.

Arizona was struck off from New Mexico, by act of Congress, passed February 24, 1863. This portion of New Spain was visited by white men as early as 1540, when Vasquez de Coronado, with his followers, traversed it, in search of the seven cities of Cibola. In 1560, Spanish explorers made a settlement, near the present City of Tucson. St. Augustine, Florida, was settled in 1565, and Santa Fe, New Mexico, in 1555; these being the three first settlements in America. In 1720 the Jesuit Fathers had a number of flourishing missions here, which, in despite of the raids of the savage Apaches, were

continued until 1827, when they were finally suppressed by the Mexican Government.

#### POSITION AND AREA.

This Territory lies between the 31st and 37th parallels of latitude, and the 109th and 115th of longitude, west. It is bounded, on the north, by Utah; east, by New Mexico; south, by the Province of Sonora, in Old Mexico; and west, by California and Nevada; the Colorado River, however, being the boundary line. It contains 114,000 square miles, equal to 73,000,000 acres, and supports a population of 50,000, which does not include the Indians. It has an elevation above the sea, of 100 to 7,000 feet; while a few of its mountain peaks reach up to 10,000; one, Sierra Blanco, to 11,300 feet; and one, San Francisco peak, to 12,500 feet. Its mean elevation, however, is 4,300 feet above the level of the ocean. The surface features of the Territory consist, largely, of elevated plateaus, while the mountain ranges extend from northwest to southeast, over its entire length.

#### CHARACTER OF COUNTRY.

These ranges are broken and detached, for the most part; while narrow valleys and broad plains lie between them. The northern portion of the Territory contains the most extensive table lands; amounting to two-fifths of the entire area. Many of these are cut with deep canons by the rivers that pass through them; while the plateaus are covered with nutritious grasses, and it is said that nowhere on the continent can be found a more striking panorama of mountain, valley, river, and canon. The eastern portion exhibits a long line of extinct volcanoes; while the southern part contains mountain ranges, with many fertile valleys. The southwestern portion is almost a desert, for here the streams, which flow down from the mountains, are small, and, in some cases disappear entirely, being absorbed by the thirsty soil. The northwestern portion, like the northern, has groups of mountains, clothed with timber; while the

central portion is the garden of Arizona. Prescott, the capital of the Territory, is located here, around which, for a space of thirty miles, the mountains are well timbered; the valleys covered with grasses, and the otherwise dreary and volcanic empire, finds here its gem of green. This mighty Territory is virtually drained by one river, and that is the Colorado, which enters its borders in the north-central region, passing through about one-fourth of the Territory, on its way south, when it suddenly turns westward, across to the Nevada line, down which it zigzags to the California border, where it has cut its way southward to the Gulf of California. This river, rises in the Wind River Mountains of Wyoming, and has a length, with its tributaries, of 2,500 miles. It has carved its way for hundreds of miles, amid the crevases rent by some mighty force, through solid granite, and volcanic rocks, and now rushes on through canons, the deepest in the world.

#### GRAND CANONS.

In Northern Arizona are the Black Canon, Virgin Canon, Marble Canon, and, the grandest of all, the Grand Canon, none of which are less than 4,000 to 6,000 feet deep. In 1869, Major Powell, with a party, explored this river from its source to its mouth, passing through all these grand canons in small boats or skiffs, to the Gulf of California. This river is navigable to steamers of several hundred tons burden, all the year around, for a distance of 500 miles above the Gulf; and steamers have been as far as 640 miles up the river, the distance to the Grand Canon being 700 miles, from its mouth. The Colorado River absorbs all the other rivers of the Territory, the chief of which are the Colorado-Chiquito, Rio Verde, and the Gila. In the valleys of these rivers, and their tributaries, is found what agricultural land the territory possesses, and which is estimated at about 3,000,000 of acres, if sufficient water can be had for irrigation. Only 45,000 acres are under cultivation, at present, altogether by irrigation, at a cost

of about \$2.50 an acre per annum. Grains are sown in October, November, and December, and harvested in May, June, and July; and during their growth, are flooded from three to five times. By this process, corn, wheat, barley, and alfalfa, are successfully produced. Besides these cereals, vegetables, as potatoes, cabbage, onions, turnips, beans, etc., are grown in abundance. Sugar cane is said to be well adapted to the climate and soil; and in some of the valleys, particularly those of the Gila, peaches, pears, grapes, figs, and apricots, flourish. Only a very limited amount of land can be cultivated, however, until artesian wells have been sunk; which are the hope of Arizona, so far as agriculture is concerned. This Territory is both hot and dry, as the following statistics will show: At Tucson, the mean temperature is 67 deg., *F.*; rain-fall only 0.55 of an inch per year; at Prescott, 54 deg., *F.*, rain-fall 13.12 inches; at Fort Mohave, the mean temperature is 69.66 deg., *F.*, and at Fort Yuma, 68.41 deg. The places last named are regarded as two of the hottest on the globe. The climate, in winter, in Southern Arizona, is said to be truly delightful; the air being balmy and pure, the skies bright, and the nights brilliant with countless stars. It will prove a safe retreat from the storms of our Northern winters.

#### GRAZING LANDS.

Arizona has considerable grazing land in her valleys, and millions of acres of waste land could be added to her grazing domain, if artesian wells were employed for irrigating purposes. Her central counties contain the best grazing lands, and her stock business is increasing with her other interests. There are already 88,000 cattle, and 400,000 sheep in the Territory, which thrive on the rich gramma grasses growing in the valleys and on the hills. Here they are safe from the heavy snows of the more northern climes, a fact that will doubtless make Arizona a favorite place for flocks and herds.

## FLORA AND FAUNA.

The flora of Arizona embraces many varieties, found in no other part of the United States. It is the home of the giant cactus, a plant that sometimes attains a diameter of two feet, and grows to a height of forty feet. It has a pale green color, is covered with thorns, and bears a fruit, tasting like a fig, which is prized by the Indians. The Marguery, or Meschel, known as the century plant, grows every where in Arizona; and is considered one of the most valuable. The Indians make ropes from its fiber, and paper is also manufactured from it. The plant sends up a slender stock, ten feet high, which produces at its top a yellow flower; and this, when cooked, is considered one of the luxuries of the red man's table. They also make an intoxicating liquor from the plant, called "Tizwin."

The Bisnaga, called the "Well of the Desert," is another of Arizona's flora—a bowl shaped cavity cut in the center, will soon fill with water, affording the thirsty traveler relief. The Amole, or soap weed, grows over the table-lands of Arizona, and attains a height of four feet. Its fiber is extensively used for cloth, paper and ropes; and its roots make a good substitute for soap. The Hedeundilla, or grease wood, grows here extensively; from which a gum is obtained of fine medicinal qualities. Cedar, pine, and juniper, are abundant, in localities; while oak, ash, elder, walnut and cottonwood, are found along the creeks and rivers. The mesquite is found where the soil is good. It is a close-grained wood, valuable for manufacturing; and makes handsome shade trees. The ironwood resembles the mesquite, admits of a high polish, and is brittle, heavy, and hard; and when dry can scarcely be cut.

Among the fauna of Arizona are found bear, congar, deer, antelope, mountain sheep, foxes, wild cats, beaver, squirrels, etc.; Of birds, there are eagles, wild turkeys, ducks, quails, partridge, pigeons, and crows, in abundance. Of singers, the



mocking birds, and vireos, take first rank, while the melodious ? hooting of the owls makes night hideous. The plumage of the birds is brilliant, and they form a happy contrast to the horned toads, lizards, scorpions, tarrantulas, and ugly beaded monsters, that crawl amid the rocks, or hide beneath the sand, of this semi-tropical Territory.

The manufacturing interests of Arizona are very limited, being confined chiefly to lumber and flour. There are twelve flour mills and thirteen saw mills in the Territory, one ice factory, several wagon factories, and one foundry, at Tombstone, where castings of many descriptions are made. All other articles required, are imported; while their wool, hides, gold, silver, copper, and lead, are all exported. Wages are high; so is the cost of living. Laborers get \$3 per day; miners, \$4; blacksmiths and carpenters, \$5; masons and engineers, \$6; and the supply is said to be in excess of the demand. For men who have some means, Arizona, like all the States and Territories of the Rocky Mountains, presents many advantages; but for those who have to depend solely upon their daily labor it is not a paradise.

#### TOWNS AND CITIES.

Arizona is divided into ten counties, named as follows: Mohave, Yavapai, Apache, Maricopa, Pinal, Gila, Graham, Cochise, Pima, and Yuma. The principal towns are Tucson, Tombstone, Prescott, St. Johns, Galeyville, Globe, Florence, Juma, Mineral Park, Pinal, Harshaw, Silver King, Charlestown, Phoenix, and Safford. The largest of these is Tucson, which has a population of 7,500; next comes Tombstone, with her 6,000, and Prescott, with 2,000. The business of Tucson, for 1880, amounted to \$7,000,000. The cities and towns of Arizona, like all those of the Rocky Mountain region, contain an active and energetic population. Most of them are supplied with one or more newspapers, which are doing much toward making the resources of the Territory known. Two

lines of railway are in operation, and others are projected. The Southern Pacific road crosses the southern portion of the Territory, connecting, by stage lines, with all the principal mining camps. The Atlantic & Pacific road will pass through the north-central portion of the Territory. This line extends westward into Arizona, from Albuquerque, in New Mexico, where it connects with the Atchison, Topeka & Santa Fe Railway. It will, probably, be completed across the Territory during the present year, and will open up a region rich in minerals, containing, also, fine timber and grazing lands.

#### INDIANS.

Arizona has within her borders 25,000 Indians. These are but the remnants of tribes that have made a bloody record. The very name, "Apache," is the synonym for treachery and blood. Thanks to United States muskets, these savages were conquered in 1874, by General Crook, and placed on reservations. In these reservations there are 15,000 square miles, or 9,000,000 acres of land. But the day is not far distant when these remnants of the red men will not exist.

#### MINERAL RESOURCES.

The mineral resources of Arizona, like those of the entire region of the Rockies, are only just beginning to be known; and yet the production of the Territory, in gold, silver, copper, and lead, for 1882, was \$11,700,000, giving Arizona the fourth place in the list. As the Territory is full of mountains, so do the mountains seem to be full of mineral; and gold, silver, copper, lead, coal, and salt, have been discovered. Gold, here, is mostly found in veins of quartz; sometimes it is combined with iron and copper pyrites, while from placers, in the beds of some streams it is collected in a pure state. Silver is found here in nearly all its combinations; as carbonates, sulphurets, chlorides, bromides, silver-glance and as pure metal. The proportion

of rich galena ores, as compared with those of Colorado is extremely small, yet, of other silver combinations, there are an abundance. The copper deposits of Arizona are probably the finest on the continent; the Lake Superior region, not excepted. Mining may be said to have recommenced, in this portion of New Spain, in 1860, for the precious metals have been known to exist here for more than two hundred years, and were mined at that time by the Spaniards.

#### TOMBSTONE DISTRICT.

In Cochise county is located the famous Tombstone district, which is five miles in extent from north to south, by eight, from east to west. Here silver occurs, mostly as a chloride, and the present output is about \$500,000 per month. The Tough Nut is the leading mine, and has a twenty-foot vein of mineral. Here, also, are the Grand Central, Contention-Consolidated, Girard, Head Center, Vizina, Empire, Tranquility, Way Up, Lucky Guss, Gilded Age, Junietta, Silver Bell, Monitor, Merrimac, True Blue, Bradshaw, etc. These are the chief producing mines of the district. They are capitalized for from two to ten millions of dollars each, and have veins varying in width from two to twenty feet, on which the deepest workings are down 600 feet. These ores pay from fifty to one hundred dollars per ton, and the output, for 1882, of the Contention-Consolidated, was \$1,814,000; while that of the Grand Central was \$1,358,000, and of the Tombstone Gold and Silver Mining Co., \$1,440,000. The California, Turquoise, Dos Cabegas, Swishelm, and Hartford districts, in this county, contain many promising, as well as paying mines. Pima county, the oldest mining region in the United States, has in the Harshaw, Washington Camp, Tyndall, Aztec, Arivaca, Oro Blanco, Empire, Silver Hill, Papago, and Helvetia districts, mines of gold, silver, copper, and lead.

Yavapai county is the leading gold producing section of the Territory. This metal is found in nearly every portion of

its mineral belt, and in the beds of its streams. The mining districts here are the Peck, Tiger, Tip Top, Hassayampa, Walker, Big Bug, Groom Creek, Cherry Creek, Weaver, Martinez, and Silver Mountain. In all of these are many fine mining properties. The veins are from two to five feet wide, and contain rich silver and copper ores, besides those of gold. In the Weaver district the Leviathan has an immense quartz ledge, rich in gold, and it is estimated that 2,000,000 tons of ore are in sight, the vein being 300 feet wide. In Pinal county the mining districts are Pioneer, the Silver King, Mineral Hill, Quarjarta, Saddle Mountain, Randolph, and Casa Grande.

#### SILVER KING.

Here the Silver King is the royal mine, whose ore body, in places, is eighty-five feet wide, carrying silver, in many combinations. It has one of the finest seams of native silver ever discovered, and the only exhibits of native silver at the Denver Exposition that compared with it, came from Grant county, New Mexico, and from Gunnison county, Colorado. The production of this mine, for 1882, was \$741,000. Its main shaft is down nearly 700 feet.

Gila county adjoins Pinal on the northeast, and has the same character of mineral. Gold, silver, copper, lead, coal and iron are found here. Its mining districts are, Globe, Raymond Basin, and McMillenville. The ores are mostly free-milling, and are rich in metal. The McMorris mine, in Raymond Basin, has yielded \$400,000, to January, 1883.

Mohave county has its full share of minerals, and in the districts of Hualapai, Cerbat, Stockton, Maynard, Cedar Valley, Hackberry, San Francisco, Gold Basin, Owens, and Greenwood, are found nearly all the minerals for which Arizona is famous. Over \$300,000 have been taken from the Hackberry mine, and \$800,000 from the McCracken lode. In these districts, hundred of mines are being worked for the precious metals.

Yuma county contains the Castle-Dome district, and those of Montezuma, Silver, Ellsworth, Plomosa, Hearnvar, and Bill Williams Fork. Gold was found here, in placers, as early as 1862, and it is estimated that fully \$1,500,000 were taken out in the space of three years. The mines of the Castle-Dome district are said to have yielded \$2,000,000 up to the present time, in silver.

Maricopa county has its Cave Creek, Winnifred, and Myers districts, all more or less rich in minerals. The Vulture Mine, which is located in the northwestern portion of this county, is reported to have produced more money than any mine in the Territory, its yield being placed at \$3,000,000.

Graham and Apache counties, owing to difficulty of access, have not been much developed, but are, nevertheless, claimed to be rich in mineral resources, having not only gold, silver, lead, iron, and copper, but great coal and salt deposits.

#### COAL AND SALT DEPOSITS.

The salt deposits of Arizona are regarded as nearly equal to those of Utah. A hundred miles from Phoenix, on Salt River, there is a mountain of salt. Near Camp Verde, there are a number of salt hills. Salt lagoons are met with in Apache county. A small lake from which 1,000,000 pounds are taken annually, is in this county, near the borders of New Mexico. The salt is found at the bottom of the shallow water into which wagons are driven and the salt shoveled up.

The coal measures of the Territory are extensive. They are found in the northern and eastern portions, and extend both into Utah, on the north, and New Mexico, on the east. It is estimated that these coal measures cover an area of 30,000 square miles. The coal is bituminous, and is considered to be of good quality, burns freely, makes a hot fire, and leaves but few ashes. It is found, also, near the Painted Desert, in Yavapai county; on Deer Creek, near the Gila; in Pinal county,

east of the San Pedro River, and near Camp Apache. In this coal region are whole forests of petrified trees, some of which are reported to be three feet in diameter, and fifty feet in length. These coal measures are from three to thirty feet in thickness, and are sufficient to supply, forever, not only the wants of Arizona, but those of the entire Pacific coast.

#### COPPER DEPOSITS.

The vast resources of Arizona, in copper, must make her one of the richest mining regions in America. At Bisbee, in Cochise county, are the rich deposits of the Copper Queen mine, and a host of other promising properties. The Queen's vein is one hundred and twenty feet wide, and the ore averages twenty-two per cent. pure metal; being a carbonate and a red and black oxide. Two thirty-ton smelters are turning out thirteen tons of pure copper daily, and the mine has produced \$2,000,000 up to January, 1883, with 74,000 tons of ore in sight. Pima county has rich copper ores, in the Santa Rita range, twenty-five miles south of Tucson. The veins vary in size; some being nearly fifty feet wide, yielding fifteen to twenty per cent of pure copper. The Silver Ball district, in this county, has immense deposits of copper. Yavapai county contains high grade copper ores, in various places. In the Black Hills, twenty-five miles north-east of Prescott, these ores are being mined from veins eight to sixteen feet wide. In Pinal county, on Mineral Creek, northeast of Florence, are many rich copper mines. The veins vary from seven to fourteen feet in width, and are said to average twenty-five per cent. pure metal. In both Mohave and Yuma counties, there are also rich deposits of copper. In the Bill Williams Fork district, the Planet mine has produced 6,000 tons of copper ore, which has yielded from twenty to sixty per cent. of pure copper. In Graham county, the Longfellow copper mines are already famous. A mountain of the mineral has been discovered here, and ore is encountered in whatever direction drifts and tunnels have been run, while

thousands of tons have already been taken from the mines. It is doubtful if there are any deposits of copper in the known world superior to those Arizona possesses.

**THE THREE QUEENS.**

Colorado is the Silver Queen, Utah the Iron Queen, and Arizona the Copper Queen of the Rockies.

