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THE

RESOURCES OF ARIZONA.

ITS MINERAL, FARMING, GRAZING AND TIMBER LANDS;
ITS HISTORY, CLIMATE, PRODUCTIONS, CIVIL AND
MILITARY GOVERNMENT, PRE-HISTORIC
RUINS, EARLY MISSIONARIES,
INDIAN TRIBES, PIONEER
DAYS, Etc., Etc.

THIRD EDITION.

REVISED AND ENLARGED, WITH NEW MAP AND ILLUSTRATIONS.

BY PATRICK HAMILTON.



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PREFACE TO THIRD EDITION.



The following pages present a truthful picture of the Arizona of to-day; its lights and shadows; its varied resources, and its grand possibilities. A residence of many years in the Territory has given the author advantages which those who have preceded him in the same field, did not possess; and nothing has been omitted which can be of interest to people seeking information about a region so little known and so generally misrepresented.

In the compilation of the work, the following authorities have been consulted: Vanegas' *Noticia de California*; "Travels of the Jesuits;" Bancroft's "History of the Northern Mexican States;" Ward's "Mexico;" Mowry's "Arizona and Sonora;" Hinton's "Handbook of Arizona;" Ross Browne's "Apache Country." To Col. H. A. Bigelow and Geo. H. Tiuker, Esq., Prescott; Arthur Laing, Esq., Tombstone; Judge J. M. Murphy, Mineral Park; Thos. F. Weedon, Esq., Florence, and A. H. Hackney, Esq., Globe, the writer is under many obligations for valuable assistance. The illustrations are from photographs by J. C. Burge, Flagstaff; C. H. Rothrock, Phoenix, and D. F. Mitchell, Prescott.

The present edition has been revised and enlarged. It contains a new map of the Territory, expressly engraved for the work, and presents many new topics not touched upon before. Although a Gradgrind may delight in statistics, to the average reader they are apt to be wearisome. It has been the aim of the writer to present dry facts in a garb as attractive as the proprieties of truth would permit, or the capacity of his mental wardrobe would allow. How well he has succeeded in this as in all other respects, it is left for the reader to say.

PATRICK HAMILTON.

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CHAPTER I.

AN HISTORICAL OUTLINE.

THE sixteenth century was prolific in memorable events that make many a thrilling page in modern history. None have a greater attraction than those which narrate the doings of the Spanish conquerors in the New World. The glamour of romance which the early chroniclers threw around the lives and the deeds of those famous freebooters is not yet dispelled; and the intrepidity, daring, personal bravery and brilliant achievements of Cortez, Pizarro, Alvarado and Balboa have a fascination for every student of history. Their avarice, selfishness and cruelty have left a blot on their memory; but their fame is more than half redeemed by the wonderful work they wrought. The grandeur of their conquests has covered with a halo of glory their personal failings and imperfections; and the desperate adventurer is forgotten in the hero whose invincible sword conquered an empire. No hardship was too great or no danger too appalling to daunt the hearts of those indomitable free lances. Any enterprise, however desperate, that promised glory or gain, always found in them ready recruits and enthusiastic supporters. No part of the New World was too distant or too dangerous for them to penetrate. Long before other European nations thought of colonizing the western hemisphere, the Spaniards had sent expeditions through all that vast region now embraced by Mexico, Central America, Arizona, New Mexico, Texas and Colorado. The imperfect records of these various expeditions read like some tale of fiction; and the reckless bravery, the dauntless energy, and the unconquered will of the old

cavaliers have never been surpassed, before or since. To those pioneers of the western world we are indebted for our first glimpse of the country whose present condition is portrayed in the following pages. But long before the coming of the Caucasian another people and a different civilization flourished here; but oblivion has so completely swallowed up their identity that they cut no figure in our annals.

Arizona is an olden land with a modern history. That it was once the home of a semi-civilized race, there is ample evidence in the ruins left by its former occupants, in nearly every valley and mountain range. The origin and history of the people who once held sway in this remote region of the western world are lost in the mists of antiquity, and the lengthening shadows of time afford to their modern successors but a dim conjecture as to who they were, whence they came, and what were the causes which led to their complete extinction. These questions suggested themselves to the first Europeans who penetrated the territory now known as Arizona, nearly three hundred and fifty years ago, and the answers to them were as indefinite then as they are to-day. There is every reason to believe that the most interesting epoch in Arizona's history lies buried in those mysterious mounds which are an enigma alike to the savant and the sightseer; and the relics which are dug from them, suggest mutely, yet eloquently, the time when every valley smiled with prosperity; when mountain and *mesa* were covered with flocks and herds; when towns and cities adorned the plain, and a happy and contented people enjoyed the gifts of bounteous nature in this favored land. This was the golden age of Arizona; but not even tradition gives a whisper as to the causes which brought to so sudden an ending, a civilization at once so extensive and unique.

The modern history of the region now embraced within the limits of Arizona Territory begins with the advent of the first Spanish adventurers. More than a quarter of a century before their countrymen laid the foundations of St. Augustine, and long before Captain John Smith established the "first families" at Jamestown, or the Puritan Pilgrims had sighted the inhospitable shores of Massachusetts Bay, the daring *Conquistadores* had penetrated the wilds of Arizona and New Mexico. To Alvar Nuñez Cabeza de Vaca belongs the honor of being the first European to

set foot upon Arizona soil. He was treasurer and alcalde of the unfortunate expedition of Panfilo de Narvaez to the coast of Florida, in 1527. Casting anchor in Tampa Bay, Narvaez, with three hundred and forty men, marched inland, after having arranged that the fleet should follow the coast. But the uniting of the sea and the land forces was never effected. After losing some vessels by storms and spending nearly a year cruising about the coast, the fleet bore away for Cuba, being unable to learn any tidings of the inland expedition.

Narvaez explored the interior for a considerable distance, suffering many hardships. But instead of the golden treasures and the Fountain of perpetual youth, which his excited imagination had pictured as lying hidden in the Land of Flowers, he found a wild and inhospitable region whose swamps swarmed with venomous and repulsive reptiles, and whose every breeze bore upon its wings the deadly malaria. After long and profitless wanderings, the expedition again reached the sea-board, but the fleet was nowhere in sight, nor could any traces of it be found. In their extremity the Spaniards made tools from their stirrups and other articles of iron, and built five boats. In these the remnant of the expedition, now reduced to a little over two hundred men, embarked for Cuba. The boat commanded by Cabeza de Vaca was stranded on an island, and the survivors, more dead than alive, fell into the hands of the savages. As no tidings of the other boats were ever received, it is supposed they were swallowed up by the hungry sea, with all their occupants.

According to the story of Alvar Nuñez, himself and companions became slaves to their captors. He remained with his Indian taskmasters for nearly six years, naked like themselves, and suffering great hardships. At the end of that time he effected his escape; but he only gained a change of masters, for he was soon again a slave in another tribe. Here he met Andreas Dorante, Alonso del Castillo Maldonado, and Estevan, an Arabian negro. These were also members of the expedition of Narvaez, who had been wrecked, and were now held in bondage by the Indians. With these Cabeza de Vaca soon agreed upon a plan of escape. They were in a desperate plight. Before them stretched hundreds of leagues of treacherous sea; behind them lay an unknown region of vast extent, never yet pressed by the foot of a European. As the only chance of

ever again seeing friends or civilization, they determined to penetrate the wilderness to the west, and endeavor to join their countrymen in northern Mexico. It was a bold resolve, but it was the only one that promised deliverance from their present terrible condition. To cross a continent, and brave the unforeseen dangers which lay in their path, required no ordinary daring, but those old Spaniards had hearts for any enterprise, and nerves of steel for any emergency.

Their wanderings and adventures read like some story of romance, and only a mere outline of it can be given here. The exact route of these first overland travelers is also a matter of some doubt. They waded the swamps and bayous of Florida, and reached the Indian towns of the region now embraced within the States of Georgia, Alabama and Mississippi. The wondering savages, as may be supposed, gazed with astonishment, not unmixed with awe, upon the first white men they had ever beheld. The negro, Estevan, was likewise the subject of wild conjecture and unbounded curiosity, he being the first of his race whom the red men had ever seen. Nuñez explained, as best he might, the cause of their unexpected appearance, and their desire to reach the European settlements on the distant Pacific. The natives treated the strangers kindly, supplied them with provisions, and provided comfortable quarters.

How long Cabeza de Vaca and his fellow-travelers remained with these people is not clear, but their stay was evidently a lengthy one. Bidding adieu at last to their kind entertainers, they turned their faces to the west and pushed on towards the "big water." They discovered the Mississippi nearly ten years before De Soto stood upon its banks and found a resting place beneath its turbid flood. Crossing the stream, they traversed the wide plains, passing through many tribes, with whom they tarried, and from all of whom they received kindness and succor. To all inquiries of the wondering aborigines, Nuñez and his companions pointed towards the setting sun, as the direction of their journey. They at last reached the Arkansas, and followed up that stream, meeting with large bands of Indians encamped in its grassy valley. Game was abundant, and they feasted right royally in the *tepees* of their dusky hosts.

Entering what is now New Mexico, they came to the

Indian Pueblos on the Rio Grande. These were the first indications the Spaniards had seen during their weary wanderings of anything like civilization. The inhabitants lived in stone houses, cultivated the soil, dressed in deer skins and light cotton stuffs, and their mode of life, customs, and surroundings were almost the same as they are at the present day. They received the wayworn and ragged Spaniards with the utmost kindness, set before them abundance of food, and provided them with beds of deer and bear skins upon which to lay their weary limbs. The adventurers remained at these towns for a lengthy period, the exact duration of which can only be conjectured. They then pressed on westward to the Zuni and Moqui villages. The people of these villages were found to be similar in all respects to those they had left on the Rio Grande. Their houses, form of government, manners, and customs were exactly the same, and the lapse of three hundred and fifty years has made no material change. Vague rumors had already reached these towns about the wonderful race with white skins, and beards on their faces, who had made their appearance far to the south. They looked upon the band of hardy adventurers as beings from another world. Nothing was too good for the pale-faced strangers, and the chief men vied with each other in paying every attention, and showing them every kindness. The Spaniards succeeded in making their hosts understand the cause of their coming, and the object of their journey. The Indians pointed south towards the snow-clad peaks of the San Francisco, meaning they would find their countrymen in that direction.

Leaving the Moqui towns, and well provided with provisions, the party turned southward, and passing through central Arizona, reached, after many days of weary travel, the Pima settlements on the Gila. This is the first knowledge we have of the tribe; and Cabeza de Vaca's narrative describes them as they are to-day. Like all the other Indians whom the Spaniards had met, the Pimas were spell-bound with astonishment at the sight of the strangers. They treated them with the deference due to demigods, and supplied them with everything to meet their immediate wants. These aborigines had also heard of the coming of the Europeans to Mexico, and directed the party to follow the line of Pima towns to the south and they would lead them to the goal of their desires. Elated with

the hope of soon meeting their countrymen, Nuñez and his comrades resumed their journey with lighter hearts. They passed through southern Arizona and Sonora, and after many hardships and adventures, which space will not admit of detailing here, their longing eyes were at last gladdened by the sight of the banner of Castile and Leon floating from the ramparts of Culiacan, in Sinaloa. Overjoyed at the sight and bursting into tears, they threw themselves upon the ground and offered heartfelt prayers to God for their deliverance. When the four ragged, dirty, unkempt and unshorn men marched into the plaza, the whole town turned out to gaze upon them. Years of wandering in unknown wilds had bronzed their faces almost to the color of the savage. Their uncouth garb of tattered deer skins added to their wild appearance, and when they spoke, the spectators could hardly believe that those were Christians and Spaniards who stood before them.

The reader who has accompanied Cabeza de Vaca ("Cows Head") in his tramp across the continent, may desire to know his subsequent history. He was appointed, some years later, to conduct the expedition for the discovery of the Rio de la Plata and the conquest of Paraguay. To make amends for the vicissitudes of his earlier career, fortune showered honors and riches upon him towards its close. His surprising adventures among the savages in the interior of the continent lost nothing of their thrilling interest by his own narration, which is marked by all the lively colors of the veracious traveler.

Alvar Nuñez and his companions gave glowing accounts of the country over which they passed, and their highly colored descriptions of the "Seven Cities of Cibola," the Moqui towns, and other points on the route, aroused the spirit of adventure and cupidity among the restless Spaniards, ever ready to face any danger or undergo any hardship that promised glory or gain. The pious ardor of the zealous missionaries was likewise fired by the tales which Nuñez and his fellow-travelers told of the hordes to the northward, steeped in pagan idolatry and awaiting the coming of those who would lead them to the true God.

An adventurous pioneer of the cross in the western world, Padre Marco de Niza by name, listening to the stories told by Cabeza de Vaca, resolved to satisfy himself as to their truth or falsity. Early in 1539 the good Father, under the patronage of the Viceroy Mendoza, and accom-

panied by a few followers, and guided by the negro Estevan, set out from Culiacan in search of the "Seven Cities of the Bull." They passed through the country of the Pimas, and up the valley of the Santa Cruz, by the present site of Tucson, thence across to the Pima settlements on the Gila. Here the party were furnished with guides and provisions, and traveled north to the valleys of Central Arizona. Here they met the friendly Yavapai tribe, with whom they rested several days. Striking north-east towards the San Francisco mountains they soon came to the Little Colorado, and a few days journey beyond their eyes were gladdened by the sight of the first of the mysterious "Seven Cities." Father de Niza sent forward Estevan to the first city to notify the chief of his arrival and the peaceful nature of his mission. It is said the black Lothario became a little too familiar with the Moqui maidens, which so incensed the warriors that they dashed out his brains with their war-clubs. The Father, hearing of the fate that had befallen his dusky follower, did not enter the city, deeming the temper of the inhabitants not in a proper condition for the reception of the gospel truths. He set up the emblem of Christianity, named the country the New Kingdom of San Francisco, and returned to Culiacan.

The public mind throughout New Spain was wrought up to a high pitch of excitement by the news which Padre de Niza brought on his return. The desire to extend the dominion of the Cross produced in the breasts of the fathers a feeling of holy adventure; and the thirst for gold and glory possessed alike the belted knight and the sturdy man-at-arms. The Viceroy Mendoza became infused with the spirit which surrounded him, and fitted out two expeditions to explore the marvelous country to the north; one by land under Vazquez de Coronado, and the other by sea under Fernando Alarcon. In April, 1540, Coronado marched out of Culiacan with nearly a thousand men, the greater number being Indians. He entered Arizona by the valley of the Santa Cruz and passed by the present site of Tucson, where he found an Indian *rancheria*. He then directed his march to the Pima towns on the Gila. While resting here, Coronado visited the ruins of *Chichitilaca*, which he named "Casa Grande." Crossing over to the Salt river, the Spanish leader followed that stream to its junction with the Verde, and up the latter to its source in

the *Valle de Chino*. From this point he struck across to the San Francisco mountain country, and thence into the valley of the stream, which he named the "Rio del Lino," from the quantities of wild flax found growing on its banks. The river is now known as the Colorado Chiquito. Directing his course north-west from this point, two days' march brought him in sight of the Moqui towns, forty-five days after starting from Culiacan.

The rich and populous cities which the adventurers expected to find proved to be but a collection of poor and insignificant villages. The houses were small, built in terraces and laid in rough stone as they are at the present day. The province contained seven villages, each governed by a chief. The people were peaceful, intelligent and industrious. They raised good crops of corn, beans and pumpkins; cultivated fine peaches, wore cotton cloth and dressed deer-skins, and were in no respect materially different from their descendants, the Moquis and Zunis of the present day.

As may be supposed the inhabitants were greatly alarmed at the appearance of so large a force, but they were given to understand no harm was intended them if they gave up the wealth they were reported to possess to the invaders. But a thorough search failed to bring to light the treasures said to exist in such profusion in the "Seven Cities." Large quantities of corn were found in the store-houses, and every dwelling was well supplied with domestic utensils fashioned of baked clay. At one of the towns, which he named Granada, the inhabitants offered resistance, and Coronado took the place by assault, killing a number of the natives. He speaks of the people of these towns as being well disposed, and industrious in cultivating the soil. They held their lands in severalty, and had a well-arranged tribal government. He next visited the Zuni villages, which he found an exact counterpart of those of the Moquis. The former like the latter had no treasures to tempt the cupidity of the Spaniards, and, beyond being called upon for a supply of provisions, they were left unmolested.

Disappointed in his quest, the Spanish leader turned his face eastward. He visited the New Mexico pueblos on the Rio Grande, which he found larger and more populous than those of the Zunis and Moquis, and whose customs, laws, religion and mode of life were exactly similar. But

among them, as among the tribes first visited, there was a notable dearth of the royal metal, and save a few silver and copper ornaments, their dwellings were entirely destitute of the wealth they had been reported to contain. Coronado next turned north and explored the country as far as the present site of Denver, and east as far as the Canadian river. During his march through the latter region, he had several brushes with the Comanches, and lost a number of his Indian auxiliaries. With the exception of roving bands of savages, he found the country uninhabited.

Disappointed in finding no booty, and cursing his credulity in listening to the tales of Alvar Nuñez and Padre de Niza, the Spanish adventurer directed his steps homeward, and in the spring of 1542, after nearly two years of profitless wanderings, the expedition returned to Mexico. While encamped in the San Francisco mountains, Coronado sent out two detachments to explore the country to the west. One of these, commanded by Captain Diaz, discovered the great Colorado below the Cañon, and followed it to its mouth. Don García Lopez de Cárdenas was sent northward with a command of twelve men, and was the first white man to gaze upon the wonders of the Grand Cañon. The expedition of Alarcon set sail about the time Coronado marched. It was intended to co-operate with the land forces, but there was little concert of action in the movements of either. Alarcon discovered the Gulf of California, which he named the Sea of Cortez. He also discovered the Colorado and the Gila rivers. Not being able to stem the current of the former stream, he manned two boats and ascended it some ninety leagues to the mouth of the Grand Cañon. He then set sail and returned to Mexico.

It was not until 1582, forty years later, that any further efforts were made to explore the region known to the Spaniards as "Arizuma." In that year Antonio de Espejo led an expedition towards the north. He penetrated to the region of the Rio Grande, traveled up that stream some fifteen days and named the country Nuevo Mexico. He passed through many pueblos, and turning westward, visited Zia and Acoma. The former place he speaks of as having a population of 20,000 souls, "and containing eight market-places and better houses, the latter plastered and painted in diverse colors." The Zuni pueblos were next

visited and named Cibola. From this point, Espejo traveled westward to the Moqui towns, where he was received most hospitably and presented with baskets of corn and mantles of cotton cloth. Tarrying here but a short time, he again journeyed on, and forty-five leagues south-west of Moqui, on a mountain easily ascended, he discovered rich silver ore. The mines were situated near two rivers, whose banks were lined with great quantities of wild grapes, walnut trees and flax "like that of Castile."

There can scarcely be a doubt that one of those streams was the Rio Verde, and that the mines were situated at no great distance from it, probably in the region of the country now known as the Black Hills. This is the first authentic account we possess of the finding of precious metals within the limits of Arizona, and to Antonio de Espejo must be awarded the honor of the discovery. He was the pioneer prospector of our Territory, and little dreamt what magnificent results were to flow from his find. History is silent as to whether the old cavalier set up his "monuments" and marked his "claim," but as he shortly afterwards returned to Zuni, it is presumed he did not consider his discovery of sufficient importance to merit much attention. From Zuni, Espejo retraced his steps to the Rio Grande, and crossing over to the Rio Pecos, descended that stream to its mouth and then returned to Mexico, where he arrived in 1583.

As these expeditions were undertaken solely with the hope of acquiring sudden wealth, like that which rewarded the conquerors of Mexico and Peru, no effort was made to found colonies, and a century elapsed before any effort was made to establish a permanent settlement in "Arizuma." In 1686, the Jesuit missionary, Fray Eusebio Francisco Kino, left the city of Mexico and journeyed to the north, with the intention of spreading the light of Christianity among the wild tribes of Sinaloa and Sonora. Being joined by Padre Juan María Salvatierra, the two pious friars pushed on to the country of the Sobahipuris, and in the year 1687, the first Mission within the territory now known as Arizona, was established at Guevavi some distance south of Tucson. The Mission of San Xavier del Bac ("of the water") was founded about the same time, or not long after. The first Mission building was a very unpretentious structure, and it was nearly a hundred years later before the present edifice was erected. The zealous propagandists

preached the gospel truths to the tribes living along the Gila, many of whom ranged themselves beneath the banner of the Cross. Fray Kino and another priest pushed their apostolic peregrinations to the Gulf of California, and calculated the width of that desolate sea to be about fifty miles, from shore to shore. In one of their visits to the Gila, they tried, but unsuccessfully, to establish a Mission near the ruins of Casa Grande.

In 1720, or thirty-three years after the founding of Guevavi, there were nine Missions, all in a prosperous condition, within the present limits of the Territory. The population of those Missions was almost entirely composed of converts from the Pima tribe, who took the name of "Pápago" (baptized), and a few subjugated Apaches. The Missions were prosperous, and the untiring labors of the pious Fathers brought forth good fruit in the peaceful and industrious Indian colonies which grew up about them. The neophytes were taught the art of tillage, and large bodies of land were brought under cultivation. Sheep and cattle were introduced, rich mines were opened and worked, comfortable houses were erected, and order and industry took the place of savagery and sloth. The Mission colonies were on the high road to prosperity, were self-sustaining and doing good work, not only in teaching the Indians the truths of Christianity but in developing the material resources of the country. But they were subject to constant raids from the untamed Apache; and in 1751 an outbreak occurred among the Pimas, many of the priests were killed, and several of the Missions destroyed. After this insurrection, the vice-regal government established the presidios of Tucson and Tubac, and maintained therein small garrisons for the protection of the neighboring Missions.

In the year 1765 a royal decree was issued at Madrid ordering the expulsion of the Jesuits from Spain and her colonies. This was a severe blow to the missions in "Arizona," and one from which they never recovered. The decree was not carried into effect until 1767, when the last of the followers of Loyola were driven from the scenes of their labors and triumphs in southern Arizona. In May 1768 fourteen Franciscan friars arrived in Tucson, from Mexico, to take the place of the expelled Jesuits. On their arrival they found the missions in a declining condition and subject to frequent attacks from the savage Apache.

Life and enterprise seem to have fled with their founders, and they maintained an uncertain and constantly harassed existence until the breaking out of the war for Mexican independence. Being deprived of the fostering care and protection of the vice-regal government, they rapidly declined, and were finally abandoned by a decree of the Mexican government in 1828. During the *régime* of the Mission fathers many prospecting and exploring parties penetrated southern Arizona, and a number of settlements were established. Besides the presidios of Tucson and Tubac, there were flourishing *haciendas* at San Bernardino, Barbacomari, San Pedro, Arivaca and Calabasas. These settlements possessed large flocks of sheep and herds of cattle. Mining was also prosecuted vigorously, especially at Arivaca and Cababi. Some of the silver ores were reduced on the ground by simple adobe furnaces, while the richest was transported on the backs of mules to Sonora and Sinaloa. Most of the valuable gold and silver ornaments of the Mission churches came from the mines which surrounded them, and at Guavavi, the remains of sixteen *arrastras* could be distinctly traced, a few years ago. After the breaking up of the Missions these prosperous colonies were despoiled by the savages, and abandoned by those who escaped the tomahawk and the torch.

By the treaty of Guadalupe Hidalgo, in 1847, all that portion of the Territory north of the Gila river was ceded to the United States. At that time there was not a single white inhabitant in all that vast region stretching from the Gila to the Utah boundary, and from the Colorado of the West to the present line of New Mexico. Northern and central Arizona was an untrodden wild, and the unconquered Apache was lord of the mountain, river and plain. The few inhabitants who eked out a precarious existence within the miserable presidios of Tucson and Tubac were the only inhabitants of the country, then called Pimeria Alta. In 1854, that portion of the present territory lying south of the Gila was acquired from Mexico by the treaty negotiated by James Gadsden, then Minister to our sister republic. The price paid for the purchase, embracing some forty thousand square miles, was ten millions of dollars. A good deal of ridicule was cast upon Mr. Gadsden for throwing such a sum upon a "worthless desert," and it was generally considered that the Mexicans had decidedly the best of the bargain. But although Minister Gadsden

failed in achieving the main object he had in mind—the securing of Guaymas and the control of the gulf—yet, in view of the marvelous mineral wealth contained in the territory acquired, it must be considered a cheap and valuable acquisition. Subsequent to the ratification of the Gadsden treaty, the territory was attached to the county of Doña Ana, New Mexico. In 1855 the country was formally turned over to the United States by the Mexican authorities; American troops took possession of Tucson and Tubac; the Mexican colors were lowered, the stars and stripes hoisted in their place, and the authority of the Great Republic established where Spaniard and Mexican held sway for more than two hundred years.

After the acquisition of southern Arizona, several expeditions were sent out by the War Department to explore the almost unknown territory of the south-west. The reports of Lieutenants Whipple and Ives were the first valuable contribution to our knowledge of Arizona. In 1854, Lieutenant Williamson made a survey of the country north of the Gila, with the object of discovering a route for a railroad from the Atlantic to the Pacific. In the same year, Lieutenant Gray surveyed the route from Marshall, Texas, to Tubac, and from thence to Port Lobos, on the Gulf, and also to Fort Yuma and San Diego. A year later, Lieutenant Beale made numerous surveys throughout northern Arizona. He followed the line of the 35th parallel, and opened a road from the Rio Grande to Fort Tejon in California, which for years was known as the "Beale route." The Atlantic and Pacific railroad follows the line of the old road from the Rio Grande to the Colorado.

On the last day of December, 1854, a memorial to Congress was introduced in the Legislature of New Mexico by the Representative from Doña Ana county, praying for the organization of the Territory into a separate political division. The name first chosen was "Pimeria," but the one afterwards adopted was "Arizona." Authorities differ as to the origin of the name. It is a corruption of "Arizuma," first applied to the country by the early Spanish explorers. Some maintain that the word is of Pima origin, and means "Little Creek," while others hold that its derivation is from the two Pima words "Ari," a maiden, and "Zon," a valley or country, having reference to the traditionary maiden queen who once ruled over all the Pima nation.

Near the southern line of the territory, there was formerly a pueblo attached to the Mission of Saric, half a league from the mining town of Agua Caliente. This pueblo took its name from the mountain near by, which was known as the "Arizona Mountain." From this the name came to be applied to the entire territory. The pueblo of "Arizona" was established by Padres Kino and Salvatierra in 1690. It was destroyed by the revolt of the Pimas, in 1751.

The first attempt to secure a Territorial Government proved a failure. But this did not deter energetic and enterprising men from pushing their way into southern Arizona. In August, 1856, an expedition under the leadership of Charles D. Poston entered the Territory from San Antonio, Texas, for the purpose of working the rich silver mines said to exist in the Santa Rita and Arivaca districts. About the same time the Government established two military posts in the Gadsden Purchase, one at the head of the Sonoita, some sixty miles east of Tucson, called Fort Buchanan, and the other on the lower San Pedro, near the mouth of the Arivapai, and known as Fort Breckenridge. In August, 1858, the Butterfield stage route was established. This line extended from Marshall, Texas, to San Diego, and carried mails and passengers three times a week. During the next two years a large amount of capital was invested in mining development; and notwithstanding the enormous cost of supplies and materials of all kinds, which had to be transported hundreds of miles over wretched roads, the country made steady progress. Companies organized in New York and Cincinnati operated extensively in the Santa Rita, Patagonia, Cerro Colorado, and Ajo districts. Tubac became the headquarters for nearly all of these corporations, and a live, energetic population of 500 souls was gathered there in 1858, '59, and '60. A weekly newspaper was started known as the *Arizonan*, the pioneer journal of the Territory. The great natural resources of the country were becoming known and it seemed to have entered on the high road to prosperity, when the breaking out of the Civil War brought to an abrupt ending Arizona's onward march on the highway of progress. The troops at Forts Buchanan and Breckenridge received orders to evacuate the Territory, burn and destroy all Government property they could not carry away, and fall back to the Rio Grande. The two forts were reduced

to ashes, together with large quantities of Government stores, and the military abandoned the country. About the same time the Butterfield mail line, deprived of all protection against hostile savages, was stopped, and the route changed further north.

Every enterprise came to a standstill, and every American who could get away fled to California or Sonora. The Apache marauders swept down from their mountain strongholds, and carried death and destruction throughout southern Arizona. Mines, ranches, and stock-ranges were abandoned, and the few whites left in the country took refuge within the walls of Tucson. The savages indulged in a saturnalia of slaughter, and the last glimmer of civilization seemed about to be quenched in blood. The Indians advanced to the outskirts of the town, carrying death and devastation in their track. They swept the scattered settlements, killing and destroying everything in their path. The horribly mutilated bodies of men, women, and children marked nearly every mile of the road to the Rio Grande. The blaze from many a comfortable home lit up the midnight sky, and the agonizing shrieks of the victims, and the fiendish yells of the red demons, were the sights and sounds throughout the Gadsden Purchase. This frightful condition of things existed for nearly a year after the withdrawal of the troops.

In February, 1862, Captain Hunter with a company of Texans, entered Tucson, and took possession of the Territory, in the name of the Confederate States. The majority of the white population were in sympathy with the cause he represented. Some time before his arrival they held a meeting, and with all the solemnity which the occasion demanded, had passed an ordinance proclaiming the secession of Arizona from the Union. The stars and bars, however, did not long continue to float over the old pueblo. Hunter held possession of the place until May, when the advance of the California volunteers caused him to retreat to the Rio Grande. With the advent of the California troops, and the feeling of security which their presence inspired, the country began slowly to awaken from the horrible nightmare which had crushed out every vestige of peaceful industry. The discovery of rich gold diggings on the Colorado, at Weaver Hill, and on the Hassayampa, gave a fresh impetus to immigration, and business of every kind began to revive.

The people had long clamored for a Territorial government. A bill looking to that end was introduced in the Congress of 1857, but failed to pass. Again, in 1860, the people made an effort in the same direction, and Sylvester Mowry was elected to proceed to Washington and urge upon the National Legislature the necessity for such a measure. Another bill was introduced, but political jealousies defeated the effort, and the breaking out of the Great Rebellion indefinitely postponed the matter. Arizona remained attached to New Mexico until the 24th day of February, 1863, when the bill giving it a separate political existence received the President's signature. The civil officers appointed to conduct the affairs of the new Territory entered upon their duties at Navajo Springs, the 29th day of December, 1863. The national colors were given to the breeze, a salute was fired, an address delivered, and the Territorial government formally inaugurated. The seat of government was first established at Fort Whipple, which had been built by order of General Carleton, for the protection of the miners then working the rich placers of the Sierra Prieta. It was afterwards removed to Prescott, where it remained until 1867, when it was removed to Tucson. Ten years later it was again changed to Prescott, which is at present the Territorial capital.

On the 9th day of April, 1864, the newly appointed governor, John M. Goodwin, issued a proclamation dividing the newly organized Territory into three judicial districts. On the 26th day of May, 1864, he issued a supplementary paper establishing election precincts in the several districts, and authorizing the holding of the first election in the Territory for delegate to congress and members of the legislature. The first legislative assembly convened in Prescott, on the 26th day of September, 1864. Most of these pioneer law-makers have long since "crossed over the divide." Of the twenty-seven members who composed the first legislature but three are left in the Territory: Robert W. Groom, Henry A. Bigelow, and Jesus M. Elias. At this first session the Territory was divided into four counties, namely, Pima, Yuma, Yavapai, and Mohave.

From 1864 to 1874 the history of Arizona is written in blood. Isolated from the world, and with the most imperfect and irregular means of communication, population increased slowly; the few who had the hardihood to run the risk of the tomahawk and the scalping-knife were at-



THE CHURCH OF SAN XAVIER.

BANCROFT-LITH.-S.F.

tracted by the rich mineral discoveries in northern Arizona, and that portion of the Territory received the larger portion of the immigration. The Government established military posts at different points for the protection of the scattered settlements, but the Apache stubbornly resisted the advance of the whites. Many an adventurous pioneer fell a victim to savage treachery and left his bones to bleach on the desert plain or bleak mountain side. In the ten years from 1864 to 1874 it is estimated that not less than one thousand victims of savage atrocity found bloody graves in Arizona.

But steadily the red man yielded to his destiny. The gaps in the ranks of the pioneers were rapidly filled, and the tales of the marvelous mineral wealth of this region drew hither a large contingent of that army of restless adventurers ever on the wing for fresh fields. For such men Apache ferocity had no terrors, if there was a chance of unearthing some mineral treasure in the wilds of the southwest. Settlements took root around the several posts; towns and camps sprung into existence in different parts of the Territory; the fertile valleys and rich bottom-lands were brought under cultivation; herds of cattle were brought into the country, and foot by foot the dauntless pioneers won this rich domain from the fiends whose presence so long had cursed it. The rich mines were the loadstones which drew population hither. The discovery of the Bradshaw mines, south of Prescott, in 1870, attracted a large number of people to that region. In 1874 and '75, the remarkably rich silver deposits of Globe district drew thousands from all parts of the Pacific Coast, and the discovery of the Silver King about the same time attracted the attention of the mining world to the wonderful wealth hidden in the mountains of Arizona. Before these discoveries were made, Gen. Crook had brought to terms the hitherto unconquered Apache; and after centuries of murder, rapine and robbery, he was placed on reservations in the latter part of 1873. Before that the hardy settler followed his calling under difficulties that would have disheartened most men. He tilled the soil with his trusty rifle strapped to the plow, and his ready six-shooter belted about him. If a miner, his "pard," armed to the teeth, took position on some commanding eminence above the claim, and kept a bright lookout for the sneaking foe. If a stock owner, he had to maintain an armed guard day and night around

his herd, and even then, the least negligence on his part would often cause the loss of every hoof.

The intrepidity, daring and self-sacrifice of the heroic band, who, during those terrible years of savage warfare, held this outpost of civilization, are worthy to be embalmed in the pages of Arizona's history and handed down for the emulation of those who possess the land which their valor so gallantly won. Rough, perhaps, were they in manner, and rude of speech, but they had those sterling virtues which flourish best on the border, and which ennoble our common humanity. For those that are gone, peace to their ashes, and forever green be the memory of their dauntless deeds in the hearts of their countrymen!

In 1878, the Southern Pacific railroad entered the Territory. The laying of the iron rail marks the brightest epoch in Arizona's history. Before the advance of the locomotive, the barriers of isolation were removed, and the last vestiges of savagery swept aside. Arizona was wedded to the realms of civilization, and her matchless resources were made known to the world. Population rapidly increased; towns and settlements sprung up along the line of the road; new life was infused into every branch of industry; property values more than doubled, and the country entered on an era of prosperity it had never before known. The discovery of the rich mineral deposits in the Tombstone district, some time before, firmly established the reputation of the Territory abroad as a mining region second to no other on the globe. Thousands rushed to the new finds, and soon a city of 6,000 inhabitants rose where but a few years before the Apache roamed at will. The amount of treasure which these mines have already added to the world's wealth has made Tombstone the foremost mining camp on the Pacific Coast.

Early in 1883, the Atlantic and Pacific railway was completed across Northern Arizona to the Colorado river, and another transcontinental line bound the Territory with iron bands to the outside world. The prosperity enjoyed by the southern portion of the Territory was soon duplicated in the north. Mining, farming, stock-raising and every industrial pursuit has felt the beneficial efforts of cheap and rapid communication; population has more than doubled; the country's hidden resources are being brought to light; capital is seeking investment; wealth is increasing, and Northern Arizona has entered upon a career of

development and material progress which promises to be lasting. This is the condition of Arizona, to-day. The long night of weary waiting is over at last; and the sun of a brighter day is bathing hill, mountain, valley and plain with the beams of peace and prosperity; savagery has fled before its dazzling light, and Isolation has vanished with the darkness which gave it birth.

In this brief sketch the reader has the principal events in the history of Arizona, from its discovery up to the present time, a period of more than 340 years—the expeditions and explorations of the early Spaniards; the pious labors of the mission fathers and their efforts for Christianity and civilization; the advent of the Americans; the years of warfare with the Apaches; the subjugation of the savages and the opening of railroads. It is a history with many a dark and bloody page, and only here and there a bright one. But the future is brilliant with assurances that will more than make amends for the past. Arizona is no longer an unknown region, savage-infested and difficult to reach. She stands on the highway of nations, and the fiery annihilator of time and space has heralded throughout the land the richness of her mines, the fertility of her soil, the salubrity of her climate, and the grand opportunities which she offers to the immigrant and the capitalist.

One of the first discovered regions of the western world, it is only within the past few years that its grand resources and almost unlimited possibilities have become known and understood. It has entered on the full tide of prosperity, and throughout the Union eager eyes are casting longing looks towards the land of sunshine and silver. In the following pages the author will endeavor to tell what kind of a land it is, and the inducements it holds out to the stout-hearted and strong-handed who are looking for homes nearer the setting sun.



CHAPTER II.

MOUNTAIN, RIVER, AND PLAIN.

“Land of brown heath and shaggy wood,
Land of the mountain and the flood.”

THERE is probably no country on the globe that shows so many striking and picturesque topographical contrasts as Arizona. Frightful chasms, dark and gloomy cauyons, massive mountains, rolling plains, rich and fertile valleys, arid wastes and beautiful mountain vales, form a panorama of nature at once in her wildest and most gentle mood. Here time has wrought mighty changes, and the face of the land yet bears the traces of the fearful convulsions which rent it from end to end. From Utah to Sonora, and from the great Colorado to New Mexico, the same physical features are met with. Mountain and valley, table-land and plain, barren peak and rocky gorge, and above all a sky without a cloud and a sun unequalled for brightness and brilliancy. Such a land is Arizona; a land blessed with many a gift, and showing a wild and attractive beauty all its own; a beauty that well becomes a clime that has given birth to a race wilder than its canyons and mountains, and with natures as fiery as its summer suns.

But although Arizona does not possess many of the soft and attractive features of regions fashioned after a tamer mood, she has other attributes which more than make up for the lack of that quiet and commonplace beauty so much admired. Her rugged mountains hold the wealth which purchases luxury and ease; her grassy plains can support the flocks and herds which, since the days of the patriarchs, have brought riches and honors to man; her sunny valleys, blessed by a climate unequalled on earth, are

capable of producing every variety of cereal, fruit, and vegetable. These are Arizona's gifts, and they more than offset any drawbacks in her physical appearance. It will scarcely be possible in this sketch to give a thorough outline of the marked and varied topography of the Territory. The compass of this volume would be inadequate to fairly and fully describe the appearance of a region so rich in material for the pen of the poet or the brush of the artist. The most salient features, only, will be touched upon. It is hoped, however, that this slight sketch will convey to the reader abroad some idea of a country so different from all others that it must be seen to be appreciated and understood.

The Territory of Arizona extends from the 109th degree of longitude, westward to the great Colorado; and from $31^{\circ} 28'$ of north latitude to the thirty-seventh parallel. It is bounded on the north by Nevada and Utah, on the east by New Mexico, on the south by the Mexican State of Sonora, and on the west by California and Nevada. It comprises the extreme south-western corner of the United States, and has an area of 113,947 square miles. Its greatest length from north to south is about 400 miles, and from east to west, very nearly 350. The country may be generally described as a vast elevated plateau crossed and seamed in its northern part by deep cañons, mighty fissures, and narrow valleys. This great plateau has an elevation of from 5,000 to 7,000 feet in the north, which gradually descends to sea-level in the extreme south-west. Rising like a giant sentinel above this lofty table-land, is the extinct volcanic cone of San Francisco. This magnificent mountain has an altitude of 13,000 feet above the ocean. It is in latitude $35^{\circ} 30'$ north, and longitude $111^{\circ} 45'$ west. Its summit is crowned with snow for more than six months in the year, and its towering peak, looming up in solitary grandeur through the clear air, can be distinctly seen nearly 200 miles away. The most extensive of the grand *mesas* or table-lands of Arizona is known as the Colorado plateau. It may be said to extend from the thirty-fourth parallel of latitude to the northern boundary of the Territory, and has an average elevation of between 5,000 and 7,000 feet. Its surface is diversified by massive mountain ranges, like the San Francisco, the Bradshaw, and the Mogollon, with many detached spurs and peaks. Lying between these ranges are extensive grassy plains, beautiful

valleys and charming mountain glens, with a rich soil and a delightful climate. This immense region is drained by the Colorado of the West, the Verde, Colorado Chiquito, and many smaller streams.

From the base of the San Francisco peak, there is a rapid descent to the south, and during the melting of the winter snows, or after the heavy summer rains, the deep gorges and dry ravines are foaming floods, whose irresistible fury carries everything before them. South of the thirty-fourth parallel, there is a marked change in the aspect of the country. The descent from the upper plateau is abrupt, the climate is much warmer, and there is a difference of between 2,000 and 3,000 feet in altitude. From this point, to the boundary of Sonora, Arizona is a country of vast plains and wide valleys, crossed in all directions by detached mountain ranges, and dotted with many an isolated peak torn into fantastic shapes by the storms and floods of centuries, and baked and blistered by burning summer suns. This portion of the Territory has a gradual descent towards the California Gulf; a large quantity of the water which falls on the elevated plateau to the north, finds its outlet to the sea through its wide valleys, enriching them with the detritus which it gathers in its course.

The south-western portion of the Territory, adjacent to the Gulf, is made up of wide gravelly plains, covered with a growth of coarse grass and scanty shrubbery, and crossed by detached ranges and isolated spurs, devoid of vegetation. Water is scarce, and the soil of a poor quality. In the south-east, the mountains assume lofty and massive proportions, like the Santa Catalinas, the Santa Ritas, the Huachucas, the Graham range and the Chiricahuas. These ranges are clothed with verdure to their very summits, are well wooded and watered, and are among the most delightful spots in the entire Territory. Broad valleys, covered with rich and nutritious grasses and affording pasturage for immense herds of cattle, stretch away from these mountains to the foot-hills of the Sierra Madre, in Mexico.

Central Arizona is well watered, and contains the largest and richest body of farming land in the Territory. The valleys of the Gila and the Salt river are among the finest on the continent. There are here hundreds of thousands of acres with a soil that will grow anything raised within the temperate and semi-tropical zones. The climate is superb, and the productiveness of these rich bottom-lands

is not equaled by any portion of the great West. Although the mountain ranges of the Territory are detached and broken, they have a marked and regular parallelism in the trend and direction of their axes from north-west to south-east. Massive ranges, crowned to their summits by the lordly pine, isolated peaks, bare and barren, of strange and fantastic shapes, smiling valleys clothed in their garb of green, rocky gorges and dark and gloomy cañons, where the sunlight scarcely ever penetrates, rolling grassy plains, dry sandy wastes, and over all the cloudless skies, the wonderfully clear and balmy air, and the bluish purple haze which lends such a charm to the view and softens the harsh outline of rugged mountain and barren plain.

That portion of Arizona, north of the thirty-fifth parallel and east of the Colorado Chiquito and the Great Colorado, is mostly a barren region, devoid of timber or water. The geological structure is sandstone, and the country is made up of lofty *mesas*, their summits covered with dwarf pines and cedars, and their precipitous sides cut by deep gorges. Between these *mesas* sometimes occur narrow valleys well watered, which afford fine pasturage for stock. The extreme north-eastern corner of this wild region—embracing a strip of country forty miles long by eighty wide—is a portion of the Navajo Indian Reservation. It is a mountainous district, watered by the Rio de Chelle and its tributaries. The entire country, north of the Moqui villages, is occupied by the Navajos, who pasture immense herds of horses and sheep on its rich uplands during the summer months.

North from the junction of the Little Colorado with the great river is that remarkable region known as the Painted Desert. It is a wild and desolate plateau, entirely destitute of water or vegetation, its entire surface covered by lofty columns, isolated peaks and buttes, composed of sandstone, and worn into grotesque and fantastic shapes by the storms and floods of ages. This weird region is a veritable "Fata Morgana," and presents the most marvelous mirages. On its air of dazzling clearness are depicted "palaces, hanging gardens, colonnades, temples, fountains, lakes, fortifications with flags flying on their ramparts, landscapes, woods, groves, orchards, meadows, and companies of men and women, herds of cattle, deer, antelope, etc., and all painted with such an admirable mixture of light and shade that it is impossible to form any con-

ception of the picture without seeing it." The Indians call it the "Country of Departed Spirits," and carefully avoid it. South from the Marble Cañon, and about 40 miles north-west from the San Francisco Peak, is a fine body of timber, known as the Coconino Forest. That immense stretch of country in Yavapai County, south of the Grand cañon, and bordering the line of the A. & P. railroad, is one of the foremost grazing regions in the Territory. There are immense forests and clear cold springs in shady nooks where one can pass the long summer days as pleasantly as in any spot on earth.

The geological features of the Territory are as varied as the character of its surface. That portion north of the Little Colorado and extending to the Utah line is composed almost entirely of sandstone. It contains large deposits of coal, but as yet none of the precious metals have been found in that region. The country south of the San Francisco mountain, east to the line of New Mexico, and north of the thirty-fourth parallel, is covered by the lava flow, which in ages past was poured out in mighty volumes from the fiery furnace which seethed within the depths of this lofty peak. Evidences of the lava stream from this once active volcano are found all over the Colorado plateau, south and east from the San Francisco cone, and for a radius of nearly 100 miles in this direction traces of the fiery flow are visible. The main ranges through the central portion of the Colorado plateau are composed mostly of granites, porphyry and slates, with occasional belts of trap, metamorphic rock and limestone. Eruptive rock is found in many localities, and likewise quantities of conglomerate drift. The mountain ranges of the upper Colorado basin are generally porphyritic granites, with shistose and metamorphic slates.

The ranges in the south-eastern portion of the Territory, below the Gila, are mainly composed of primitive rocks, but large beds of lime, gypsum, felsite, trap, and other secondary rocks are not uncommon. The lower portion of the great Colorado basin bears traces of violent volcanic disturbance. The mountains and the dry narrow valleys between them are covered with scoria, volcanic ash and large masses of igneous rock. There can scarcely be a doubt that this portion of the Territory was at some remote period the theater of volcanic action, and the isolated ranges and jagged peaks of which it is composed,

are scorched and riven by the fiery flood which once swept over this portion of Arizona. The geological characteristics of the region known as the Papageria, in the southwestern corner of the Territory, present a curious geological medley. Granite, porphyry, mica schist, trachyte, quartzite, lime, quartz, feldspar and many other varieties are found in juxtaposition. The mountains extending from the Gila through the center of the Territory to the Sonora line, and including the Santa Catalinas, Santa Ritas, and Huachucas, are generally formed of granites, porphyry and slates.

Arizona is a land of marvels for the scientist as well as the sightseer. Nowhere on the globe can the work of nature be traced more clearly and intelligently. Torn and riven by stupendous gorges, crowned by lofty mountains, adorned with grassy plains, beautiful valleys, delightful parks, and lofty table-lands, the topography of the Territory presents a picture of weird beauty and massive grandeur, unequaled on the continent. The plateau of Arizona shows, throughout its entire extent, marked traces of water and volcanic action, and it is evident that the greater portion of its surface was, for ages, a series of vast lakes or inland seas. The isolated peaks, rising like islets above its valleys and plains, and the fantastically castellated *buttes*, which are so striking a feature of its varied landscape, show clearly the erosion caused by the retreating waters. Fire and flood have left the indelible marks of their visitation on the face of Arizona, but it has only added a new charm to her wild beauty, and given added variety to hill, mountain and vale. The geologist will find here a land full of interest and instruction. Nature was evidently in a varying mood when she formed a region whose geological and mineralogical features are in such striking contrast with long-received and firmly established theories. It is a land *sui generis* in its strata and formation, full of the most unexpected combinations and startling contradictions; but it is a land where the student of nature will find her great book with every page full of instruction, and with such a record of countless ages, that the historic period of man is but as yesterday.

Arizona has been called a Mountain Land, and the name fits it well. The ranges, spurs and peaks which cover so large a portion of its surface are among the most interesting physical features of this wonderful country. Although

apparently broken and thrown about without regard to continuity or regularity, the general trend of their axes has a marked inclination from north-east to south-west. The mountain system of the Territory is a continuation of both the Rocky Mountain chain and the Sierra Nevada. In $43^{\circ} 30'$, north latitude, the Wind River chain of the Rocky range divides about the remote sources of the Great Colorado. One branch trends southward, and, passing around the sources of the Platte, the Arkansas and the Rio Grande, is merged into the Guadalupe mountains, and at last loses itself in the great prairie plains of the south-west. The other branch, turning to the west and south, forms the Wasatch range, the eastern rim of the Utah Basin, and, widening out to the level of the great plateau, reaches the cañon of the Colorado near 112° of longitude.

A branch of the Sierra Nevada deflects from that range east of Owens river; and, with a general trend to the south-east, passes by the head of the Rio Virgen, becomes merged in the plateau, and unites with the Wasatch at the Grand cañon. These united ranges form the mountain system of Arizona, and south of the great river break up into parallel ridges, isolated groups, detached spurs and peaks, which are again united in one massive chain in the Mother of Mountains, in northern Mexico. The San Francisco peak may be considered the apex of the Arizona mountain plateau, and the northern limit of the numerous ranges extending from the thirty-fifth parallel to the Sonora line, and from the 109th to the 113th degree of longitude.

From the San Francisco mountain a ridge extends south-east which separates the waters of the Little Colorado from those of the Gila. This is known as the Mogollon range, while its south-eastern spurs are known as the *Sierra Blanca*, or White mountain. These ranges are well wooded, containing some of the finest timber to be found in the Territory. They are also well watered by springs and streams, are adorned with many beautiful parks and elevated valleys, covered with rich grasses, which afford excellent feed for stock. West of the Mogollon, and running parallel with that range, is the Sierra Mazatzal. Like the Mogollon, it is an extension of the San Francisco Mountain system. Its course is east of the Verde, and south to the Rio Salado. Its slopes and summit are covered with an abundance of pine, juniper, and oak, water is found in several streams and springs, and its valleys and foot-hills

are covered with a fine growth of rich grasses. Between the Mazatzal and the Mogollon are several detached spurs and short ranges. The largest of these is the Sierra Ancha. It is situated in what is known as Tonto Basin, and is a flat-topped mountain, some thirty miles in length, covered with one of the largest and finest bodies of pine timber to be found in Arizona. The scenic beauties of the Tonto Basin are unequalled in the Territory. On Pine creek is the great natural bridge of Arizona, one of the most remarkable curiosities in the West. A recent visitor thus describes it in the *Phoenix Gazette*:

“Saddling our horses one lazy afternoon, we soon left several miles of mountain trail behind us, and found ourselves on the summit of a cypress-crowned mountain, whose steep eastern slope descended abruptly 500 feet to a cosy little valley, hemmed in on the opposite side by an abrupt precipice of still greater height. Descending with difficulty, we find ourselves on a large flat, with an area of probably sixty acres, with cultivated fields, in which corn and potatoes were already well grown. We stood on the crown of the bridge, and did not know it, for this beautiful garden patch is fringed on all sides with shrubbery and graceful trees, and one has to go 100 yards south and descend into a precipitous cañon before he is aware of the huge tunnel which nature has cut through the solid rock beneath his feet. We ascertained, by the aid of a long fish-line, that the crown of the bridge at its southern spring was 168 feet, and the span was eighty feet. Its total width up and down the creek, is about 150 yards. About eight feet from its southern edge, exactly in the center of the arch, is a natural hole, cut into the interior, and, by looking down this, a bird's-eye view is obtained of the bed of Pine creek, far below, at a perpendicular depth of 168 feet. But a full idea of the grandeur of this arch is not obtained until one stands beneath it and looks aloft. The gigantic limestone walls spring in perfect curves to the perfect arch above, and the fluted columns, meeting in the semi-obscurity above, remind the beholder of the interior of some vast cathedral.

“The stream which winds among the huge boulders that strew the bottom, lies here and there in deep, dark pools of unknown depth, and its precipitous sides are pierced by caves and grottoes, whose numerous windings and alley-ways lead one far into the bowels of the mountains.

Many of these have been explored, and many more have never been trodden by the foot of the white man; though from arrow-heads, pottery and scraps of matting, mingled with bones and charred wood, we can see that our Indian brother has long been acquainted with these retreats. These grottoes are all hung with beautiful stalactites, which take all imaginable forms, and any article, whether of wood or other soft substance, if placed beneath the streams which continually trickle from the roofs of these caverns, will, in a short time, become petrified. We gathered several petrified pine-cones and branches of trees, which were as hard as rock, and as perfect in form and outline as if they had lately fallen from the trees."

Between the Salt river and the Gila are many mountain groups, some of which attain a considerable elevation. The most prominent are the Superstition range, which rears its lofty and rugged front east of the great plains, stretching between the Salt and the Gila; the Pinal range, which runs nearly parallel with the Gila, and whose northern slopes are heavily timbered; the Salt river and Apache mountains, south of the Salado; the Gila range, Sierra Natanes, and the Sierra de la Pitahaya. Nearly all of these offshoots from the main ranges are well watered and timbered.

That vast region west of the Rio Verde, and extending from the Great Colorado to the Gila, is crossed by numerous mountain ranges. Running parallel with the former stream, and west of it, are the Verde mountains. The northern end of this ridge is called the Black Hills, and is a massive elevation covered with a heavy growth of timber, having several fine springs and known to contain rich deposits of gold, silver and copper. The northern slope of the Black Hills is washed by the Verde, and running north of that stream is a range of hills which culminates in the Bill Williams mountain, a prominent peak west of the San Francisco cone. The next range to the west is the Bradshaw and the Sierra Prieta. This is one of the most magnificent mountain chains in the Territory. It may be said to begin at Granite Peak, some ten miles north of Prescott, and extends in a south-westerly direction to the wide plains which stretch along the Salt river near its junction with the Gila, being nearly fifty miles in length with an average width of about twenty miles. This grand mountain ridge is clothed with a heavy growth of pine, oak, cedar,

and many other varieties; is carpeted with a mantle of succulent grass; has many fine streams, and deliciously cool springs; is adorned with many a lovely vale and beautiful glen, and throughout its entire length is penetrated by rich veins of gold, silver, copper, lead and many other valuable minerals. North of the Sierra Prieta and connected with it by a chain of low hills, is the Juniper range, well timbered with the wood from which it takes its name. A great portion of it is covered by the lava flow from the San Francisco, and, as yet, no mineral discoveries of any value have been found in it.

Between the Juniper range and the Colorado, and north of Bill Williams fork, are a number of irregular spurs running parallel, and known as the Mount Hope, the Cottonwood, the Hualapai, the Cerbat and the Black mountains, bordering on the Colorado. Some of these elevations, such as Mount Hope and Mount Hualapai, are well wooded, while the others have but a sparse growth of timber. But nearly all of them are rich in the precious metals, and have been mined successfully since the first settlement of northern Arizona. Between these ridges are many valleys covered with a fine growth of grass, capable of supporting immense numbers of cattle, if water could be had. Southwest from Prescott, and extending from Date creek to the Hassayampa, is what is known as the Weaver range. It clearly defines the limits of the upper Colorado plateau, and south of it there is a sharp and sudden descent to the plains and valleys of the Gila and Salt rivers. It is famous through the length and breadth of Arizona as being the *locale* of Antelope Peak, where was discovered that wonderful deposit of gold, an account of which will be found in another place.

South of the Gila to the Sonora line the ranges of the plateau system are clearly defined. The Peloncillo is the first encountered west of the line of New Mexico. It is low and broken, and generally destitute of timber. Lying to the west, and separated from it by the magnificent San Simon valley—one of the finest grazing regions of the Territory—is the massive chain of the Chiricahua, one of the largest and most continuous mountain ranges in Arizona. In places it is twenty miles in width, and is over 100 miles in length, taking the Pinaleno and the Santa Teresa ranges which join it on the north, and which are really the same mountain ridge—the only break in their continuity being

the low divide known as Railroad Pass. The Chiricahuas are well watered, and contain some of the finest timber and picturesque scenery to be met with in Southern Arizona. They are also known to be rich in minerals, and many valuable discoveries have been made within their borders. West of the Chiricahuas, and separated from them by the rich grazing lands of the Sulphur Spring valley, is the Dragoon range. It is not so lofty or so well wooded as the Chiricahuas, but is a well-defined and rugged ridge with many striking peculiarities of outline and structure.

North of the Whetstones and connected with them by low, rolling hills, the Santa Catalina lifts its rocky front and majestic crest from the desert plain. It is one of the most imposing of Arizona's many mountains, and as seen from Tucson impresses the beholder with its vastness and rugged grandeur. Its summit is crowned with pine, oak, juniper, ash, and other varieties, while many springs bubble out in its shady glens and find their way to the thirsty plain through deep and rocky gorges which have been worn by the rains and floods of centuries. The Santa Catalina range extends north to the Gila, the upper portion being known as the Tortilla mountains. East of the Santa Catalinas, and between that range and the Pinaleño group, the Galiuro mountain lifts its somber crest. It extends from the cañon of the Gila in a south-westerly direction, until it abuts on the Sulphur Spring valley, having a length of between thirty and forty miles. In many places its slopes and summit are heavily timbered, and its foot-hills and narrow valleys are among the best grazing lands in the Territory. Its formation belongs to the tertiary period. Its northern extremity is crowned by the imposing peak known as Mt. Turnbull, a prominent landmark in this portion of the Territory.

South-west from the Santa Catalinas is the mountain group known as the Santa Ritas, whose lofty peak, Mt. Wrightson, rises into the clear air some 10,000 feet above sea level. The Santa Ritas are historical landmarks in the modern annals of Arizona. The first attempt at mining, by Americans, was made in this region, and the blood of many a pioneer has moistened their hills and vales. They are rich in all the minerals, and mining has been carried on here since the purchase of the country from Mexico. The Santa Ritas are well timbered towards the summit and have a delightful climate. To the south-east and joined

to the Santa Ritas by the Patagonia mountains, is the Huachuca range. This is a massive elevation, well wooded, and watered by numerous streams and springs. It contains many beautiful valleys and grassy glades, has a superb climate, and is one of the most delightful spots in the whole Territory. Its eastern slope fronts on the San Pedro valley, and the boundary line of Mexico passes through its southern end.

West of the Santa Rita range and between the Gila and the line of Sonora, the country is composed of wide grassy plains, with detached ranges, isolated spurs, and solitary peaks covering its surface. The most prominent of these ranges is the Atascoso, which walls in the valley of the Santa Cruz on the west and embraces a rich mining region; the Sierra Verde, which bounds the lovely vale of Arivaca on the west. The Baboquivera peak in this range is one of the most prominent landmarks in southern Arizona. It rises to a height of over 8,000 feet, and its sharp outlines can be clearly seen nearly 100 miles away. It stands like a giant sentinel guarding that wild and weird region to the west known as the Papageria, or home of the Papagos. The Cababi, the Ajo and many other isolated groups are found in this section. They are generally rugged and rocky, with little vegetation, but rich in nearly every variety of mineral. West of the Cababi the Quijotoa mountain raises its rocky crest 1,500 feet above the Santa Rosa plain. It is the highest point in a low and straggling range which runs for many miles through the Papageria, and is now famous as the *locale* of the rich mines to which it has given its name, a full account of which will be found in "Mines and Mining."

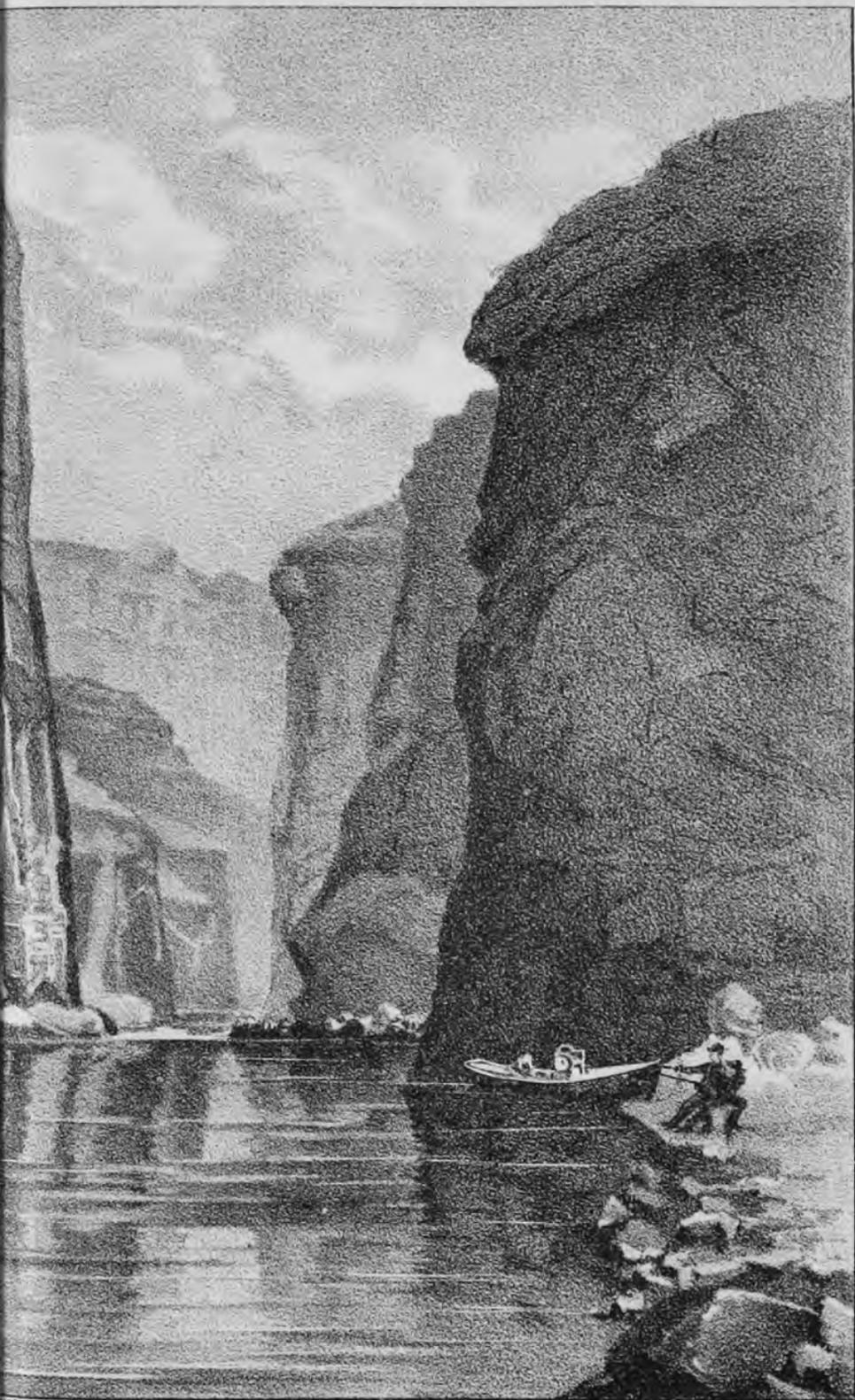
Between the Gila and the thirty-fourth parallel and west of the 112th meridian, the country is similar to the one we have just described. Extensive plains, covered with coarse grasses and stunted shrubbery, and barren mountains mostly destitute of water and bare of vegetation. The best known of these rugged groups are the Harcuvar, the Sierra de Estrella, at the junction of the Gila and Salt, the White Tank mountains, the Haqui-hela, the Big Horn, the Plomosa, the Castle Dome, the Chocolate range and the ridges which run parallel to the Colorado. Nearly all of these rocky elevations carry either gold, silver, or copper, and furnish an abundance of water at a short depth below the surface.

This sketch will convey to the reader some idea of the grand mountain system of Arizona. They are the most striking feature of the country's topography, and contain within their rocky recesses more mineral wealth than any region of a like extent on the globe. Their rugged outlines have a wild and fascinating beauty of their own; and the delicate tints of light and shade with which an Arizona sun enwraps their jagged peaks and gloomy gorges, form a picture seen nowhere else outside the land of cloudless skies and perpetual summer.

The altitude of the principal mountain ranges above sea level is as follows:

San Francisco Peak.....	12,561	feet.
Sierra Blanca.....	11,496	"
Mount Graham.....	10,516	"
Mount Wrightson (Santa Ritas).....	10,315	"
Santa Catalina.....	9,950	"
Mount Kendrick.....	9,800	"
Mount Turnbull.....	9,500	"
Mount Sitgreaves.....	9,097	"
Bill Williams.....	9,080	"
Chiricahua.....	9,000	"
Mount Union (Sierra Prieta).....	9,000	"
Four Peaks (Mazatzal).....	8,600	"
Wallapia Mountain.....	8,000	"
Superstition Mountain.....	8,000	"
Baboquivari.....	7,000	"

First among the rivers of Arizona is the Colorado of the West, which washes the western border of the Territory, and takes rank among the great water-ways of the continent, both on account of the vast area it drains, and the mighty volume of water it carries to the ocean. It belongs to that grand system of rivers which have their sources in the Rocky mountain Cordilleras, and drain the continent from ocean to ocean, and, next to the Columbia, is the principal tributary of the Pacific ocean on the American continent. The Colorado takes its rise in the Wind River chain of the Rocky mountains, some 12,000 feet above the level of the sea. It flows south-easterly in its upper course, and is known as the Green. In south-eastern Utah it is joined by the Grand, which flows down from the western slope of the Rocky mountains. The streams, united, form the Colorado proper, and from the point of junction to the Gulf of California it is known by that name. Below the junction the course of the stream is south-



westerly, until it is joined by the San Juan, from the east, above the entrance to the Great cañon. From there it runs south-westerly through the tremendous chasm of the plateau, to the mouth of the Virgen, and from there it winds its way almost due south to the Sea of Cortez. The great river was discovered by Captain Fernando Alarcon, on the 9th of May, 1540. He ascended the river in boats as far as the Great cañon. The length of the Colorado, from the head waters of Green river to the Gulf, is over 1,500 miles, and the area of territory drained by this mighty river is larger than New England, Pennsylvania and Virginia combined. Above its junction with the Grand its waters are clear and limpid, but after passing through the Grand cañon they are as turbid as those of the Missouri. The river is navigable by boats of light draft for over 600 miles, but it is one of the most changeable and capricious streams on the continent. It is continually shifting its channel, and it requires long experience and careful study to pilot a boat through its sinuous current. It is claimed that the channel changes every twenty-four hours, and where the river ran last year is often a fertile bottom overgrown with weeds and willows. Owing to the shifting sands and shoals, the Colorado can never be utilized to any great extent for travel or traffic. No doubt many of the camps along the river will receive their material by this route, but the building of two transcontinental railroads forever precludes the possibility of its supplying any large area of country. The Colorado drains the entire Territory of Arizona, and every drop of water which falls on its mountains, plains and *mesas*, finds its way to the great river. In its course through the Territory it receives but two tributaries of any consequence—the Little Colorado and the Gila.

The grand cañon of the Colorado is the most stupendous chasm on the globe, and has not a parallel anywhere on earth. It is a tremendous gorge over 400 miles in length, and from 1,000 to 6,000 feet in depth, cut through the eruptive rock of the elevated plateau by the river in its passage for ages from its mountain sources to the sea. A recent visitor to this wonder of the western world thus gives his impressions in the *Central New Mexico*: "Four hundred and sixty-five miles west from Albuquerque, at Peach Springs, Arizona, is the point on the A. & P. railroad nearest the cañon, it being only eighteen miles northward

down Dry Wash and Diamond creek to the river. At this point you take a wagon and start down Dry Wash. Almost from the commencement the scenery becomes interesting. Every mile you advance raises the walls above you; every corner you turn discloses some new castle, a higher pillar or huger column. About half way down you enter the Amphitheater—well named indeed. The cañon at this point widens out; its walls are a succession of stairways of strata, forums and pillars occupy the arena, and the upper walls are turreted with sandstone monuments that stand like sentinels against the clear sky.

“Farther down, Diamond Creek enters the cañon abruptly through a side door, as it were, from a major gorge of its own. The cañon is very deep at this point, and the rest of the distance to the river grows rapidly deeper. Some magnificent scenery is now presented to view—Noah’s Ark, Moses on Sinai, the Parthenon, etc. The cañon widens out, leaving a sort of triangular mountain in the bottom, and this is nearly 3,000 feet above the water of the creek. A lady who recently visited this spot is one of the first that ever accomplished the feat of climbing to the summit of this mountain in the cañon, and declares that it has pillars on its surface 1,000 feet high, which do not begin to reach the top of the cañon proper. She says, also, that the walls of the cañon look just as awfully high after climbing this 3,000 feet as they did from the creek.

“On down the cañon a little further and you are at the great gorge itself. The scenery in this vicinity is beyond the power of language to describe. The pen of T. Starr King would falter at the task. Moran or Elkins would die of grief at the inadequacy of their brushes to paint it. The sun shining in at different peaks behind the castellated walls produces a rainbow here, throws a grotesque shadow there, or brings a profile into relief at another point. The rocks in this light are of many colors—white, dark gray, pink, and purple. From some of the narrow side cañons the stars are visible at midday. In fact the walls are so high that the sky seems a spangled azure cover laid gently across from brink to brink. The grand old Colorado itself, fifty feet in depth, is a roaring torrent, rushing on with high wave and fury, wearing its bed even deeper yet.

“Every turn you make in its tortuous course brings newer visions still. Up its side cañons you catch glimpses of heaven through vistas of brink that would enchant a

fairy; all along its banks cloud-reaching, polished, buttressed, moss and vine-covered castles lift their lofty heads up amongst pictures of light and shadow so high that they are hazy in the distance. Variegated sandstone Babels run up higher still, until the blue air of heaven clasps them round in gauzy-like embrace.

“The awfulness of the scene is appalling. Rocks overhang the pathway as you advance, and histrionic statues point scornful fingers at you from all directions. Frowning profiles seem to threaten your every step, and misty caves suggest filmy apparitions as you gaze into their depths. Every stream that enters this great gorge has cut another chasm; every rivulet, rill, and brook has cut its cañon too. In fact, the whole of the Grand cañon, along its whole length, is a vast labyrinth of gorges, a tangled maze of cañons, pillars, cathedrals, castles, pisas, and battlemented babels, which, as the sun advances on its course, present an unpaintable, untellable and wholly indescribable picture.

“No description that can possibly be written of this ‘paradise of the geologist,’ until it can be more thoroughly explored, can at all convey an adequate idea of its grandeur. Its whole course is through the Union’s greatest table-land, averaging as high as 8,000 feet above sea-level. It might truly be said that this great river flows on the ground-floor of America, and the Rocky mountains are built up around it.”

Mr. Jay W. Spafford, of Flagstaff, who lately viewed the wonders of the cañon from the heights of the Coconino forest, thus records his impressions: “One cannot but feel how insignificant the term of ‘cañon,’ or gorge, when applied to such a place, as he stands upon the brink of these sublime depths; the height of its mountains, the depth of its chasms must be computed in miles to give the human mind some conception of their area and extent. Writers of world-wide fame have paled and retired before the grandeur of Niagara. Who then can hope to convey by a pen-picture the sublime chaos which nature in some mad freak has wrought in this isolated region? The meanest gorge that furrows the face of this king of chasms would swallow up a hundred like that below the falls of Niagara and be less than its fellow. The unbroken walls of the grand cañon at this point stand fifteen to eighteen miles apart, and out from those awful depths between, mountains with perpendicular walls rise to the height of the spot on

which we stand 8,000 feet above the sea. All chasms and gorges and cañons that gash and furrow its sides rise within the boundary of its walls and end at the river 6,000 feet below. Many of these are hundreds, ay, thousands of feet deep, yet they are so many cañons within a cañon, gorges within a gorge. It is a vast area of country so rent and torn that with its results before us the human mind is lost in its endeavor to comprehend its force. Strange architectural forms everywhere greet the eye—clusters of spires, obelisks, plain cliffs, and bold battlements, here a cathedral, there a tower, and miles away, snug in some cosy recess, the 'little church around the corner,' surrounded by plain but natural-looking habitations, with clean cool streets and arched passages. With a powerful field glass we strolled out a day on the heights of the Coconinos to admire the temples of the gods, and listen to the oft-repeated exclamation from some member of our party, 'Surely this is beyond the comprehension of man,' and one more enthusiastic exclaimed, 'It is as incomprehensible as eternity itself!'

This awe-inspiring and mighty work of nature has been explored its entire length by Major Powell, who has given a most interesting and vivid description of its many wonders. So grand, gloomy, and peculiar a view is found nowhere else on earth. To stand beside the dark and seething waters of a rushing river, over a mile below the crust of the earth, and gaze up at the buttressed and battlemented walls, whose summits seem to reach the sky, is a spectacle so different from the ordinary scenes of nature that it is sure to attract thousands of visitors from all parts of the country.

The Little Colorado, named by its Spanish discoverers *Rio de Lino*, and known to the Mexicans as the Colorado Chiquito, takes its rise in the Sierra Blanca range, near the line of 34° north, and only a short distance from the sources of the San Francisco, the Black and the Salt rivers. The country around its head waters is covered with extensive pine forests, and contains many beautiful mountain parks, springs and small lakes, the latter fed by the heavy snows which fall upon these mountains. The course of the stream is north-west, and its first important tributary is the Zuni river, which comes down from the pueblos of that name, in New Mexico. A short distance to the north-west it is joined by the Rio Puerco, which likewise has its source in New Mexico. About ten miles

above its junction with the Little Colorado, the Puerco receives Lithodendron creek. On the banks of this creek is one of the most remarkable natural curiosities in the United States. It is a large petrified forest extending over many miles. They are silicified conifera of a gigantic size. One has been discovered that measures more than twenty feet at the base, and at a break, 100 feet from the base, it was ten feet in diameter. Limbs and branches, petrified to solid rock, are found scattered about in every direction. It is also said that many fossil ferns exist in conjunction with the trees. This singular freak of nature belongs to the carboniferous period, and is evidently a portion of that vast forest which once existed in this treeless waste, and now forms the great coal measures that underlie its surface. The texture and form of the dead trees is clearly discernible, resembling much the immense redwoods of California. Many fossils of animals of an unknown and extinct species are found scattered about among these immense rocky trunks, solidified to pure dolomite or magnesian limestone. This most remarkable curiosity of a remarkable country is some few miles north-east from Holbrook, on the A. and P. railroad. The dead monarchs of the forest show clearly every fiber of the wood, transformed into a different variety of rock. The heart of some is a mass of sparkling crystals, while others, again, show sections of the purest quartz. All the different stratifications of the wood are clearly shown by the hues of the rock, and offer a most interesting study for the geologist, as well as a never-ending source of surprise and wonder to the sight-seer.

The "Petrified Forest" is one of the wonders of Arizona, and is already attracting many visitors from the Thirty-fifth Parallel railroad. West of the Lithodendron, the Little Colorado is joined by Leroux fork from the east, and Chevelon's fork from the west, both small mountain streams. From thence the river flows in a north-westerly direction, keeping about thirty miles to the north of the San Francisco peak. Below the Moencopy, which joins it from the north, it enters a deep and rocky cañon, whose eroded walls show the action of the water for ages, in wearing its bed to the great river. Through this cañon, which is in places half a mile in depth, with smooth, perpendicular walls, the stream flows on to the Colorado of the West, which it enters at the Grand cañon. The Colorado Chi-

quito has a length of nearly 200 miles, and contains some large and fertile valleys along its upper course.

Next to the Colorado the Gila is the largest river of Arizona. Its sources are in one of the eastern spurs of the Mogollon mountains, near the summit of the divide that separates the waters flowing into the Mexican gulf from those that seek an outlet in the Pacific ocean. It crosses the Territory from the line of New Mexico to the Colorado near Fort Yuma, following very nearly in its course the thirty-third parallel of latitude. Almost the entire Territory south of the thirty-fifth parallel is drained by the Gila, and four fifths of the streams within its borders are tributary to it. For more than half its length it is a mountain stream, dashing through deep gorges, rocky cañons, and wild and rugged scenery. After passing the boundary line it forms a narrow valley with a rich soil, until it enters the Sierra de la Petahaya and the Sierra Natanes. From the latter range it receives the Rio San Francisco, a clear and impetuous mountain torrent. A few miles west of the San Francisco the Gila receives the Bonita and Eagle creeks, beautiful mountain streams having their sources in the Sierra Blanca, and bordered by grassy valleys containing many acres of rich arable lands. Below the mouth of the Bonita the Gila forms a valley nearly forty miles in length, and from two to four in width. This magnificent vale is known as *Pueblo Viejo* (Old Town), and throughout its entire length are the ruins of former habitations, the marks of large irrigating canals, and fragments of broken pottery, showing that a dense population once had their homes here. The valley is being rapidly settled up. At this point the great valley of the San Simon sweeps down from the foot-hills of the Sierra Madre, and the waters of its underground river—the Rio del Sur—enter the Gila near the town of Solomonville.

Below the Pueblo Viejo, the Gila cuts its way through the Santa Teresa, the Galiuro, the Mescal, the Tortilla and other detached ranges. In its course through these rocky barriers, it forms deep gorges and narrow cañons for a distance of nearly sixty miles, exhibiting in places mountain scenery grand in its solitude and savage beauty. Before entering the cañon the Gila is joined from the north by the San Carlos, a large stream with a rich and beautiful valley. The remains of irrigating works and the ruins of former dwellings which line its banks show that a large

and industrious population once existed here. The name has become familiar throughout the United States as the home of thousands of idle, worthless and vicious Apaches. Midway in its course through the cañon, the Gila is joined by the San Pedro flowing from the south, one of its longest and most important tributaries, a full description of which will be found later on. About ten miles above the town of Florence the Gila emerges from its mountain fastnesses, enters on the wide plains which extend to the Colorado, and flows through a large, rich and fertile valley to its junction with the latter stream.

This valley of the Gila embraces a large portion of the arable lands of Arizona; has a soil of exceeding richness, and produces magnificent crops of grain, vegetables, grasses and fruits. At Florence and other points to the west, this valley is under a state of cultivation, a full and detailed description of which will be found under the head of "Agriculture." Near Maricopa Wells the Santa Cruz mingles its waters with those of the Gila, by an underground passage. It is a sluggish stream, and for two-thirds of its course sinks in the thirsty sands. Some ten miles west of the town of Phoenix the Salt river joins the Gila, from the north. This is the most important tributary which it receives in its course. Indeed, it can hardly be called a tributary, as its volume of water is much larger than that of the last-named stream. From the Salt to the Colorado of the West, the Gila receives no living stream, though several dry river-beds, like the Hassayampa and the Agua Fria, are often swollen by the summer rains, and carry down vast volumes of water from the Bradshaw and Sierra Prieta ranges.

The Salt river, which joins the Gila below Phoenix, is formed by the Black and White rivers, which unite their waters in the Mogollon mountains, about twenty miles west of Fort Apache. These streams have their sources in the Sierra Blanca, and before they unite receive many sparkling tributaries, fed by the springs and snows of this elevated region. The most important are the north fork of White river, Bonita fork, and Carizo creek. These water-courses, as well as the White and the Black, contain some magnificent mountain trout, and afford fine sport for the angler. Below the junction of the last-named streams the Salt river enters the mountain system through which the Gila winds its way, some forty miles to the south. The

cañon formed in its course is longer than that of the Gila, and much more striking in its scenic effects. The deep gorges, with their towering walls on either side, and masses of rock piled in wild confusion and twisted into most fantastic shapes; the numerous cascades and falls over which the water foams and whirls, present a scene of wild beauty worthy the pencil of an artist.

During its course through the cañon, the Salt receives several tributaries from the north, the largest being Tonto, Cherry and Cibicu creeks. These streams sometimes carry large bodies of water, and are bordered by rich but narrow valleys. About thirty miles above its junction with the Gila, it is joined by the Rio Verde, flowing from the north. The Salt river drains a large area of country, and, next to the Colorado, carries the largest volume of water of any stream in the Territory. After leaving the cañon it flows through the richest and most extensive body of agricultural land in Arizona. Its length, reckoning from the head of Black river, is nearly 200 miles. The San Pedro, which enters the Gila at the lower end of the cañon, takes its rise in the spurs of the Sierra Madre, in Sonora, and flows north through a fertile valley, with grass-covered *mesas*, gradually swelling into the mountain ridges on either side. It is a sluggish, narrow stream, but carrying sufficient water to irrigate the rich bottom-lands through which it flows. Its principal tributary is the Arivapai, which enters it from the east near the site of old Camp Grant. This stream heads in the Pinaleño range, and flowing to the north-east forms a deep and precipitous cañon in its passage through the northern end of the Galiuro mountains. This cañon contains some of the wildest mountain scenery in the Territory, and has been the theater of many a bloody encounter with the Apaches, who long looked upon it as one of their strongholds.

The Santa Cruz, briefly alluded to heretofore, is perhaps the most remarkable of the streams which go to form Arizona's system of water-ways. Its sources are in the southern end of the Patagonia mountains near the Mexican line. From thence it flows to the south through Sonora for several miles, and then, making a sharp bend to the north, passes by the towns of Calabasas, Tubac, and the city of Tucson. Its bed is formed of loose sand, and for the greater portion of its devious way it seeks an underground channel. From its source to Tucson, it is bordered by a

valley of exceeding fertility which yields large crops of cereals and fruits wherever the land can be irrigated. At Calabasas, Tubac and Tucson the water forces itself to the surface, and the valley is under a high state of cultivation. From the last named town the Santa Cruz pursues a north-westerly course to its junction with the Gila, losing itself completely in the barren plain, and only appearing once, at Maricopa Wells, before it unites with that stream. Its entire length is about 150 miles.

The Rio Verde is formed from a series of springs in what is known as Chino valley in the great Colorado plateau, and between the Juniper range and Bill Williams mountain. Thence flowing south-east it receives several small streams from the south, among them Granite Creek, on which Prescott is situated. Still pursuing its southerly course the Verde passes around the northern slopes of the Black Hills, receiving from the mountainous region of the east, Turkey, Oak, Beaver, and several other creeks flowing from the base of the San Francisco peak. Below Fort Verde, Clear Creek, Fossil Creek, the East fork and many smaller water-courses enter the stream from the Mazatzal range on the east. The Verde carries a volume of water almost as large as the Gila. During its course it forms several small but exceedingly rich and beautiful valleys, many of which are under a high state of cultivation. The waters of the Verde are clear and limpid; its banks are shaded by a fine growth of cottonwood, ash, box-elder, maple and many other varieties; it is well stocked with fish, and is one of the most beautiful streams in the Territory. Its entire length is nearly 150 miles.

The Agua Fria takes its rise some ten miles east of Prescott, and sweeping around the northern slopes of the Sierra Prieta range, pursues a southerly course, parallel to the Rio Verde, and some thirty miles west of the latter stream. It is fed by the rains and snows which fall on the southern spurs of the Sierra Prieta basin. It enters the Gila at the Big Bend by an underground channel, 120 miles from its mountain home. The Agua Fria forms many beautiful farming and grazing valleys, which contain some pleasant homes.

Some twenty miles west of the Agua Fria the Hassayampa enters the Gila. This stream heads in the Sierra Prieta range, ten miles south-east of Prescott. It flows south through a mountainous region, draining the western slopes

of the Bradshaw and the Antelope mountains. It contains a few narrow valleys, which yield prolifically of grain and fruits. Bill Williams Fork is formed by the junction of the Santa Maria and the Big Sandy. The Santa Maria rises in the elevated plateau known as Peoples valley, lying north from the Antelope mountains. Thence it flows northward, and is known as Kirkland creek. Being joined by Sycamore creek from the Mount Hope range, it turns to the west and unites with the Big Sandy. This latter stream heads in the Cottonwood range near the thirty-fifth parallel, and pursues a southerly course. Bill Williams Fork, below the junction of the two streams just described, follows a nearly straight course westward to the Colorado. The country through which it passes is a dry and barren region, but rich in the precious metals. The upper sources of the stream contain some small but rich valleys, which produce good crops of hay, corn and vegetables. In the hills and mountains adjacent there is also some excellent grazing land. These are the principal streams of Arizona. There are many smaller water-courses which space will not permit to mention. Although considered a dry country, it will be seen that the Territory is well supplied with water. In this sketch no mention has been made of the numerous springs, of which there are a number in every wooded mountain range. These cool and sparkling fountains bubble out in shady nooks and secluded glens, and the music of their rippling laughter falls sweetly on the ear of him who comes tired and worn from the fiery desert or the heated town. Many of these springs—notably in the San Francisco mountain country—will yet become popular resorts. There is abundance of game, good fishing, and a climate cool, bracing and healthful during the hot summer months.



CHAPTER III.

FAUNA AND FLORA.

“**I** HEAR the snaikes, and tarantulers, and Healy monsters is powerful bad in Arizony. How is it?” The above, which was sent by a gentleman in Tennessee, who thought of emigrating, is but one sample of a thousand inquiries of a similar import received by the writer during the past year. “Injuns” and “snaikes” seem to be indissolubly linked in the brain of many a prospective settler, with Arizona. It would, perhaps, be hardly charitable to suppose that their knowledge of the last-named “varmint” has been gained from a too close acquaintanceship with the moonshine stills of their native hills; but that a great many people in the East firmly believe that every rock and bush in this Territory shelters either an Indian or a reptile, is an undeniable fact. Everybody who has lived here any length of time will know how fallacious is the opinion. It is true we have some reptiles and venomous insects, but what country—if we except the Gem of the Sea—has not?

It is safe to say that fewer deaths occur from such causes in Arizona, in proportion to its population, than in any country in the west. And the poor harmless Gila monster, how he has been abused! Why there are people living towards the setting sun who sincerely believe that this harmless saurian is twenty feet long and weighs a ton! Outside of this poor lizard, who has been libeled so scandalously, the animal kingdom of Arizona is not materially different from that of any portion of the great west. Nearly every bird that sings in the northern, western, or southern states will find a mate in far-off Arizona; while

nearly all the wild animals indigenous to those countries can meet a family connection in this region of the south-west.

The flora of this Territory has never yet been properly classified, and many of its most interesting varieties are altogether unknown or but vaguely understood. For him who has the time, the talent, and the inclination for such an interesting pursuit, the field is a wide one. The native plants and shrubs of Arizona are an extensive family, and many of them will yet take rank among those most useful to man. In this short chapter mention is made of a few of the most common, but no doubt there are hundreds of others whose virtues are blooming and blossoming unseen and unknown.

The fauna of Arizona is both interesting and extensive, and contains some species peculiar to this semi-tropic clime not met in any other part of the United States. Nearly all the animals indigenous to the temperate zone are found in the Territory, and its variety of fish, fowl, and wild game make some portions of it the very paradise of the sportsman.

The bruin family are well represented, and almost every wooded mountain throughout the Territory can show a specimen. The grizzly inhabits the White mountains and the neighborhood of Fort Apache; the cinnamon, the black, and the brown bear are met with in the San Francisco, the Mogollon, the Sierra Blanca, the Bradshaw, the Juniper, Bill Williams, the Mazatzal, the Santa Catalinas, the Chiricahuas, the Huachucas, the Santa Ritas, the Galiuro, the Pinal, the Dragoon, the Pinalaño, and, in fact, in every mountain range of any size throughout the Territory. Although rarely seen so far south, some magnificent specimens of the elk family inhabit the ravines and glens of the San Francisco and the Sierra Blanca. The California lion, or cougar, makes his home in all the mountainous regions of Arizona. He sometimes attains a large size, but is cowardly and treacherous by nature. The leopard is known to exist in southern Arizona, and several, of a good size, have been killed. They are, however, rarely seen.

The black-tailed deer is found in all parts of the Territory. It attains a large size, and specimens weighing over two hundred pounds are often brought down by the successful hunter. The early settlers depended almost entirely on the deer for their supply of fresh meat, and the

wholesale slaughter, at all seasons, has almost exterminated this noble game in some portions of Arizona. The antelope is found in large herds on the grassy plains of the upper plateau, and in nearly every valley from the thirty-sixth parallel to the southern boundary. The *coyote*, or prairie wolf, roams over the deserts, plains, and *mesas*, and his ear-splitting yelp pierces the drowsy ear of night from the Sonora line to the Utah border. Another species of the wolf family inhabits some of the mountain ranges; they are large, gaunt, and fierce, and do not hesitate to attack and kill full-grown calves, colts, and other domestic animals.

The beaver has its habitat in the streams throughout the Mogollon and the White mountains. Its watery domiciles are also found along the Verde, the Little Colorado, the Upper Gila and Salt rivers, and the San Pedro. The Arizona beaver is not as large as his northern brother, nor is his fur so valuable. The big-horn mountain sheep is a dweller in the elevated rocky ridges of Arizona's mountain system, but is most numerous in the lofty, barren crags of the Colorado plateau. The most desolate and inaccessible regions are the favorite haunts of this animal.

The fox makes his home in all parts of the Territory; the Arizona specimen is much smaller than that known in the Eastern States, but has all the sagacity and cunning of his larger brother. The wild cat is seen in nearly every wooded mountain; many of them attain a large size and have all the fierce instincts of their race. That species of the hare known as the "jackass rabbit" is a noticeable feature of the landscape throughout the dry, barren plains and foot-hills of Arizona; the flesh is coarse and tasteless, but that of the smaller variety known as the "cotton-tail" is as white and tender as that of a chicken. Squirrels are numerous everywhere—the larger variety inhabiting the wooded mountains, while the ground-squirrel seeks the plains and foot-hills. The wood-rat and the kangaroo rat are at home in every portion of the Territory; gophers inhabit the valleys along every water-course, as well as the dry plains, and in places make sad havoc with growing vegetables. The *Mephitis Americana* is found all over Arizona. The varieties most common are of a beautiful black and white color, but here as everywhere else, distance lends enchantment to the view, and this peculiar animal appears to the best advantage the farther he is away.

Of the feathered tribe, the Territory possesses a rich and numerous variety. The ornithologist has here a field both interesting and instructive, while the hunter can revel in the delights of his glorious sport. The American eagle makes his home among the lofty peaks and deep canyons of the Mogollon, Sierra Blanca, Pinalaño, Chiricahua and other wooded ranges. It sometimes attains a large size. The wild turkey abounds in all the principal mountains of the Territory. It is a noble bird, very often weighing twenty to twenty-five pounds, with a flesh white, tender and exquisitely flavored. The bird is shy and difficult to kill, being often known to receive several charges of coarse shot, and then succeed in eluding the hunter. Wild duck frequent nearly all the water-courses of the Territory, and the wild goose is occasionally seen on the Colorado, the Gila and the Salt. The quail, or California partridge, is extensively distributed throughout Arizona, and seems to be rapidly increasing. They are a beautiful bird, with a flesh of delicious flavor and tenderness. All attempts to domesticate them have proved a failure.

The Arizona mocking-bird is found from Utah to Sonora, and from New Mexico to the Great Colorado. Wherever there is a spring or a grove the melody of this sweet songster breaks the stillness, and enlivens the solitude of mountain, valley and plain. Blackbirds are found everywhere, and pigeons inhabit the mountain ranges. The hawk is met with from end to end of the Territory; some of the species reach a large size, and their partiality for young chickens is as strongly marked in Arizona as elsewhere. Many species of the owl family inhabit the Territory, and their nocturnal serenades have been often anathematized by the weary traveler or prospector. The crow tribe are strongly represented, and wherever the industrious pioneer has made a home and redeemed the soil, these dusky scavengers are sure to be found. There are many varieties of the thrush, and his sweet song fills with melody the mountains, valleys, and glens of eastern Arizona. Humming-birds of beautiful plumage are met with in the central and south-eastern valleys and mountains, as are also warblers and finches. The water ousel and the blackbird are encountered in the mountain ridges of south-eastern Arizona. The persistent tap of the woodpecker is heard in every timbered region of the Territory; and the chatter of the thievish blue-jay disturbs the song of his more musi-

cal neighbors everywhere. The oriole is found in the Galiuro, Pinaleno, and Chiricalhua ranges; he is a beautiful bird and a sweet singer.

Larks, swallows, buntings, wrens, grosbeaks and linnets are found in all parts of Arizona. Magpies are seen in the south-eastern mountain ridges, near the Sonora border. The Arizona vireo is widely distributed, and is one of our sweetest songsters. Of aquatic birds, herons, snipes, sandpipers, cranes, etc., large numbers are found along the Colorado, Salt, Gila, Verde and the larger streams. In brilliancy of plumage, variety of species, and sweetness of song, the birds of Arizona will compare with those of any portion of the Union. To give a detailed description of their habits, etc., is beyond the scope of this work, but it would be a subject both interesting and instructive.

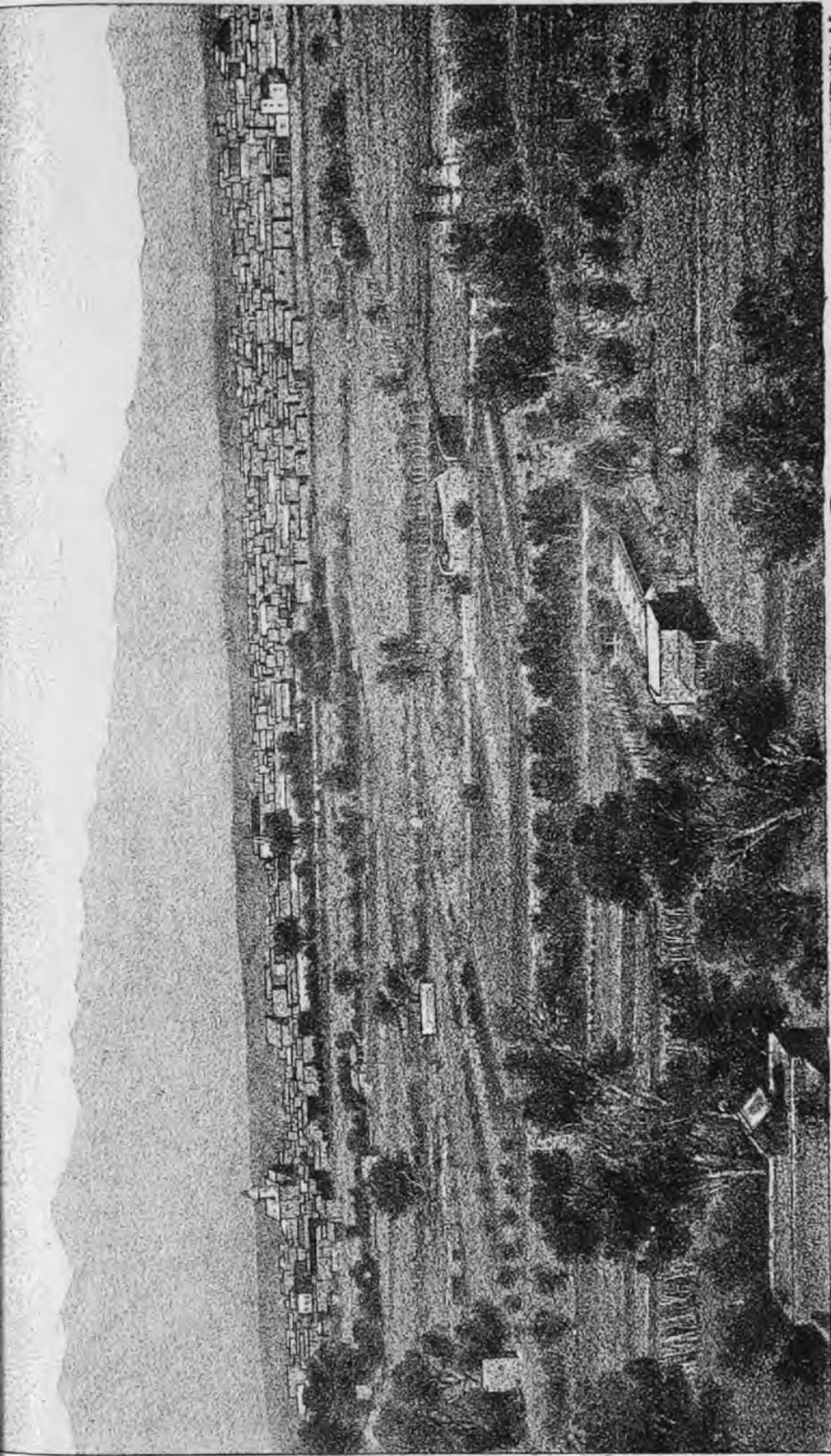
Before closing this notice of the fauna of the Territory, some allusion should be made to the reptiles and insects which popular belief has long considered Arizona to be plagued with. First among these singular curiosities comes that large saurian commonly called the "Gila Monster." It is of the lizard species, and sometimes reaches a length of two feet. It is usually of a blackish-red color, covered with scales, and has anything but a prepossessing appearance. It is generally found in the southern portion of the Territory, and makes its home on the dry and barren *mesas* between the thirty-fifth and thirty-second parallels and between the one hundred and eleventh and one hundred and fourteenth degrees of longitude. It is entirely harmless; but when sitting on a rock with its mouth sending forth a greenish, frothy slime and puffing like a miniature steam-engine, it presents a formidable appearance to the new arrival.

Many smaller species of the lizard family exist in Arizona, and are generally found in the most barren and desolate localities. The horned toad, another branch of the family, is met with on all the plains and barren uplands. Rattlesnakes of several varieties are seen, but they are not near so numerous as voracious (?) travelers would have their readers believe. On the upper plateau and in the elevated mountain regions they are rarely met with. The same will apply to tarantulas, scorpions and centipedes. These poisonous insects are scarcely ever found in the wooded mountain regions. In fact, it has been said, and

with truth, that Arizona has fewer venomous reptiles than any portion of the continent, and this has been attributed to the dry, pure atmosphere which wraps her mountains and plains.

The fish found in the waters of the Territory have some striking peculiarities of their own, which may be of interest to the reader. In the Colorado there is a large fish known as the "Colorado Salmon." The taste is something like the sturgeon, but the fish is coarse and devoid of flavor. Some weighing seventy pounds have been taken near Yuma. In the Gila is found a fish resembling a sucker; it is well flavored, but very bony. The "Colorado Salmon" is also found in this stream. In the Salt river a fish called the "humpback" is found in large numbers. Although well flavored, it has too many bones to be of much value as a food fish. In the Verde is a fish known as the "Verde trout." It sometimes reaches a weight of five pounds, has an excellent flavor, but is so full of small bones that it is not likely ever to come into favor. The same fish is also found in the Salt river, but the change does not affect its bony peculiarities. In the streams which form the head waters of the Colorado Chiquito, as well as those of the Salt and the Gila, trout are found in abundance. In the cool and sparkling streams which flow down from the winter snows of the Mogollon and the Sierra Blanca and the San Francisco, these beautiful fish find a permanent home. They are equal in flavor to the best Eastern or California brook-trout, and magnificent specimens, weighing as high as four and five pounds, are not unfrequently taken.

The Territorial legislature has created a fish commission, and made an appropriation of several thousand dollars for the purpose of stocking the rivers and lakes of the Territory with carp and other varieties suitable to the climate. Spawn have been placed in the Colorado, Gila, Salt, Verde, Agua Fria, Colorado Chiquito, and other streams. Many individuals have also arranged large ponds on their premises, and stocked the same with the young fish. So far tried, the carp thrives and increases with wonderful rapidity in the waters of Arizona. The temperature of the streams in the southern part of the Territory, although a trifle warm during the summer months, has no injurious effect on this fish; and while many of them are destroyed each year by the native varieties, who look upon them as interlopers, they multiply at so rapid a rate, that in a few years they will swarm in every stream.



BARRON-UTM - S.C.

CITY OF TUCSON.

The flora of Arizona, like all else relating to the country, has many distinct peculiarities of its own. Here the vegetable productions of the tropic, the temperate and the frigid zones, grow side by side, presenting a picture often strange and anomalous. Arizona is the land of the *Cereus giganteus*, called by the Indians and Mexicans the *sahuaro*. This is the largest species of the cactus family, and sometimes attains a height of forty feet. The body of the *sahuaro* is made up of thin pieces of wood, arranged in the form of a cylinder, covered and held together by the outside skin or fiber. This fiber is a pale green, and the trunk is fluted like a Corinthian column. Near the top, large arms, in shape like the main trunk, put out from it like the branches of a candelabrum, the whole being covered with sharp, prickly thorns. A beautiful purple blossom decks its top, and in the latter part of June a pear-shaped fruit ripens, and is much prized by Mexicans and Indians. The fruit tastes a good deal like a fig, and is exceedingly palatable.

This singular plant is found on the waterless plains and rocky, gravelly *mesas* in every portion of the Territory, and is one of the most curious objects which greet the eye of the traveler. The *sahuaro* is short-lived, and the elements of decay are at work ere it has fairly begun to grow. It first begins to rot at the base, and at last topples over. The Mexicans use the narrow ribs of wood for roofing their *adobe* houses, building fences, etc. The *nopal*, or prickly pear, is another species of the cactus, extensively distributed all over the Territory. Its fruit, known as the *tuna*, is both palatable and refreshing, and second only to that of the *cereus* in its saccharine qualities. Its height is from four to six feet, with large fleshy leaves, which, in their tender state, are cooked by the natives and taste not unlike string-beans. Like all the cactus family, it is a mass of sharp thorns which men and beasts carefully avoid. Another variety is known as the "vinegar cactus," so called from a small, deep-red berry, exceedingly acid in taste, which it bears. The Indians use this fruit as an anti-scorbutic.

One of the most valued varieties of the cactus is called the *bisnaga* or "well of the desert." It is of a cylindrical shape, covered with sharp thorns, and is found growing on the dry plains and foothills. By cutting out the center of the plant a bowl-shaped cavity is formed, which soon fills

with excellent water and affords the thirsty wanderer a refreshing drink. The "grape cactus" is another variety of the plant. It grows to a height of from four to six feet, with numerous branches bearing clusters of fruit of the *tuna* variety, and reminding one forcibly of grape clusters. This cactus also bears bunches of large thorns, capable of penetrating the strongest leather. On the elevated plain between Florence and Pinal there is a regular forest of this unsightly plant.

The *cholla* is another variety of cactus. It seldom reaches above a foot in height, and most generally is found in little bunches, nestling among the grass. Many a thoughtless traveler who inadvertently sat down on this prickly nuisance has risen with a suddenness only equaled by the volume and emphasis of his remarks on the occasion. The *ocotilla* is, by some, classed with the cactus family. It is a beautiful plant, growing in clusters of straight poles, from ten to fifteen feet in height, and covered with coarse thorns. In the spring it puts forth green leaves and scarlet blossoms, and is one of the most attractive objects the eye rests upon on the table-lands of Arizona. This plant is extensively used for fencing in portions of the Territory where there is a scarcity of wood. There are many other varieties of the cactus family, but there is a sameness among all, which would be of little interest to the reader. They are a marked peculiarity of the country, and a never-ending source of wonderment to the new-comer.

The *maguey* or *mescal*, sometimes wrongly called the century plant, is the most useful of all the natural vegetable products of the Territory. It flourishes on the foot-hills, elevated table-lands, and often on the mountain sides. It prefers the southern slopes, where it receives more sunshine, and seems best adapted to a dry, drift soil. In the neighboring republic of Mexico, large tracts are devoted to the cultivation of the plant, which is a considerable source of revenue to the country. The Mexicans make from it a distilled liquor known as *mescal*, and containing a large percentage of alcohol. It is as clear as gin, has the strong, smoky taste of Scotch whisky, and will intoxicate as quickly as either. From the fiber of the plant the Mexicans also manufacture a coarse cloth and paper of an excellent quality. The plant is of a circular shape, its center being in appearance something like a cabbage-head, surrounded by long, sharp-pointed, green leaves, fleshy

and stiff, their edges being covered with thorns. From the center of the head springs a slender pole, eight to twelve feet in height, and crowned with short branches, bearing small, yellow flowers. These flowers are shaped like a tiny cup, and when in full bloom are filled with a syrup having a sweet, strong taste. The head of the *mescal* is the most valuable part, and was looked upon by the Apaches as their chief article of food.

In preparing it for use the outer leaves are peeled off and the head placed in a primitive oven made of round stones, sunk in the ground, which have been heated by a fire of mesquite wood. The *mescal* is placed on these stones, covered with the hot ashes and earth, and roasted; after which it is taken out and a few outside leaves being removed, is ready for use. It is sweet and nutritious, tasting like a boiled beet. The Apaches likewise make it into flat fibrous cakes, which constituted the only commissary carried by war parties during the long and bloody struggle against the whites. The Indians also make from it a syrup of which they are very fond, and by fermentation an intoxicating drink called *tizwin*. It will thus be seen that the *maguey* is a most valuable plant, and, with proper cultivation, can furnish the raw material for many industries which could be profitably engaged in here.

The *amole*, or soap-weed, is another of the valuable plants indigenous to Arizona. It grows in profusion on all the dry plains and rolling uplands of the country, and reaches a height of from two to three feet, with long and narrow leaves, which will make excellent rope, paper, cloth, and other fabrics. The roots are used by the Mexicans as a substitute for soap; a heavy lather is made by agitating the crushed roots in the water, which is said to be superior to ordinary soap for the cleansing of flannel fabrics. It is also used as a wash for the hair, and is said to keep it clean, soft, and glossy. The *hedcundilla*, or greasewood, is found on the hills, table-lands, and plains over the entire extent of the Territory. It is a bushy shrub, growing to a height of from two to eight feet, with dark green leaves, and in the early summer produces a yellow blossom; by rubbing the leaves between the hands an unpleasant odor is produced and a greasy substance adheres to the fingers. A gum exudes from the plant which resembles much in color and quality gum Arabic. It is an evergreen, and seems to be indigenous to this country.

The *yucca* plant, or Spanish bayonet, is another of Arizona's peculiar vegetable productions. It grows in all parts of the Territory, and its strong, fleshy, sharp-pointed leaves contain a fiber which makes excellent paper. On the foot-hills of the mountain ranges of the Colorado plateau the California *manzanita* grows luxuriantly; and along the dry valleys and water-courses the arrow-weed and the black willow are found in profusion. The former furnishes the aborigines with arrows for their rude bows, and the latter, with some resemblance to the weeping willow, bears a large purplish blossom devoid of fragrance. Among the other plants of the Territory should be mentioned the *pectis*, the creosote bush, and the snake-weed. The first named has an odor like essence of lemon, and the last is valuable as an antidote against the bites of venomous reptiles. The Indians masticate the leaves and apply them to the wound, which proves an effectual remedy against the poison. The aborigines use a great many plants for their curative properties, and no doubt when the flora of Arizona is classified, and thoroughly known, the pharmacopœia will be enriched by many valuable remedies from its plants and herbs.

Grapes, currants, strawberries, blackberries, cherries, gooseberries and raspberries are found in the mountains and valleys of northern, central and southern Arizona. The wild grape is especially prolific. It is rich in saccharine matter, and a very palatable wine, of the color and taste of light claret, is made from it. It contains a fair percentage of alcohol, and by grafting with the domestic varieties, a very fine wine grape is produced. Walnuts grow in profusion along all the wooded mountain ranges of the Territory; and immense quantities of acorns, used by the Indians as an article of food, are found wherever the oak tree grows.

A shrub bearing a close resemblance to the coffee-plant is found in different portions of Arizona. The beans, of which there are generally two in the pod, have a strong flavor of domestic coffee, and when prepared in the same way, make an excellent substitute for the genuine article. Wild flax grows in the valley of the Colorado Chiquito, and in several other places on the great plateau; the wild tobacco-plant has been found in the Santa Cruz valley, and the wild potato is at home in the Santa Ritas, the Huachucas and the Santa Catalinas. It is also found in the val-

leys north of the Moqui villages, and is used extensively by the Navajoes as an article of food. The root is about the size of an English walnut, and when cooked is dry, mealy, and of a fine flavor. Arizona has a great number of mercurial plants, and a great variety of wild flowers, which bloom after the rainy season, and send forth a delightful fragrance over the arid desert and lonely plain.

Pine, spruce, cedar, oak and juniper cover the principal mountain ranges of the Territory. The great pine forest of the Mogollon extends from the San Francisco peak to the thirty-third parallel, and has an average width of over sixty miles. This extensive timber belt contains some of the finest and largest specimens of the pine family to be found on the continent. The upper portion of the Colorado plateau has a scattered growth of scrub pine, and cedars; while the Bradshaw and Sierra Prieta ranges show magnificent forests of pine, oak and juniper. In the ranges south of the Gila the same variety of timber abounds, while the rolling foot-hills have a fine growth of oak. There are two varieties of the oak in the Territory—the white oak, which people in the Atlantic and Western States are familiar with, and the black oak. The latter has an extensive growth in California and Arizona, and also in northern Mexico, and bears a strong resemblance to the live oak of the Southern States. Sycamore, ash, walnut, elder, maple, willow, and cottonwood are found growing along the water-courses in all parts of the Territory. The ash makes excellent timber for spokes and wagon tongues; while the Arizona cedar makes beautiful cabinet ware—its fine texture, beautiful color, and delightful odor being especially adapted for the more delicate kinds of work.

The mesquite tree is among the most valuable of the woods of Arizona. It may be considered a native of the region south of the Great plateau, and is nearly always found growing in rich, heavy soils. Large groves of the tree are found in the rich bottom-lands of the Colorado, the Gila, the Salt, the Santa Cruz, the San Pedro, and on nearly all the principal streams throughout central and southern Arizona. On the lower Colorado, a short distance above Yuma, on the Gila, near Casa Grande, and on the Santa Cruz, near the mission of San Xavier, are extensive forests of mesquite, many of the trees reaching the height of forty feet, and measuring over two feet in diameter.

The tree puts forth many limbs, and has a bushy appearance; its leaves resemble those of the locust, and it bears large quantities of a bean-like fruit, which are gathered by the Indians and considered by them as their staple article of diet. The fruit is dried and ground into a flour from which a bread is made that is highly prized by the natives. These beans also make a rich feed for cattle and horses, being superior in their fattening qualities to either corn or barley. The wood of the mesquite makes excellent wagon timber, being peculiarly adapted to this climate; it also makes a handsome shade tree, and in all respects is the most valuable of the native woods of the Territory.

The *palo verde*, or green tree, is a native of Arizona. It loves the dry, gravelly *mesas*, the waterless plains, and the barren deserts. It seldom attains a height of over twelve feet; has sharp thorns instead of leaves; has soft, spongy wood; gives a poor shade, and is perhaps the least attractive of Arizona's arboreal productions. The pepper-tree is found growing along many of the water-courses of Arizona. It scarcely ever attains a height of more than fifteen feet. When properly cared for, it makes a handsome shade-tree. The iron wood, *lignum vitæ*, is another wood, native and to the Arizona manner born. Its leaves closely resemble the mesquite, but its wood is much heavier, close-grained and susceptible of a high polish. When dry it is hard and brittle, and will dent the finest-tempered ax. It was in allusion to this peculiar wood, and the coarse, native grass of the deserts, that the genial traveler, Ross Browne, humorously wrote, "in Arizona, hay is cut with a hoe and wood with a hammer." The wood of this tree makes an intense heat; it bears a bean similar to the mesquite, very rich in grape-sugar, and highly prized by the Indians as an article of food. In the cultivated valleys of the Territory, different varieties of shade and ornamental trees are being introduced with most gratifying results. The Lombardy poplar, the mulberry, the China umbrella tree, the pepper-tree and many other varieties do well. There is no reason why all the beautiful flowering and shade trees of the semi-tropic zone should not, with careful cultivation, flourish in Arizona.

Of the grasses of the Territory, the most widely distributed is the *gramma*, which grows in every portion of the country. There are two varieties of this grass, the black

and the white gramma, both of which are excellent food for stock. Cattle in Arizona, fed on this grass, keep fat winter and summer, and their beef is unequalled in flavor and quality. In the mountain regions the pine, mesquite, and bunch grass grow luxuriantly, and afford rich and nutritious feed. In some portions of northern Arizona the *alfileria*, or wild clover, has been introduced by sheep driven from California, and is fast spreading all over the country. On the barren plains in the west and southwestern portions of the Territory, a coarse grass, called by the Mexicans *gaette*, grows extensively. Cut when green, and properly cured, it makes a fair substitute for hay. In many of the southern valleys and foot-hills there is a grass called the "buffalo;" it grows in bunches, and stock are very fond of it. Although Arizona has been considered a barren, sandy waste, it can show as fine a growth of rich and succulent grasses as any region of the south-west, and its capabilities as a stock-growing region are almost limitless. Stockmen have already found this out, and the beef fattened on the wild grasses of Arizona has no superior in the west. Later on will be given a more detailed description of the timber and grazing resources of the Territory. There is no lack of either; and few countries west of the Big Muddy are so blessed with these two prime requisites to prosperity and comfort. When it is stated that Arizona has been shipping lumber for more than a year to Mexico, it may cause people to change their ideas of the barren and unproductive character of this Territory. Yet such is the fact—one firm alone sending nearly 20,000,000 feet for the construction of the Mexican Central Railway! And this from the deserts of Arizona!



CHAPTER IV.

COUNTIES AND TOWNS.

THE Territory of Arizona is divided into ten counties, namely: Pima, Yavapai, Cochise, Maricopa, Pinal, Apache, Graham, Gila, Mohave, and Yuma. With two exceptions, the aboriginal nomenclature has been retained, and the counties are called after the Indian tribes who once possessed the land. Gila is named for one of the principal rivers of the Territory, and Graham is named after the lofty peak near the center of the county, which received its baptism in honor of a gallant army officer who once commanded here. Credit must be given to the Legislature for showing good taste in this respect. The Indian names are appropriate, and in harmony with the eternal fitness of things; and while Arizonans have no great admiration for the dusky savages at whose hands they have suffered so much, still, it would be incongruous in the extreme to pattern after other Western States and Territories and repeat here that execrable taste which has made the names of so many towns and counties in the Union a standing subject of ridicule at home and abroad. This mistake has been avoided in Arizona, and the names of her rivers, mountains, counties, towns, and camps possess at least the merit of originality, and are native and to the manner born.

Pima county was the first portion of Arizona settled by Europeans, and is one of the oldest political divisions of the Territory, having been organized by the first legislature, which assembled in 1864. Its original boundaries included all that vast region south of the Gila, and east of the line of 113° 20' west longitude from Greenwich, the larger por-

tion of the Gadsden purchase. Since then the whole of Cochise county and portions of Pinal and Graham have been taken from Pima. But it is still a good-sized domain, being about 180 miles in length from east to west, and averaging over fifty-five miles in width from north to south, containing an area of something like 10,500 square miles. The county is bordered on the north by Maricopa and Pinal, on the east by Cochise, on the south by Sonora, and on the west by Yuma county.

The western portion of Pima, bordering the line of Sonora and extending along the Gulf of California, is a series of wide, rolling plains, with detached mountains and isolated peaks scattered over its surface. These mountains are rocky and rugged; the plains are covered with a sparse growth of grass and shrubs, and in some places with mesquite wood. Water is generally scarce in this uninviting region; and did not every mountain, and peak, and butte contain rich deposits of the precious metals, there would be few attractions for the white man in this portion of Arizona. South of Tucson the country is made up of grassy plains, rolling hills and lofty mountains. East, to the line of Cochise, it is of a similar character, while to the north the dry plains are crossed by the massive chain of the Santa Catalinas. South and east the county is crossed by the Santa Rita, the Patagonia, the Whetstone, and the Atascoso ranges. That part of the county south of Tucson, bordering the line of Sonora, is one of the most delightful portions of Arizona. The mountains are clothed with verdure, and the valleys and glens are among the finest grazing ranges in the West. There are some small valleys like the Sopori and Arivaca that cannot be exceeded for beauty and fertility. Throughout the Santa Rita and the Patagonia mountains are found many lovely vales, with a climate that is simply perfect. The Santa Cruz flows through the county from its source in the Patagonia range to the boundary of Maricopa, and is the only running stream of any consequence in Pima.

The history of Pima county is the history of Arizona up to its organization as a Territory in 1863. Its early settlers had more than their share of the hardships, dangers and vicissitudes which were the lot of old Arizonans. For years after its acquisition from Mexico, it was practically without any government, the only semblance of authority being on the Rio Grande, over 300 miles away. Its valleys and

mountains have been moistened by the blood of many an adventurous pioneer, and for years its advancement was retarded by a handful of red demons. But Pima has passed through those dark days, and stands in the bright sunshine of progress and prosperity. The railroads already in operation have greatly assisted in the development of her grand mining and grazing resources, and those projected will do much more. Her condition is a prosperous one, and immigration and capital are every day making it more so.

Tucson, the oldest and largest city in the Territory, is situated on a gently sloping *mesa*, on the right bank of the Santa Cruz, about 250 miles east of the Colorado river, and 300 miles north of Guaymas, on the California Gulf. The situation is a commanding one. North and west, the wide plain is overlooked by the massive chain of the Santa Catalinas, while to the south the peaks of the Santa Ritas loom up dim and shadowy through the purple haze. To the east, the low and irregular range of the Sierratas borders the river valley and overlooks the town. On all sides the view is bounded by lofty and rugged mountains, and in the center of the wide plain the old town sits like a relic of the past which has been rudely awakened from the slumber of centuries by the rush and roar of modern civilization. Tucson is said to be a Pima word. It is pronounced "Chook-son," by that people, and means "Black creek." Its early history is involved in obscurity, but it is known that an Indian *rancheria* stood here, before the Spaniards established a military station, to protect the Mission of San Xavier. This was in 1694, so that the history of the town may be said to date from that time. During the long years of Spanish and Mexican rule, and up to the breaking out of the California gold fever, Tucson was an insignificant village. The rush of adventurers to the new El Dorado infused a little life into the sleepy old place, and it began to improve slowly, until the building of the S. P. R. R.

Since then, Tucson has made rapid strides in the path of progress and prosperity. The old landmarks are gradually disappearing, and the spirit of improvement and enterprise is seen in the many fine public and private residences which are visible on every side. The old and the new civilization have here met, and the town is in that transitory condition where the one-story, flat-roofed adobes and the narrow, crooked streets are giving way to hand-

some structures and broad, roomy thoroughfares. But it yet retains many of the peculiar features of a Spanish-American town, and the division known as the *Barrio Libre*, with its tortuous lanes and alleys, its uninviting adobes, with their cool, roomy court yards in the interior, its motley population of Mexicans and Indians, and the mellifluous chatter of *la lengua Castellana*, looks like a bit of old Mexico transplanted to the Northern Republic.

Several handsome public-buildings and many attractive private residences have been erected within the past three years, and many more are in course of construction. The county court-house is an imposing structure of brick, faced with stone and surmounted by a handsome tower. Its cost was \$75,000. The Catholic cathedral is a large building, ornamented with a handsome façade and lofty spire. It is built of brick and stone. The Congregationalists have a commodious place of worship; the Methodists have a neat brick church. The Presbyterian church is a tasteful building, and the Baptists have also a creditable place of worship. Tucson contains the largest mercantile houses in the Territory. Some of them carry immense stocks of goods, and do a heavy trade with Sonora and Northern Mexico. Water is brought to the city in iron pipes from a point on the Santa Cruz, seven miles south. The streets, stores and private residences are well lighted with gas. The electric light has lately been introduced, and the mast from the summit of the court-house tower casts a brilliant light over the ancient burgh. Herdic coaches traverse the city in all directions, and are a great convenience to the public. A handsome opera-house has been erected near the railroad depot, and two variety theaters are always open, and well patronized.

The secret societies are in strong force, and all appear to be in a flourishing condition. The following orders are represented: Arizona Commandery No. 1, Knights Templar; Tucson Chapter No. 2, Royal Arch Masons; Tucson Lodge No. 4, Free and Accepted Masons; Santa Rita Lodge of Perfection No. 1, Scottish Rite, F. & A. M.; Tucson Lodge No. 3, Knights of Pythias; Arizona Lodge No. 1, Ancient Order of United Workmen; Arizona Legion No. 1, Select Knights, A. O. U. W.; Pima Lodge No. 3, Independent Order of Odd Fellows; Aztec Lodge No. 1, American Legion of Honor; Tucson Lodge No. 4, Independent Order of Good Templars; Arizona Lodge No. 337,

I. O. B. B.; Division No. 28, Brotherhood of Locomotive Engineers; Tucson Typographical Union, No. 210. A public library has been established, and is under the control of a Board of Trustees selected by the City Council.

The educational advantages of the city are excellent. The public school has been graded, and a corps of competent teachers are employed. A handsome and commodious high school has lately been erected on Military plaza at a cost of \$50,000. Every branch of business is represented in Tucson. There are two flouring mills, which furnish an excellent article from Arizona wheat. Two breweries manufacture large quantities of home-made "lager," a favorite beverage with the thirsty Tucsonites during the summer months. While inclined to be a trifle hot for about three months in the year, the climate of Tucson from the first of September to the middle of May is as near perfection as can be found anywhere. Although the thermometer sometimes reaches 110° during the heated term, yet so pure and dry is the atmosphere that a person feels more comfortable than he would in the eastern cities with the mercury at 80°. Sunstrokes are unknown, and no injurious effects are occasioned by the heat of the summer months.

The city is steadily advancing in wealth, population and business. Real estate commands a good price, while choice residence lots bring as high as \$500—fifty feet front. The adobe, or sun-dried brick, is peculiarly adapted to this climate, and when properly finished and plastered, makes very handsome buildings. Brick of a good quality is made here, and there are many attractive residences of wood. A gray, porous rock of volcanic origin is found near the city, and will eventually come into general use for the construction of public and private edifices. The new Catholic church will be built of this material, and when finished will be an ornament to the city. Large smelting works will soon be erected here which will purchase ores from the surrounding districts, and will not alone benefit the town but the mining interests of the county.

There are many pleasant drives in the neighborhood of Tucson. The old church of San Xavier is only nine miles up the Santa Cruz, and is a favorite resort of tourists. Fort Lowell, at the base of the lofty Santa Catalinas, is seven miles away, over a hard, smooth road. Opposite the city the valley of the Santa Cruz presents a beautiful appearance with its green fields and groves of cottonwoods.

Four newspapers are published in the city. The *Star* and the *Citizen* are both dailies, and in their appearance and make-up will compare with any south of San Francisco. *Sunshine and Silver* is the name of a bright and sparkling weekly newspaper which has lately been started here by Harry Brook. It is devoted to the general interests of the Territory, and is meeting with deserved success. The *Index* is a weekly, devoted to the mining and other resources of the Territory, while *El Fronterizo* supplies the Spanish-speaking population with the current news once a week. The population is about 10,000.

Situated on the main highway between the east and the west, with one transcontinental railway passing through it, and with branches projected to the rich mineral and agricultural regions north, south, and west, Tucson has every reason to feel secure in its future. It must always be the center of trade for an extensive country. Its merchants and property-owners are showing their faith in its permanency by the many improvements which are being made on every side. One of the oldest towns in the Union, it has awakened from the lethargy of centuries, and entered on a new career of prosperity.

Quijotoa, next to Tucson, is the most important town in Pima County. It is one of those mining towns which sprung into existence under the magical touch of a rich and extensive mineral discovery. Within three months after the sale of the Peer, Peerless and Crocker claims to Messrs. Flood, Mackay and associates, there were over 200 houses erected and more than 1,200 people congregated under the shadow of Ben Nevis. Stores, saloons, gambling-halls, dance-houses, restaurants, assay offices, lodging houses and all the paraphernalia of a live mining camp were fully established in confident expectation of the boom supposed to be near at hand. People were warned by the officers of the company that they were too early, and that operations on an extended scale would not begin for at least six months later, until the mines were thoroughly opened and explored.

Unheeding this advice, the rush continued and building went rapidly forward. But the reaction came, and many of those who could not afford to wait, have sought other fields. Quijotoa, or, to speak more correctly, Logan City and New Virginia—for there are two town-sites, although the camp is known all over the coast after the mines which called it

into existence—is situated at the base of the precipitous Quijotoa peak, and where the sloping flanks of the mountain merge into the wide and level Santa Rosa plain. Both from a sanitary and a picturesque point of view, the site is unequaled in the Territory. The ground has a gradual descent to the valley on the east, and the elevation above the plain insures a cooling breeze during the hottest summer days. Towering in all its pallasided grandeur 1,500 feet above is the “Basket Mountain” (Quijotoa), its frowning cliffs and rocky escarpments forming a magnificent background for the town below.

The town-site of Logan City is nearest the base of the mountain, Virginia City adjoining on the east. Wide streets and avenues have been laid out in both, but at present the business of the camp is confined to one main thoroughfare over a half a mile in length. The buildings are mostly of wood, one story in height. Some large adobe structures have lately been erected which give an air of solidity and permanency to the place. Lots sold as high as \$1,000 during the first rush, and so confident are the owners in the future of the town, and so firm is their faith in the untold wealth locked in the rocky recesses of Quijotoa, that property commands a round figure now, notwithstanding the temporary depression. The principal avenue of Logan City forms the main street of New Virginia, so that the towns, although separate incorporations, will no doubt eventually become one. Virginia has the advantage of a better site, being nearer the valley, on ground well adapted to building; a number of houses have already been erected, and lots are in good demand. There are saloons, corrals, eating-houses, blacksmith shops and all the other accessories of a well-regulated mining camp. Owing to its almost perfect location, New Virginia is sure to build up rapidly so soon as the mines are open for extended operations. Mr. U. Johnson is the manager of the New Virginia town-site Company and has his office on the ground. A well, which has already been bored to a depth of over 500 feet, supplies both towns with an abundance of pure sweet water. Mr. J. M. Quiggle, who superintends the boring machinery, is still sinking, and intends to thoroughly test the question of flowing water. The camp is connected with Tucson by a telegraph line, built by the citizens of the last named city. Mesquite and palo verde wood is abundant in the Santa Rosa valley, and is delivered by Indians at a reason-

able price. Probably there never was a mining camp established on the coast with so many pleasant adjuncts of climate, situation and surroundings. With such a treasure-vault of mineral wealth as the grand old mountain which looks down upon it, Quijotoa is certain to become a large and prosperous mining town.

Several other town-sites have been taken up, that on the west side of the mountain being the most prominent. It is owned by Gen. Allen, who has established a hotel, store and saloon. A sufficient water supply is found in wells, and the place promises to be permanent; but the principal town in the district will always be, as it is now, on the east side.

Yavapai county occupies the greater part of the Colorado plateau, and is the largest political division of Arizona, containing an area of 30,015 square miles, or more than one-fourth of the entire Territory. Yavapai was one of the four counties organized at the first session of the legislature in 1864. Originally it included the whole of Apache and portions of Maricopa and Gila. It is bounded on the north by Utah, on the east by Apache county, on the south by Maricopa and Gila counties, and on the west by Mohave. Its physical features may be described as an immense table-land elevated from 4,000 to 6,000 feet above the sea-level, and crossed in all directions by lofty mountains, adorned by beautiful valleys and grassy plains, and seamed and riven by deep cañons and rocky gorges. The San Francisco peak lifts its snow-clad crest toward the clouds near the eastern line of the county; the Bill Williams range stretches across it near the center; while the Sierra Prieta, the Black Hills, and the Bradshaws crown its south and south-eastern border. These mountains are well wooded, and those south of the thirty-fifth parallel are rich in minerals of every variety.

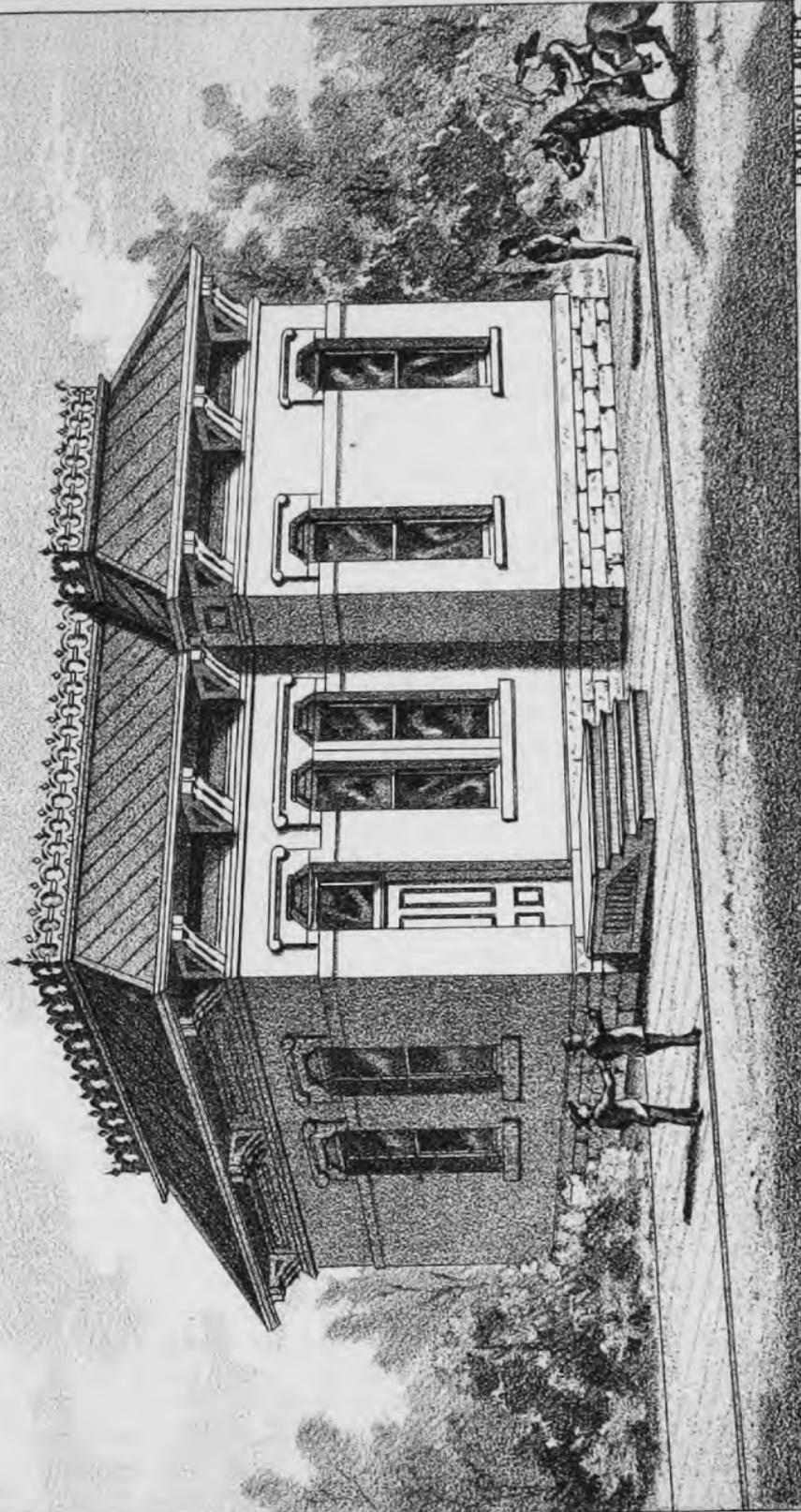
The country is watered by the Verde, Little Colorado, Hassayampa, Agua Fria, Kirkland Creek, Santa Maria and many other small streams, while beautiful, clear springs are found in the mountains, valleys and glens. The climate is cool and bracing during the winter months, and in summer is one of the most delightful in the west. The elevated valleys of Yavapai such as Williamson, Chino, Agua Fria, Skull, Kirkland, Peeples and many others, are among the most fertile in the Territory, and well adapted for farming or stock-raising. The rolling plains, foot-hills and mountain ranges afford some of the best

pasturage in the west. The county is blessed with excellent water, and has abundance of timber. That portion of it north of the Colorado is a continuation of the plateau. It is riven by deep cañons and gorges, but contains some excellent grazing ranges. Its elevated table-lands are covered with dwarf pines and cedars, but water is not plentiful. This division of the county has been but little explored, but it is known to contain large coal deposits. Yavapai county is one of the largest in the United States. In grand and varied natural resources, it may be considered an empire in itself, and when these resources are fully developed, it will be the home of a large population.

The first permanent settlements were made in 1863. A party of prospectors from New Mexico under the leadership of old Joe Walker, discovered gold in paying quantities on the Hassayampa and Lynx creek. About the same time, a band of treasure-hunters from California made the wonderful discovery at Antelope peak. Soon after these discoveries the Territorial government was established at Fort Whipple, and a rush of adventurers came from the east and the west.

Valuable mineral discoveries were found in nearly every mountain range, ranches were taken up, quartz and saw mills were brought in, and many flourishing camps were established. But here, as elsewhere, the hostile Apache stood in the path of progress, and persistently opposed the advance of the whites. Population slowly increased until 1874, when the savages were removed to a reservation. Since then Yavapai has made rapid strides in wealth, population, and material development. Many valuable mines have been opened, thousands of cattle and sheep have been driven in, and the completion of the Atlantic and Pacific railroad has opened to the world her vast and varied resources.

Prescott, the Territorial capital and the largest town in Yavapai county, is situated on Granite creek, in a beautiful glade among the foot-hills of the Sierra Prieta range. The town stands on a sloping bench above the creek, thus giving it excellent drainage. It is walled in on three sides by mountain ranges. To the west and south the pine-clad Prietas bound the horizon; while to the north the massive Granite mountain, and its outlying spurs, shut in the view. To the east, rolling, grassy hills stretch away to the Black Mountains, while in the distance, the San Francisco peak,



J. B. RANDALL, ARCHT.

APACHE CO. JAIL, ST. JOHN'S, A. T.

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like some ghostly specter, rears aloft its snow-capped head. The view is enchanting, and the situation of the town among the most charming to be met with in the Territory. It is in latitude $34^{\circ} 30'$ and in longitude $112^{\circ} 30'$ west from Greenwich, and is about 5,600 feet above sea level.

The climate is delightful, and the cool, bracing air, laden with the odor of the pine woods, and the clear cold water, make it a most desirable place of residence. In the center of the town is a large plaza where stands the county courthouse. It is a handsome structure of brick and stone, two stories in height, with a mansard roof crowned by a tower, from which the "town clock" sends forth the hour, day and night. The streets are laid out with the cardinal points of the compass. The principal business is done around the plaza. The houses are principally of wood and brick, and the place has the appearance of a homelike eastern town. On the hills surrounding the plaza, many neat and comfortable homes have been built, which command a charming view of the town and surrounding country. Prescott has some large and handsome mercantile houses, built of brick, which carry heavy stocks and do an extensive trade with the surrounding country. There is also a well-arranged theater and a public hall, where amateur theatricals are frequently given.

A public school-house, built of brick, and two stories in height, is one of the ornaments of the town, and would be a credit to any eastern city of ten times the population. There are two banks, a good hotel, a fine hall for the use of secret societies, two breweries, a planing mill, some eighteen stores, blacksmith and wagon shops, and numerous saloons. The Masons, the Odd Fellows, the Knights of Pythias, and other secret societies have flourishing lodges here. Three daily papers are published in the town, the *Arizona Miner*, the *Journal*, and the *Courier*, all devoted and untiring in their efforts to give publicity to the vast resources of northern Arizona. The *Miner* is the pioneer newspaper of the Territory, having been started in 1864. The Methodists, Catholics, Congregationalists, Baptists and Presbyterians have handsome houses of worship. Prescott is fifty-two miles south of the Atlantic and Pacific Railroad, and is the center of an extensive mineral, pastoral and agricultural region. With a branch to the main line, which is projected and will soon be built, the trade of the town will be greatly increased and a fresh impetus given to all branches of busi-

ness. Although visited by two disastrous fires during the past year, which destroyed a large part of the town and a heavy amount of property, its energetic citizens have not been discouraged by these calamities. The burnt district is being rapidly built up, and solid brick structures are taking the place of the wooden shanties consumed by the flames. A new and commodious brick hotel will shortly be erected, and also a handsome city hall. This building will have a commanding situation on what is known as Capitol Hill, which overlooks the town on the east. It will be of brick and stone, 40x80, and two stories high, with mansard roof. The city has entered into a contract with a company to supply the town with water. A well will be sunk on the banks of Granite creek and the water forced by steam pumps into a large reservoir on the crest of a hill which overlooks the town. From this reservoir it will be conveyed in pipes to every house. The prospect of the early completion of a branch road to the Atlantic and Pacific has infused new life and spirit into the place, and its future never appeared brighter.

Besides being the seat of the Territorial government, Prescott enjoys the distinction of having the headquarters of the military department of Arizona located in its immediate vicinity. Just one mile from the court-house, Fort Whipple stands on the rolling hills that overlook Granite creek. The buildings are of wood, but tastefully and substantially constructed. Here are located the residences of the general commanding, and the different staff officers, together with the commissary, quartermaster, and other storehouses. The town and fort are almost united, the buildings in the former stretching up to the line of the reservation. With its charming situation, superb climate, and the vast undeveloped resources which lie all around it, Prescott is always destined to be a place of importance. Its present population is about 2,000.

Flagstaff, the next important town of the county, is situated on the Atlantic and Pacific Railroad, near the base of the lofty San Francisco mountain. It has a population of about 600. Shaded by the magnificent pine forests which surround it on all sides, and overlooked by the highest mountain in Arizona, Flagstaff can justly lay claim to be one of the most delightfully situated towns in the Territory. The clear, cold water, and the balsamic odor of the pines, make it a most charming place in which to

pass the summer months. Properly speaking, there are two towns, Old and New Flagstaff, a half a mile apart; but as the latter place has the most eligible site, and has secured the post office, it is only a question of time when it will absorb its rival. New Flagstaff is built on both sides of the railroad track. Most of the houses are of wood, but there is one large mercantile establishment of dressed stone. There are half a dozen stores; as many saloons; blacksmith shops, restaurants, etc. There are also a number of tasteful private residences, which give an air of homelike thrift to the place. Flagstaff depends for support on the large grazing interests which lie about for miles in every direction, and also on the lumber trade, which is assuming vast proportions. One large saw-mill near the town employs over 250 men, and has a capacity of 120,000 feet per day. Last year this mill turned out over 20,000,000 feet of lumber, most of which was shipped to Mexico, and used in the construction of the Mexican Central Railway. The establishment is one of the most perfect of the kind on the Pacific coast, being provided with planes, shingle machines, etc. To look at the immense piles of magnificent clear lumber stored in the yards, the visitor might well imagine himself in the piney woods of Maine or Wisconsin, instead of the so-called "great American desert."

Flagstaff is sure to become a favorite summer resort for tourists. Game is abundant, and there is excellent trout fishing on Oak creek, twelve miles south. A visit to the Cliff dwellings, only a short distance away, will give the stranger some idea of the prehistoric race who, in the dim and misty past, made their homes in what is now Arizona. A new route from Flagstaff to the Grand Cañon will soon be opened, and as it passes through a most picturesque and interesting country, it is probable that all visitors to the great chasm will make the place their starting point. Large quantities of wool are annually sent forward from the town, and it promises at no distant day to become the principal shipping point for cattle in northern Arizona. With all these advantages, it is not to be wondered that its people have unbounded confidence in the future of their beautiful mountain home. Before closing this short sketch of Flagstaff, mention of its weekly newspaper, the *Arizona Champion*, is well deserved. It is one of the brightest papers in Arizona, and is unceasing in its efforts to bring the resources and attractions of its town before the outside world. A. E. Fay is editor and proprietor.

Jerome is a thriving camp called into existence by the working of the United Verde copper mines. It is situated about half a mile east of the smelter, and about five miles west of the Verde river. Something like fifty houses have been erected, all of lumber. There are three stores, three restaurants, two blacksmiths' shops, two livery stables, two butcher shops, six saloons, and a barber shop. The population is about 400, and the little town is one of the most prosperous in the Territory.

Cochise county was organized in 1881, from a portion of Pima. It occupies the extreme south-eastern corner of the Territory, and is bounded on the south by Sonora, on the east by New Mexico, on the north by Graham, and on the west by Pima county. Its area is 5,925 square miles, and its topography is made up of lofty mountains, wide valleys and grassy plains. The Chiricahua range crosses the eastern part of the county, while the Huachuca, the Whetstone, the Mule and the Dragoon ranges run through it on the west. The mountains are well timbered, while the valleys and foot-hills are covered with fine grasses. The San Pedro is the only running stream in Cochise. It flows through the county from the line of Sonora to the boundary of Pinal. The wonderful mineral wealth of its mountains and *mesas* has given Cochise a national reputation, while the nutritious character of its grasses has drawn within its borders thousands of cattle. One of the smallest, it is one of the richest counties in the Territory, and there are few regions that can show so many varied natural resources.

Although one of the newest of Arizona's political divisions, it has made history at a rapid rate, and can show a record of stirring events second to none. The Dragoon range, north of Tombstone, was for years the headquarters of the famous Apache chief (who has given his name to the county) and his blood-thirsty band of Chiricahuas. From his eyrie among the crags of the Dragoon Peak, this copper-colored bandit eagerly watched for the coming of his unsuspecting victim on the plains below. Every mile of the road through these rugged mountains has drunk the blood of slaughtered men, women and children. No portion of the Territory has suffered so much from Indian deviltry, and nearly every mountain pass, trail and watering-place has been the scene of massacre and murder.

After the removal of the Indians, the hardy prospector

was not long in putting in an appearance, and the marvelous discovery of Tombstoue was the result of his patient labors. The rush which followed brought with it a great many desperate characters, and for a time their lawless acts gave Cochise an unenviable reputation. Its position on the border has made of it a kind of debatable land, where the outlaws of both nations for a time held high carnival. But, happily, those things are over. The Mexican banditti are either killed or captured, the cowboy rides no more, and peace blesses the border-land.

Tombstone, the leading town of Cochise county, and the mineral metropolis of Arizona, is built on a gently sloping *mesa*, where the northern spurs of the Mule mountains lose themselves in the rolling plains that stretch towards the Dragoon range, sixteen miles away. The city has a healthy and commanding situation, with excellent facilities for drainage. To the north the rocky peaks of the Dragoons raise their jagged heads; to the west the rolling hills, which stretch to the San Pedro, are bounded by the Whetstone and the dark chain of the Huachucas. Behind the town rises a series of low hills, dotted with hoisting works and scarred by cuts and tunnels, while to the east the wide plain is bounded by the horizon. Tombstone is in latitude $31^{\circ} 30'$ north, and in longitude 110° west of Greenwich. It is nine miles east of Contention station, on the San Pedro river, and about twenty-eight miles south of Benson, on the Southern Pacific railway.

The first house was erected in April, 1879, and now there is here a live, active, energetic population of 4,000. A fire in June, 1881, reduced nearly half the city to ashes; but it had scarcely been rebuilt, when, in May, 1882, a more disastrous visitation destroyed nearly all the business portion, and left the city a heap of blackened walls and smoldering ruins. But, nothing daunted by these reverses, the indomitable energy of the people asserted itself, and to-day not a vestige of the burnt district is to be seen. Since those fires the buildings erected have been nearly all of adobe, and, except in the suburbs, the city is mostly built of that material. The streets are wide, hard and smooth, and cross each other at right angles. The houses are generally of one story, with roomy arcades shading the sidewalks.

There are some commodious business houses, and many comfortable private residences. There are two hotels, a large and well-arranged theater, a bank, and four churches—

Methodist, Catholic, Episcopal and Presbyterian. The Methodist place of worship is a tasteful building of sun-dried brick. There is a public school, which is well attended, and a private academy which receives liberal patronage. The new county court-house is a handsome structure of brick, the foundation being of cut stone, and the corners being faced with the same material. It is two stories in height, with an ornamental tower, and cost \$50,000. The new city hall is a substantial and roomy building of brick and stone. In it are located the offices of the various city officials.

Tombstone can boast the finest water supply in the Territory, and equal to any on the coast. It is brought from the Huachuca mountains, some twenty-one miles distant. A strong dam is built in one of the canyons, which forms a large reservoir. The water is conveyed from this source in iron pipes down the grassy hills, across the San Pedro, and over the rolling country to another large reservoir on the summit of a hill, about one hundred and fifty feet above the city. From this point mains are laid through all the principal streets, and pipes carry the supply to every house. Fire-plugs are at every corner; a well-appointed and efficient department is always ready, and no fire can ever again do much damage in Tombstone. The source of supply is about three hundred and fifty feet above the city, and the force of the water is such, that a stream through an ordinary nozzle will bore a hole through a two-foot adobe wall in five minutes. The water is clear, pure and cold.

The Masons, Odd Fellows, Knights of Pythias, Red Men, Grand Army of the Republic, Good Templars, and other secret and benevolent orders have flourishing lodges here. The *Epitaph*, under the able management of Chas. D. Reppy, supplies the reading public with the latest doings, at home and abroad. Its mining reports have done much to bring Tombstone to the notice of capitalists abroad. The *Record* is the name of a daily paper lately started. It is a creditable journal, full of interesting local news.

Tombstone is the center of an immense area of rich mineral territory. It has a large and steadily growing trade with Sonora, and the building of the line from Deming to Fairbanks will place it on the highway between the California Gulf and the Atlantic Ocean. It is a typical mining camp, active, energetic and exciting. Its growth

has been remarkable, and its bullion yield has astonished the world. Its situation is admirable, and with through rail connection with Sonora it should become a large supply point for that region. Although the town is suffering a temporary depression at present, owing to the strike of the miners against a reduction of wages, its future prosperity is not impaired. The immense ore bodies which underlie and surround it in every direction, give assurance that after the present difficulties are amicably adjusted, it will experience a greater degree of prosperity than at any time in its history. That it will continue for years to yield those treasures which have made it famous, there is hardly a doubt; and the shrill shriek of the whistle, and the dull concussion from the blasts in the tunnels and stopes beneath its streets, will continue to astonish and bewilder the "tender-foot" visitor for many a year to come.

Benson is situated about half a mile from the San Pedro, and at the junction of the Arizona and New Mexican railway with the Southern Pacific. It is a railroad town, built along the south side of the track of the Southern Pacific for over a quarter of a mile, and containing several stores, saloons, restaurants, and other business houses. Before the building of the Sonora branch, it was the shipping point for Tombstone, and did a large business with that lively camp. Here are located the works of the "Benson Smelting and Refining Co.," who have erected large and substantial buildings and are doing a prosperous business. The company have two water-jacket furnaces with a daily capacity of seventy-five tons, and are prepared to work all varieties of gold, silver, copper, and lead ores. The works are connected by side-tracks with both railroads, and bring ores from different points in the Territory, as well as from Sonora and New Mexico. Fine fire-clay is found only six miles from the works, and coke is shipped from Wales, and Trinidad, Colorado. The population of Benson is about 600. A weekly newspaper called the *Benson Herald* is published here, and is doing effective work to advance the interests of the town. It is owned and conducted by Will Nash, and is one of the most readable of all the Territorial journals.

Bisbee is situated in a narrow gorge of the Mule mountains, and is a live, bustling mining camp, with a steady growth. The town is made up of one narrow street, above which the mountains on the south side tower to the height

of over 1,000 feet, covered to their summits with a heavy growth of black and white oak, cedar and juniper. Bisbee has three stores, several restaurants, saloons, and the usual appendages of a live mining camp. The reduction works of the Copper Queen company are situated here, and rich deposits of silver and copper surround the town in every direction. The Queen company have opened a fine road over the mountains to Tombstone, thirty miles distant, and also to Fairbanks, on the Arizona and New Mexico railway, over which they ship their bullion and receive their supplies. Bisbee is destined to become an important and populous camp. The mines that surround it are large and rich; it has every facility for ore reduction, and is blessed with a charming situation and a delightful climate. Present population about 500.

Wilcox is on the line of the Southern Pacific railroad, in the center of the Sulphur Spring valley—one of the most extensive grazing ranges in the Territory. It is the shipping point for Globe, and the mines adjacent, and also for the San Carlos Indian Reservation, and Fort Grant. The town is built on the north side of the track, and contains several large forwarding and commission houses, a good hotel, several saloons, blacksmith and wagon shops, etc. The present population is about 500. It has a steadily growing trade with the cattle and mining camps which surround it on every side, and yet promises to become an important point for the shipping of live-stock. The *South-Western Stockman* is published here by Phil S. Montague. It is devoted to the cattle-growing interests of the Territory, and is well supported, as it deserves to be.

Charlestown, another busy town of Cochise, is situated on the San Pedro river, about nine miles west of Tombstone. The reduction works of the Tombstone Milling and Mining Company are situated here. The town has a pleasant location in the river-bottom, and has four stores, a hotel, restaurants, saloons, etc. It lies on the main highway to Sonora, and does a thriving trade with that State. The houses are mostly one-story adobes, and the weather during the summer months is a trifle sultry. The population is put at 400.

Maricopa county embraces the extensive valleys of the Salt and Gila rivers, and occupies nearly a central situation in the Territory. The western portion of the county is made up of wide plains, crossed by detached mountains,

and covered by coarse grasses, with grease wood and *palo verde* growing in many places. The northern and eastern divisions are crossed by rugged mountains and intersected by spurs from the Mazatzal, the Verde, and the Bradshaw ranges. The central portion is composed of rich and fertile valleys, bordering the Salt and the Gila. Maricopa is bounded on the north by Yavapai, on the east by Gila and Pinal, on the south by Pinal and Pima, and on the west by Yuma. It embraces an area of 9,354 square miles.

Maricopa County's history dates from 1868, when the first settlements were made in the Salt river valley, at that time a barren and uninviting waste. Since then its annals have been quiet and uneventful. Slowly but surely it has advanced on the road of prosperity, and its growth has demonstrated to the world the grand agricultural possibilities of Arizona. For years its early pioneers battled bravely against obstacles which would have discouraged less determined men. But they held on, and the fruits of their toils and privations are seen to-day in the beautiful valley, which will ever remain a monument to their enterprise and foresight. Besides its grand agricultural resources, Maricopa contains rich mineral deposits of gold, silver and copper, many of which are being worked successfully. The county is one of the most prosperous in the Territory. Population is steadily growing, and property values increasing. Most of the settlers who are finding their way to this region, come with the intention of making permanent homes. There is none of the feverish fluctuation seen in a mining camp. While, perhaps, business is not so active, it is more steady and lasting.

There is no county in the Territory with a brighter future. Its prosperity rests on that solid foundation which, in all ages, has been the corner-stone of wealth and power—land. The land is here, and the water to make it productive, and it is only a question of a few years when the valleys of the Salt and the Gila shall contain a dense population. The county will continue to hold the lead in the yield of agricultural products, and its grain, flour, fruits, and vegetables will always find a market in the towns and camps of the Territory, and at remunerative prices.

Phoenix, the county seat of Maricopa county, is situated near the center of the great Salt River Valley, about two miles north of the stream and twenty-eight miles north of Maricopa station, on the Southern Pacific railroad. Ap-

proaching the place over the dry and dreary wastes of level plain which surround the town beyond the line of vegetation, the eye is relieved by the masses of green, and the refreshing shade in which it sits embowered. So dense is the foliage that the houses are almost hidden from view, and the traveler does not realize that he is in the heart of the town until the coach pulls up before the hotel. The streets are broad and level, shaded on either side by rows of cottonwood and willow, and cooled by streams which give life and verdure to trees and shrubbery. The houses are built of adobe, brick, and wood. The former material predominates, and is best adapted to this climate. The traffic of the town is principally confined to one main street, which shows many large and handsome business houses. Several of these are brick, two stories in height, and present a solid and attractive appearance. The Catholics and Methodists have erected churches, and the Baptists are also represented by a neat place of worship.

The public school-house is one of the finest in the Territory. It is of brick, two stories in height, surrounded by beautiful play-grounds, shaded by a dense cottonwood grove. The new county court-house is one of the handsomest buildings in Arizona. It is of brick, with a stone foundation, and is modeled after the Cochise county court-house. Two plazas have been laid out in the town, and present a charming appearance, with their rows of green cottonwoods and shady walks. In one of these plazas the new building stands.

The secret societies are well represented in Phoenix. The Odd Fellows, Masons, Red Men, United Order of Workmen, Knights of Pythias and Good Templars have flourishing organizations here. Two newspapers, the *Gazette* and the *Herald*, are published daily and weekly. They are well-conducted, newsy journals, and able exponents of the grand resources of the Salt River Valley. There are also two Spanish papers published weekly, *El Mercurio* and *La Union*. They are well patronized by the Spanish-speaking population, whom they supply with the current news in their native tongue. There is a flouring-mill, with a capacity of 125 barrels in twenty-four hours. It produces an excellent quality of flour from Arizona wheat, and turned out in 1883 3,000,000 pounds. The present year its product is expected to reach 4,000,000 pounds.

The town does a large trade with the surrounding valley,

and has also a steadily increasing business with the adjacent mining camps, north, east and west, and for which it is the natural supply point. Many handsome structures are being erected, and many permanent improvements made. Real estate within the city limits is rapidly advancing in price, and desirable lots on the business streets command fancy prices. Within the past year the town has taken a fresh start, and is growing rapidly. Confidence in its brilliant future is being strengthened daily by the investment of capital and the improvements going on in every direction.

Phoenix contains the most beautiful homes of any city or town in the Territory; surrounded by shady groves, ornamented with choice shrubbery and inviting grassy lawns, and embowered in a wealth of clinging vines, evergreens and rose-bushes. From shady arbor and porch hang bunches of luscious grapes, while the orchard trees are bending beneath their loads of peach, pear, apple, pomegranate, fig, plum and fifty other varieties. The ripple of laughing waters is heard on all sides, and the air is heavy with the perfume of flower, and tree, and shrub. The stranger, who had imagined Arizona a desert waste, while strolling by the pleasant homes of Phoenix with the beams of a summer moon glinting with its silver sheen the murmuring *acequias*, and casting a mellow radiance over grove and garden and orchard, will swear that a more charming scene of quiet beauty has rarely met his eye, in older and more populous lands. Improvements are noticeable on every hand. The old adobe buildings erected in the early days, are being torn away to give place to fine structures of stone and brick. Many new business houses have been opened in the past year, among the number being a handsome and commodious hotel, which is well conducted, and in its appointments is second to none in the Territory. The town has an assured future, and has entered on a career of steady advancement which will be lasting.

The population of Phoenix is put at 3,000, but it is rapidly increasing, and it is yet destined to be second to no town in Arizona. Situated near the center of the Territory, and in the midst of its finest body of farming land, with rich mines in the mountain ranges which surround it, its situation as a trade center is unsurpassed by any city within its borders. A branch railroad to the Southern Pacific will soon open a larger and more remunerative market for its products, and give a fresh impetus to its advancement. Rich in abund-

ance of water; rich in a soil of wonderful fertility; rich in a superb climate; rich in fine farms, beautiful gardens, happy homes, and all the elements of permanent prosperity, Phoenix may well rest secure in its brilliant future.

Tempe, situated about nine miles up the river from Phoenix, is a beautiful village, which is fast assuming the proportions of a good-sized town. It contains several stores, a lumber yard, blacksmith's shop, and saloons. A large flouring mill, driven by water power, is located here, and the village has grown up around it. This mill manufactured during the year 1882, 2,750,000 pounds of flour, 50,000 pounds of cracked wheat, 50,000 pounds of corn meal, and 1,000,000 pounds of cracked barley. The village is built at the foot of a rocky bluff which overlooks the river. The streets are shaded with trees and cooled by running water, and the valley, in its charming beauty, has not been inaptly named after that lovely Grecian vale, famous in song and story.

Yuma county comprises the south-western portion of the Territory, and is bounded on the west by the Colorado river, on the north by Mohave county, on the east by Maricopa and Pima, and on the south by Sonora. It is one of the four counties into which the first legislature divided the Territory. Its area is 10,138 square miles. That portion of the county lying along the Colorado is traversed from north to south by parallel ranges of rugged mountains, almost devoid of vegetation, but rich in gold, silver, and copper. The eastern part is a table-land, covered with a fine growth of grass, and crossed in every direction by detached spurs, rocky and barren, and nearly all destitute of wood and water. The Gila river flows through the county for nearly 100 miles, forming, in its course, a rich and fertile valley. The Colorado washes its western boundary, and has large bodies of arable lands, which will be described in another place. Yuma county has rich mines and large tracts of agricultural land. Besides the railroad, it has the advantages of a navigable stream, which must ultimately develop and bring into prominence its great natural resources. It was one of the first counties in the Territory settled by Americans, and within its borders much of the early mining for the precious metals was inaugurated. In the north-eastern portion of the county is some of the finest grass land in Arizona. There is every reason to believe that artesian water can be found here. For him who

will make the effort and succeed, there is a fortune in the rich and nutritious pasturage which clothes hill, valley, and plain.

Yuma, the county seat, is situated on the Colorado, just below the junction of the Gila. The old town, and the fort on the other side of the river, from which it takes its name, have had rather a stirring history. In 1771, the Spanish fathers established a mission here which was destroyed by the Indians a few years later. The first permanent settlement on the site where Yuma now stands, was made by a Dr. Lincoln and others, in 1849. They established a ferry to accommodate the thousands who flocked to the gold regions of California, over the southern route. The Indians, who at first professed peace, soon rose against the strangers, and only three of the whites escaped with their lives. In 1850, the ferry was again started by Don Diego Jaeger, who still resides on a ranch near the town and is as full of life and energy as he was a third of a century ago. Jaeger's party was attacked by the Indians in 1851, compelled to retreat to California, and the enterprise was again abandoned.

In 1852, Colonels Heintzelman and Stoneman, both of whom afterwards rose to high distinction in the civil war—the last named being now Governor of California—marched across the Colorado desert with a detachment of troops and established Fort Yuma. The ferry was again started, and maintained until the Southern Pacific railroad threw a bridge over the Colorado, and forever put an end to its usefulness. In 1864, Yuma was made the distributing point for all the military posts in the Territory, and advanced rapidly in population and business. It was also the shipping point for Tucson and all the camps and settlements in Southern Arizona. It was then a live, bustling frontier town, where business was prosperous, gambling and drinking the most popular avocations, and where “a man for breakfast” was looked upon as a very ordinary incident.

The opening of the railroad destroyed Yuma's forwarding business, but it has yet quite a brisk trade with the surrounding country. It has several stores with large stocks of goods, a hotel (built by the railroad company), a large wagon manufactory which turns out vehicles especially adapted to this dry climate, saloons, restaurants, etc. The Sisters of Charity maintain a school here which is largely attended; there is also a public school open all the year. On a rocky bluff between the town and the river, stands the

Territorial prison. It is a secure and roomy structure built of stone quarried from the bluff, and dressed and laid by prison labor. The railroad company have repair shops at Yuma, and give employment to a large number of men. The *Arizona Sentinel*, a weekly newspaper, is published here, and is unceasing in its efforts to bring to notice the many resources and advantages of Yuma county. The population of the town is about 1,000. Many a thread-bare joke has been perpetrated at the expense of Yuma's climate, and strangers approach it with fear and trembling in the summer season. But even then no injurious effects are experienced. The air is wonderfully pure, dry and elastic, and has none of the depressing effects seen in moist, humid atmospheres. In winter, the climate is perfection itself, and no place on the Pacific is more favorable to the cure of pulmonary diseases than Yuma. Its qualities, in this respect, only require to be known to make it one of the most popular sanitariums in the United States.

The old fort, over which, for nearly a quarter of a century, floated the national emblem, has lately been abandoned, and the ancient landmark, in a few years, will succumb to neglect and inevitable decay. Around it cluster many interesting associations, but the advent of the iron-rail put a period to its usefulness, and the march of civilization has flanked this old frontier fortress of the south-west.

Pinal is one of the central tier of counties which embrace the largest portion of the agricultural lands in the Territory. It is bounded on the south by Pima, on the west by Maricopa, on the north by Maricopa and Gila, and on the east by Graham. South of the Gila, it is a country of open, grassy plains, dotted with clumps of barren mountains. To the north and east, the Pinal, the Tortilla, the Mescal, and the Superstition impinge on the rolling plains and valleys. The Gila flows through the county from east to west, and its south-eastern end is watered by the San Pedro. Its total area is 5,210 square miles. Although one of the smallest of the counties, Pinal is one of the richest in the Territory. It possesses large and rich tracts of agricultural land, excellent grazing ground, and some of the most valuable mines yet discovered in Arizona. Besides its ledges of gold, silver and copper, large deposits of coal have been found within its borders, which will, no doubt, yet prove valuable. Along the valleys of the Gila and the San Pedro is some of the very richest land in Arizona.

Water is abundant in both streams, and when properly utilized, five times the number of acres now reclaimed will be made productive. Pinal possesses the three great natural sources of wealth: mineral, agricultural and grazing lands. Her mines are among the richest and most productive in Arizona; her cattle ranges along the Gila, San Pedro and other points are among the most desirable in the west, and the soil of her fertile valleys is unsurpassed for richness.

The county is in a prosperous condition, and is steadily growing in wealth and population. Pinal was organized in 1871, from a portion of Pima. Its growth was slow, and retarded by Indian depredations, until the discovery of the wonderful Silver King demonstrated its great mineral wealth. Since then it has advanced steadily, and, to-day, offers inducements to the immigrant not surpassed by any county in Arizona.

Florence, the principal town of Pinal, stands in the valley of the Gila and about half a mile from the stream. It is twenty-five miles north-east of Casa Grande station, on the Southern Pacific Railroad, and eighty miles north of Tucson. Like Phoenix, it sits embowered in groves of cottonwoods, and streams of clear water run through every street. The valley surrounding the town is under a high state of cultivation; fields of waving grain and *alfalfa*, and orchards loaded down with delicious fruit, meet the eye in every direction. The place has a delightful situation, and with its pleasant homes surrounded by trees and shrubbery, its pure water and healthy climate, it is one of the most attractive spots in the Territory. The buildings are principally of adobe, and generally one story high. There are several large stores with stocks of general merchandise, two hotels, two public schools, a flouring mill, brewery, restaurants, saloons, blacksmith shops, and all the other accessories of a frontier town. Florence is yet destined to become one of the leading towns of the Territory. Its situation makes it the natural supply point for the extensive mining region north and east. With abundance of water, and a soil of such fruitfulness, it will yet become one of the most beautiful towns west of the Rocky Mountains. There is a large Mexican population settled here, but within the past three years many American families have made homes in the valley and town, and there is no place in Arizona that contains a more charming and

cultured social circle than this pleasant little town on the Gila.

The Catholics have a handsome church, built of adobe. The county court-house is also of the same material, and is a plain but commodious building. A new school-house will soon be completed. It will be 60 feet square, two stories high, and finished in a style that will make it an ornament to the place. The town was laid out in 1868, and has a brisk trade with the surrounding valley and the different mining camps. It has a population of nearly 1,200. The *Territorial Enterprise* is published here. It is one of the most ably conducted journals in the Territory, and a faithful and vigilant champion of the rights and interests of the people it represents. It is untiring in its efforts to bring the resources and attractions of its town and county before the world. Thomas F. Weed is the editor and proprietor. The Order of United Workmen have a lodge in Florence, which is in a flourishing condition. Florence is about 2,500 feet above the sea-level, with a climate during the summer months that will rival that of its famous namesake on the Arno. There is room for ten times the number of people in the valley which surrounds it, and as the rich land now lying idle is brought under cultivation Florence will grow and prosper.

Pinal is situated on Queen creek, about thirty miles north-east of Florence. Towering above the town on the west is the lofty Tortilla peak, an immense mass of basaltic rock. A picket post was maintained at this point for several years as a protection to the farmers of the Gila valley against the raids of the Pinal Apaches. The town is built of wood and stone, and presents a solid and attractive appearance. There are several stores with stocks of general merchandise, two hotels, with restaurants, saloons, etc. There is a handsome Methodist church, and a public school, which is well attended. The mill and reduction works of the Silver King Mining Co. are situated at this point, and the many mines which surround the town in all directions bring a prosperous trade. Population about 400.

Silver King is five miles north-east of Pinal. It is built up around the famous mine from which it takes its name, and is a handsome and prosperous camp of some 500 souls. There are several large stores carrying good stocks, two hotels, many saloons and other lines of business usually found in a mining camp. The Odd Fellows have lately

erected a fine hall here, and have a flourishing organization. The town is pleasantly situated at the foot of the lofty Pinal range, and has an abundant water supply from a spring on the other side of the mountain, which is piped to the camp.

Casa Grande is one of the most prosperous towns in the county. It is situated on the Southern Pacific Railroad, some sixty miles west of Tucson, and is the shipping point for Florence, the valley surrounding it and all the mining region beyond. It is less than 60 miles from the Quijotoa mines, over a fine natural road, and in all probability will be the point of departure for a large portion of the freight and travel to that camp. Although the principal part of the town was reduced to ashes a few months ago, it is again built up and is steadily growing. The new buildings are mostly of adobe, large, roomy structures. There are a number of stores and forwarding houses, a good hotel, restaurants, saloons, corrals, etc. Population about 500.

Gila county was formed from portions of Pima and Pinal by the legislature of 1881. It is the smallest county in the Territory—its area being only 3,400 square miles. It is bounded on the north by Yavapai, on the east by Graham and Apache, on the south by Pinal, and on the west by Pinal and Maricopa. It is a compact mineral county, crossed in all directions by detached mountain spurs, while its rolling uplands are covered by a fine growth of grass. The Pinal range, which crosses the county south and west, is heavily timbered, while the Sierra Ancha and the Mazatzal ranges, on the north, have a thick growth of pine, oak, and juniper. The Salt river flows through the northern portion of the county, while the Gila washes its southern border. Every mountain and peak is rich in minerals, and fine stock-ranges are found in every direction, but the largest and best portion of its farming lands is within the San Carlos reservation.

The first permanent settlement in Gila county dates from the mineral discoveries in the Globe district, in the year 1876. These were among the richest ever made in the West, and created a sensation in mining circles all over the coast. Population increased at a rapid rate, and five years later the people demanded a separate county organization. The distance to a railroad has been a serious drawback to the development of Gila's resources, but that obstacle will soon be overcome, and the county placed in direct commu-

nication with the outer world. It has great natural gifts in the way of mineral, timber and grass, and will eventually become one of the most populous and prosperous counties in the Territory. Although it cannot be strictly classed as an agricultural county, it possesses some very fertile valley-lands along the Salt river, and its tributaries coming down from Tonto Basin; but as a mineral and grazing section, it is not excelled by any political division of the Territory. Its rolling hills and valleys are covered all the year round with a heavy growth of *gramma*, while every hill and mountain is seamed with ledges of gold, silver, and copper.

Globe, the county seat of Gila, is a beautiful town, situated on Pinal creek, among the rolling, grassy foot-hills of the Pinal mountains. It is 120 miles north-west from the railroad station at Wilcox, and about ninety miles north-east of Florence. The town stretches along the narrow valley of the creek, while many private residences occupy charming situations on the smooth, grassy hills which rise on either side. The houses are built of wood and brick, neatly painted, and present a very attractive appearance. The climate is delightful all the year, the water is pure, clear and cold, and Globe is one of the healthiest places in Arizona. There are twelve mercantile houses, two hotels, restaurants, saloons, lumber and feed yards, a brewery, blacksmith and wagon shops, and the other business establishments usually found in a mining camp. There is one bank, a public school, and a handsome Methodist church, built of wood, and a Baptist meeting-house. The town sprang into existence after the rich mineral discoveries in the vicinity, in 1876. It is the supply point for nearly the entire county, and its business men do a large and prosperous trade. The population is about 1,000. Globe is one of the handsomest towns in the Territory. Many families have established tasteful homes here, and the place has more the air of an old settled Eastern community, than a new Western mining camp. The population are among the most enterprising, energetic and intelligent in Arizona. They are justly proud of their beautiful home, and firm believers in its future. At its very doors are some of the richest silver and copper mines in the Territory; and with the building of the Mineral Belt railroad, its permanent prosperity is assured. Globe has two weekly newspapers—the *Silver Belt*, and the *Chronicle*. Both have done and are doing valuable work in calling attention to

the many resources of Gila county. The *Bell* is the official paper of the county, and was published long before the county had a political existence. It is owned and edited by Judge A. H. Hackney, an old and accomplished journalist, formerly of the *Missouri Republican*. The Odd Fellows, Masons, and Workmen have prosperous lodges in Globe.

Graham county was organized in 1881, from portions of Pima and Apache. It embraces the rich agricultural lands of the upper Gila, and the extensive copper deposits of the San Francisco and its tributaries. The county has an area of 6,485 square miles. It is bounded on the east by New Mexico, on the south by Cochise, on the west by Pinal and Gila and on the north by Apache. The Galiuro, the Graham, and the Peloncillo mountains extend through the county, south of the Gila, while the Sierra de Petahaya and the Sierra Natanes cross its surface north of that stream. The mountains are generally well wooded, and the rolling plains and valleys are covered with rich grasses, which support large herds of stock. The Gila river flows through the county from east to west, forming the Pueblo Viejo, one of the finest agricultural valleys in the Territory.

Graham has three great elements which build up prosperous communities—mining, farming and grazing. It has an abundant water supply, rich soil, fine grasses, and extensive mineral deposits. It has, besides, a perfect climate whose equable temperature brings health and strength every month throughout the year. The eastern portion of Graham county, lying along the San Francisco river and its tributaries, is a rough, mountainous region, but rich in vast bodies of copper, silver, and gold; the north is an elevated plateau covered with excellent pasturage. The valley of the Gila contains as rich a soil as can be found in Arizona, while the Graham, the Pinaleno, and the Galiuro ranges in the western division of the county, are well wooded, and embrace some choice stock-ranges. Graham is destined to be the home of a large population, and there is no part of the Territory that offers better inducements to the farmer, the cattle-raiser or the mining investor. The population is rapidly increasing, and many families are seeking homes in the beautiful Pueblo Viejo, while large droves of cattle are being driven in from Texas and Colorado. Its vast mineral wealth has caused the investment of a large amount of capital, and although one of the youngest, few

counties in the Territory are making more rapid advancement.

Solomonville, the county seat of Graham, is situated near the center of the valley, and is surrounded by a rich agricultural country. The location is a delightful one, with the valley spreading like a sea of verdure to the east, west and north, with the pine-clad Graham mountain uplifting its dark and precipitous front to the south and west, and with the circling hills of the Gila and Ash Peak ranges, shutting in the view to the north and east. A handsome courthouse, built of sun-dried brick, has recently been completed, and is one of the most commodious in the Territory. Several neat private residences have also been erected during the past year, and the place has entered on a career of steady and permanent growth. There is a large general mercantile establishment, a hotel, blacksmith shop, saloons, etc. Surrounded by a rich agricultural and grazing region, Solomonville will yet become one of the most beautiful and prosperous towns in the Territory. Present population, about 400.

Safford, the former county seat, is six miles down the valley from Solomonville. It is a pretty little village surrounded by cultivated fields and orchards, and containing two stores, a hotel, flouring mill, and several neat private residences.

Clifton, the largest town in the county, is built in a narrow cañon on both sides of the San Francisco river, with lofty cliffs of trachyte and conglomerate rock rising precipitously on either hand. The town has all the peculiar features of a new mining camp. The houses are scattered along the river at the foot of the cliffs for over a half mile. Many of the inhabitants live in tents and canvas-covered shanties. The population is about 1,000, and rapidly increasing. There are half a dozen mercantile establishments, two hotels, saloons in plenty, restaurants, and all the other belongings of a young, prosperous and active mining town. The place is growing rapidly, and owing to the narrow limits of the building ground between the river and the rocky walls on either side, lots command a good price. The reduction works of the Arizona Copper Company are situated here, and employ a large number of men. The narrow-gauge railroad from Lordsburg has its terminus here. During the past year the town has improved very much in the style of its buildings. Several large brick

structures have been put up, giving the place an appearance of solidity which it did not possess before. The merchants carry heavy and finely assorted stocks, and there is a large and steadily growing traffic with the surrounding mining camps and cattle ranges. The river is crossed by two suspension foot-bridges, which afford a convenient means of communication between the residents on either side. Clifton is the typical Arizona mining camp. The Mexican element is large, and there is a sprinkling of nationalities from nearly every civilized land. Gambling halls and dance houses are well patronized. In its population, its situation and surroundings, it is the most cosmopolitan and picturesque town in Arizona. The newcomer from the East, who for the first time looks in upon one of its lively *fandangos*, and beholds the motley crowd whirling in the mazes of the dance with the dusky daughters of Sonora, will have a new revelation of life in a "live" mining town. Despite its unfavorable situation, Clifton will grow and prosper, and for years to come be one of the liveliest towns in Arizona. The *Clifton Clarion* is published here every week. It is a newsy journal, an able exponent of the vast resources of the district, and one of the most enterprising papers in the Territory. D. L. Sayre is editor and proprietor.

Mohave county occupies the north-western corner of the Territory, and is one of the four original political divisions into which Arizona was divided. It is bounded on the west by the Colorado river, on the north by Utah and Nevada, on the east by Yavapai, and on the south by Yuma. Its area is 12,000 square miles. Mohave is a land of rugged mountain ranges, and broad valleys covered with nutritious grasses. Four well-defined ridges, the Sacramento, the Cerbat, the Hualapai and the Cottonwood, traverse the county from north to south. The Hualapai and the Cottonwood have a fine growth of timber, while all of them are mineral-bearing.

Mohave county was organized in 1864, and has been the scene of active mining operations ever since. For years its only means of communication with the outer world was by the long, tedious, and uncertain route of the Colorado river, and as a consequence the development of its resources was slow. The building of the Atlantic and Pacific railroad has changed all this, and cheap freights and rapid communication will bring capital and population to Mohave. This

county is pre-eminently a mineral region. South of the Colorado, every mountain range, hill and isolated peak is a treasure-vault of the precious metals. Gold, silver, copper, iron, lead and nearly every valuable mineral known to science, is found within its borders. In its magnificent valleys, like the Hualapai and the Sacramento, is found the richest of pasturage, and although water is not plentiful on the surface, there is hardly a doubt but an abundant supply can be had by sinking. Once the problem of flowing water is solved, and Mohave will become one of the leading stock-growing counties of the Territory. Along the Colorado and the Sandy, there is some rich farming land, most of which yet remains unoccupied. Since the opening of the trans-continental railroad the county has made rapid progress in population and material prosperity. There are here all the elements which give assurance of a brilliant future.

Mineral Park, the county seat, is situated on an elevated bench on the western slope of the Cerbat-range. It stands in an amphitheater of rugged mountains, with the rocky cone of Sherum's Peak towering over all. It is 30 miles east of the Colorado and 130 miles north-west of Prescott. The houses are mostly of adobe. There are five stores, a hotel, restaurants, saloons, blacksmith shops, etc. There is a commodious public school-house, which is well attended. The town is the supply-point for numerous mining-camps and cattle-ranges. Its present population is about 500, which is being rapidly increased since the building of the railroad. The place has grown and improved very much within the past year. Many handsome private residences and several business houses have been erected. The town has a healthful situation, and as the mining region which surrounds it is developed, its population will grow and its trade increase. It is one of the oldest settlements in northern Arizona, and its people are deserving of all praise for the steadfast faith they have ever shown in its future. The *Mohave Miner* is published here once a week, by James J. Hyde. It is an industrious and intelligent exponent of the great natural resources of Mohave county.

Kingman, a station on the Atlantic & Pacific road, is situated in the Hualapai Valley, some twelve miles east of Mineral Park. It is the shipping point for the last-named town and the mining camps east and west. It contains two forwarding houses, a hotel, saloons, etc. Reduction works have been erected at this point, which promises to become a place of importance.

Apache is the last, but by no means the least important, of the ten counties of the Territory. It was formed in 1879 from the eastern portion of Yavapai, and is the second largest county in the Territory, having an area of 20,940 square miles. It is bounded on the north by Colorado, on the east by New Mexico, on the south by Graham and Gila counties, and on the west by Yavapai. The county embraces the eastern portion of the great Colorado plateau, and its elevation above sea level is from four to six thousand feet; some of its lofty peaks attain a height of over 11,000 feet. It is a well watered and timbered region, and its elevated table-lands and valleys bear a fine growth of grass. North of the Little Colorado, the country is made up of elevated *mesas*, isolated mountains, and cañons worn deep into the earth by the floods of centuries. In the northern part of the county is that remarkable plateau known as the *Mesa la Vaca*, a smooth table-land raised nearly a thousand feet above the surrounding country. It is covered by a growth of fine grass, and by clumps of stunted pines and cedars. Here is the great coal region of Arizona, which extends across the county and contains fuel enough to supply the United States for ages to come.

South of the thirty-fifth parallel, Apache county is one of the most attractive portions of the Territory. The snow-fall in the winter months is quite heavy, and gives rise to many beautiful, clear streams which flow out from the Mogollon and Sierra Blanca into the adjoining valleys. Large and beautiful trout are found in nearly all the streams, and the mountains are full of bear, deer and wild turkey. With a camp by the side of a clear, bubbling spring in some grassy glade, shaded by towering pines, one can pass the summer months here as pleasantly as in any part of the great west. Since the completion of the Atlantic and Pacific railroad, the isolation which was so great a bar to the material advancement of the county has been removed, and population is rapidly pouring in. Many Mormon colonies from the neighboring territory of Utah have settled in Apache county, and reclaimed large tracts of rich lands along the water-courses. With its vast deposits of coal, valuable forests of pine, extensive stock ranges and rich farming lands, Apache has all the natural advantages to build up a rich and populous community. The county is well watered by the Little Colorado and its main tributaries, and along those streams there is excellent

soil which produces fine crops of cereals and vegetables. Its grass lands are among the best, while the vast forests of pine in the southern part of the county are yet untouched. The climate could hardly be improved upon, and with all these gifts it is not surprising that Apache should grow and prosper.

St. Johns, the principal town of the county, is on the Little Colorado, about sixty miles south of Holbrook, on the Atlantic and Pacific railroad. The town has a population of 1,200 souls, and is growing steadily. It is the center of trade for a large agricultural and grazing region. There are five mercantile houses that do a heavy trade in grain, wool and hides. There is a handsome court-house and jail, a public school, and a commodious Catholic church. Two weekly newspapers are published here, the *Orion Era* and the *Apache Chief*, the latter by George A. McCarter. The *Era* represents the Mormon element of the population, and is a well-conducted journal. The *Chief* has but lately been established, but is doing able and faithful work for its town and county. St. Johns has an admirable situation, and is destined to become a place of importance. The town is built principally of adobe, but there are many handsome residences of wood.

Holbrook is on the Atlantic and Pacific road and near the junction of the Rio Puerco with the Little Colorado. It is the shipping point for St. Johns and nearly all the settlements in Apache county. The town is prosperous and growing rapidly. It contains half a dozen stores, two hotels, blacksmith shops, saloons, corrals, etc. The population is placed at 500. It has a pleasant situation in the valley of the Colorado Chiquito, is the center of a good farming and extensive grazing region, and is sure to grow. The houses are built of wood and adobe, and the place presents a thrifty and attractive appearance. The *Holbrook Times* is published here weekly by Col. Reed, and is one of the neatest and newsiest of all the Territorial journals.

From the latest data at hand, the total assessed valuation of property in the Territory for the year 1884, is as follows:

Pima County.....	\$5,000,000
Cochise "	4,263,684
Yavapai "	3,785,131
Maricopa "	2,078,147

Pinal County.....	1,753,000
Mohave ".....	1,756,000
Graham ".....	1,181,064
Gila ".....	1,115,000
Apache ".....	1,090,000
Yuma ".....	1,000,000
Total.....	\$23,022,026

These figures show that the Territory is rapidly growing in wealth, having more than doubled within the last four years. That the increase during the next four years will be proportionately greater, is beyond doubt.

According to the census of 1882, the population of the Territory was as follows:

Yavapai County.....	27,680
Pima ".....	17,427
Cochise ".....	9,640
Maricopa ".....	6,408
Apache ".....	6,816
Graham ".....	4,229
Pinal ".....	3,362
Yuma ".....	3,922
Mohave ".....	1,910
Gila ".....	1,582
Total.....	82,976

The national census of 1880 gave the population of Arizona as 41,580. These figures show that it has very nearly doubled within two years. A more remarkable growth than this can be shown by few States or Territories in the Union, and the increase goes steadily on. With the opening of branch railroads, the construction of large irrigating canals and the opening of new mines, Arizona will soon have the requisite population to entitle her to admission to the honors of statehood, and when she takes a seat among her sisters, there will not be in that bright galaxy a fairer face crowned by a richer or rarer diadem.

"The State of every State the pride,
Beloved by heaven and all the world beside."

CHAPTER V.

CIVIL AND MILITARY.

ARIZONA, as one of the Territories of the Federal Union, has her Governor and leading executive and judicial officers appointed by the President and confirmed by the Senate. These officers hold their places during the pleasure of the Chief Executive of the nation, and until their successors are appointed and qualified. The Territory is entitled to one delegate in Congress, who is elected every two years. This representative has no vote in the national councils, and has not even the privilege of speaking, unless some member of Congress should extend that courtesy by allowing him a portion of his own time. In fact, a delegate from a Territory is little more than a figure-head in the halls of Congress. Being deprived of both voice and vote, he has few opportunities to make known the wants and requirements of his distant constituents, and is compelled to beg for those favors which in right and justice he should demand. The present delegate system works serious hardship to the people of the Territories, depriving them of their only legitimate means of making known their wants and setting forth their grievances to the Federal Government.

A Territorial legislature, and all county officers, are elected every two years. The session of the legislature is limited by congressional enactment to sixty days. They receive a per diem of \$4, which is paid out of the federal treasury. They are clothed with power to frame all needful laws, subject, however, to approval or rejection by Congress. The Territory is divided into three judicial

districts, each of which is presided over by one of the three judges who compose the federal judiciary of the Territory. Terms of court are held at the county seats of the different counties at least once a year, and in the more thickly populated counties two terms are held, one in the spring, and the other in the fall. Owing to the immense area over which population is scattered, and the rapid increase of legal business during the past three years, the present number of judges is inadequate to the task of meeting it, and litigants are subjected to heavy costs and vexatious delays. There is a universal demand for another federal judge, and Congress, by providing for his appointment, will only have performed an act of simple justice to the people.

Two land offices have been established in the Territory, one at Prescott, and the other at Tucson. Persons desirous of entering the lands of the public domain, can do so at either of those places, where all information regarding the location and the mode of procedure may be obtained.

The first Governor of Arizona was John N. Goodwin; Secretary, Richard C. McCormick; Chief-Justice, William F. Turner; Superintendent of Indian Affairs, Charles D. Poston; Associate Justices—William T. Howell, Joseph P. Allyn; District Attorney, Almon Gage; Surveyor-General, Levi Bashford; Marshal, Milton B. Duffield. These officers were appointed on the organization of the Territory, and, as before stated, established the seat of government at Prescott, in 1863. Since then, the following are the names of the principal federal officers of Arizona:

1865.

Governor.....	JOHN N. GOODWIN
Secretary.....	RICHARD C. McCORMICK
Chief-Justice.....	WILLIAM F. TURNER
Associate Justice.....	HENRY T. BACKUS
Associate Justice.....	JOSEPH P. ALLYN

1866.

Governor.....	RICHARD C. McCORMICK
Secretary.....	JAMES P. T. CARTER
Chief Justice.....	WILLIAM F. TURNER
Associate Justice.....	JOSEPH P. ALLYN
Associate Justice.....	HENRY T. BACKUS
United States Marshal.....	EDWARD PHELPS

1867.

Governor.....	RICHARD C. McCORMICK
Secretary.....	JAMES P. T. CARTER
Chief-Justice.....	WILLIAM F. TURNER
Associate Justice.....	HENRY T. BACKUS
Associate Justice.....	HARLEY H. CARTER
Surveyor-General.....	LAWRENS UPSON

During the session of the legislature in 1867, an act was passed removing the Territorial capital from Prescott, and locating it at Tucson. This gave rise to a great deal of sectional feeling between the northern and the southern portions of the Territory, which was a controlling factor in Arizona politics for years, and has not yet entirely disappeared. McCormick filled the Governor's chair until 1870, when he was elected to Congress, and the following officers were appointed to federal positions :

Governor.....	A. P. K. SAFFORD
Secretary.....	COLES BASHFORD
Chief-Justice.....	JOHN TITUS
Associate Justice.....	ISHAM REAVIS
Associate Justice.....	C. A. TWEED
Surveyor-General.....	JOHN WASSON
District Attorney.....	C. W. C. ROWELL

During the years 1871, '72, '73, '74, '75, '76, and '77, Safford occupied the Gubernatorial chair. In 1873 De Forest Porter was appointed Associate Justice, in place of Isham Reavis, and James E. McCaffrey was made District Attorney, *vice* Rowell, removed. In 1874 Edward F. Dunne was appointed Chief Justice, in place of John Titus, deceased. In 1876 John P. Hoyt, of Michigan, was appointed to fill the place of Territorial Secretary, made vacant by the death of Coles Bashford, and E. B. Pomeroy was sent out to take the office of District Attorney, left vacant by the death of McCaffrey. In 1877 Edward T. Dunne resigned the office of Chief-Justice, and C. G. W. French took his place.

These were the only changes in the federal offices during the incumbency of Governor Safford. In the latter part of 1877 Safford resigned, and John P. Hoyt, the Secretary of the Territory, was nominated and confirmed as Governor of Arizona. He held the office for nearly a year, and was succeeded by Gen. Fremont. The following were the Territorial officers in 1879 :

Governor.....	JOHN C. FREMONT
Secretary.....	JOHN J. GOSPER
Chief-Justice ...	C. G. W. FRENCH
Associate Justice.....	DEFOREST PORTER
Associate Justice.....	CHARLES SILENT
District Attorney	E. B. POMEROY
Surveyor-General	JOHN WASSON
Marshal	C. P. DAKE

In 1881 W. H. Stilwell succeeded DeForest Porter as Associate Justice, and — Hoover took the place of Judge Silent, who resigned. Hoover was shortly succeeded by D. H. Pinney, and Stilwell gave place to Judge Sheldon, who died in office. In the latter part of 1881 Governor Fremont resigned, and Secretary Gosper filled the chair until the appointment of the present incumbent, F. A. Tritle, in 1882. During the present year, Hon. Sumner Howard, of Michigan, has taken the place of Chief-Justice, so long and ably filled by Judge French. The following are the federal officers of the Territory at the present time:

Governor.....	F. A. TRITLE
Secretary.....	H. M. VAN ARMAN
Chief-Justice.....	SUMNER HOWARD
Associate Justice.....	D. H. PINNEY
Associate Justice.....	W. S. FITZGERALD
Surveyor-General.....	ROYAL A. JOHNSON
United States Marshal	Z. L. TIDBALL
United States District Attorney...J. A. ZABRISKIE	
Collector of Internal Revenue.....S. W. FISHER	
Deputy Collector.....	R. J. BUTLER

The following are the Territorial officers appointed by the Governor, and confirmed by the Legislative Council:

Treasurer.....	T. J. BUTLER
Auditor.....	E. P. CLARK
Attorney-General.....	CLARK CHURCHILL
Adjutant-General.....	M. H. SHERMAN
Superintendent Public Instruction,	W. B. HORTON

The present delegate in Congress is Granville H. Oury, of Florence, now in his second term.

The Governor is Commander-in-chief of the Territorial militia. Although that body does not present a very formidable appearance at present, steps have been taken to place it on a footing of something like efficiency. Two

companies have been organized at Prescott, and duly mustered in. They are furnished by the Territory with the latest improved weapons, and have made creditable progress in drill and discipline. A company known as the "Phoenix Guards" has been formed in Maricopa county, but they have not yet been formally mustered into the Territorial service. During the last session of the legislature a bill was introduced providing for the organization of the militia in every county, but it failed to pass. No doubt such a measure is demanded by the best interests of the Territory, and, shorn of the objectional features which defeated the bill at the last session, will soon become a law.

As has been mentioned elsewhere, Charles D. Poston was the first delegate. He attended the short session of the Thirty-eighth Congress—three months. In 1864 there were three candidates for the position, and the vote by counties was as follows:

Counties.	John N. Goodwin.	Chas. D. Poston.	Joseph P. Allyn.
Yavapai.....	409	52	118
Mohave.....	80	56	29
Yuma.....	56	149	26
Pima.....	162	3	208
Total....	707	260	381

Although no party lines were drawn, the three candidates were understood to be Republicans. Two years later, in 1866, the candidates and the votes cast were as follows:

Counties.	Coles Bashford (Rep.)	Chas. D. Poston (Rep.)	Samuel Adams (Ind.)
Yavapai.....	226	217	48
Mohave.....	27	65	89
Yuma.....	89	146	31
Pima.....	526	89	..
Pah-Ute.....	141	1	..
Total.....	1009	518	168

In 1868, there were again three candidates before the people, R. C. McCormick, John A. Rush, and Samuel Adams. The contest resulted in the election of McCormick by the following vote:

Counties.	John A. Rush (Dem.)	R. C. McCormick (Rep.)	Samuel Adams (Ind.)
Yavapai.....	425	202	9
Mohave.....	40	23	9
Yuma.....	300	80	..
Pima.....	71	932	14
Total.....	836	1237	32

In 1870, the field was left to two aspirants, McCormick, who wished to succeed himself, and Peter R. Brady. McCormick was elected by the following vote:

Counties.	R. C. McCormick (Rep.)	Peter R. Brady (Dem.)
Yavapai.....	482	620
Mohave.....	51	1
Yuma.....	738	33
Pima.....	522	178
Pah-Ute.....	89	...
Total.....	1882	832

In 1872, Richard C. McCormick placed his name before the people for a third term and, there being no opposition, was elected unanimously. In 1874, three candidates were in the field and the campaign was a lively one. As will be seen by the votes cast at this election, the Territory was steadily increasing in population. In this contest, Hiram S. Stevens, of Tucson, bore off the prize, as the following vote will show:

Counties.	C. O. Bean (Rep.)	H. S. Stevens (Ind. Dem.)	John Smith (Rep.)
Pima.....	22	700	257
Yuma.....	106	248	31
Mohave.....	219	31	17
Maricopa.....	88	159	184
Yavapai.....	641	304	82
Total.....	1076	1442	571

In 1876, Stevens ran for the second term and G. H. Oury, of Pinal, and William H. Hardy, of Mohave also entered the race. After a sharp contest, Stevens was re-elected.

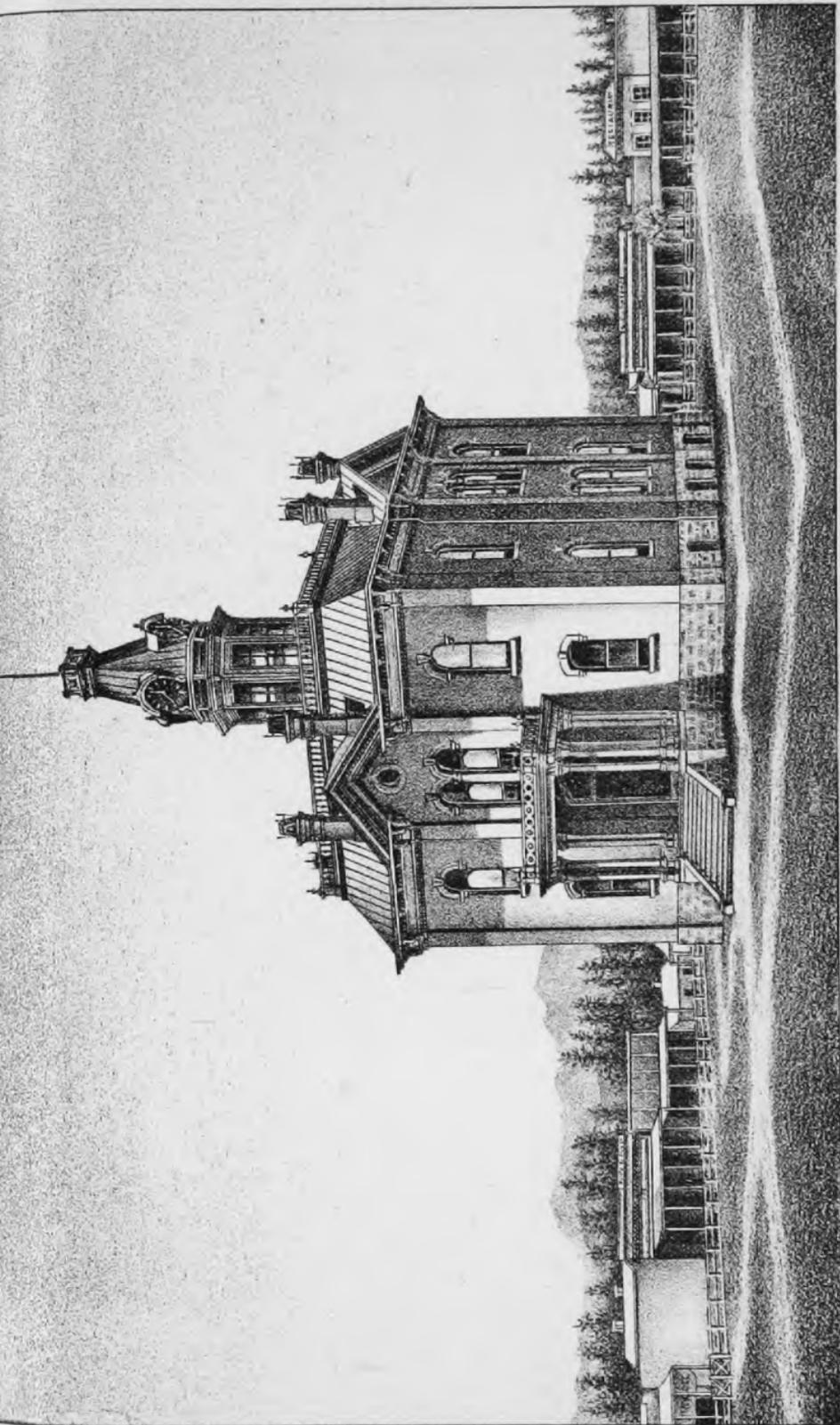
Counties.	H. S. Stevens (Ind. Dem.)	W. H. Hardy (Rep.)	G. H. Oury (Dem.)
Pima	497	26	206
Pinal	75	3	205
Yavapai.....	400	801	259
Yuma.....	164	6	29
Mohave	26	202	57
Maricopa.....	32	11	251
Total	1194	1049	1007

In 1878, there were four candidates in the field, namely: John G. Campbell, of Yavapai; Hiram S. Stevens, of Pima; King S. Woolsey, of Maricopa; and A. E. Davis, of Mohave. After an exciting contest, Campbell was elected by a plurality of 335. We are unable to present the vote by counties, but the totals were as follows:

John G. Campbell (Dem.).....	1452
Hiram S. Stevens (Dem.).....	1090
A. E. Davis (Rep.)	1097
King S. Woolsey (Dem.)	822
Total vote	4461

The campaign of 1880 opened with both parties organized, and with regularly nominated candidates in the field. Heretofore no party conventions had been held, and the race for delegate was opened to all who chose to announce themselves, and had the necessary financial bottom that promised success. The people became tired of this plan, and in 1880 both the Democrats and Republicans met in convention and selected candidates for Congress. Granville H. Oury was made the Democratic standard-bearer, and M. W. Stewart was named by the Republicans. The campaign which followed was the most exciting ever known in the Territory. It resulted in the election of Oury by a majority of 489. The following was the vote by counties:

Counties.	G. H. Oury (Dem.)	M. W. Stewart (Rep.)
Apache.....	309	290
Maricopa.....	644	368
Mohave	132	137
Pima.....	1692	1792



COURT HOUSE, PRESCOTT, A.T.

Counties.	G. H. Oury (Dem.)	M. W. Stewart (Rep.)
Pinal	541	254
Yavapai	698	815
Yuma	160	122
	<hr/>	<hr/>
Total	4176	3778

In 1882, the Democrats renominated Oury, and the Republicans placed in the field DeForest Porter, of Maricopa County. Oury was again elected by an increased majority, as the following table will show:

Counties.	G. H. Oury (Dem.)	DeForest Porter (Rep.)
Apache	444	617
Cochise	1500	1224
Gila	394	316
Graham	375	188
Maricopa	453	438
Mohave	294	161
Pima	924	880
Pinal	487	187
Yavapai	1103	1068
Yuma	147	164
	<hr/>	<hr/>
Total	6121	5243
	Majority for Oury....978	

As will be seen by a glance at the votes cast at each election, there is a marked increase in population within the past four years. With the same ratio of increase during the next two years, which there is every reason to expect, Arizona will have more than the required number of inhabitants to entitle her to admission as a State. In a territorial condition the country is compelled to suffer that neglect which seems to be the fate of all the political wards of the government.

But with representatives on the floors of both houses of Congress, she will be in a position to demand recognition where now she is obliged to humbly sue for favors. There are several matters of the utmost importance to the people of Arizona, which demand consideration at Washington, but so long as she wears her territorial swaddling clothes she is not apt to receive many favors at the National Capital.

The military annals of Arizona are indissolubly linked with the country's history, and embrace many of its most

brilliant chapters. The military posts have been the nucleus around which have grown up many of the cities, towns, and mining camps of the Territory. Their establishment marked the triumph of civilization over savagery; and their subsequent history is alive with the thrilling events of twenty years of blood and carnage. Each and all of them have a record of death and daring, of moving incidents by field and flood, of gallant deeds and splendid achievements. Against a cunning and blood thirsty foe, who outnumbered them ten to one, they saw the flag planted and raised in this western wilderness which opened the way for the progress and prosperity that followed in their wake. The lonely graveyard, so marked a feature of all, tells how great was the sacrifice that won this land from barbarism; and the green turf that covers many a humble resting-place, shows how desperate was the struggle, and how stubbornly the Apache fought for his rugged mountains and sunny vales.

In no region of the frontier has the army done more brilliant work than in Arizona. From the acquisition of the country up to the year 1874, there was constant warfare with the Apache; and although hostilities might be suspended for a time, they were sure to break out again with added activity and increased ferocity. As a consequence, the small number of troops in the Territory were always under arms or in the saddle. The hardships, sufferings, and privations experienced by officers and men were something frightful; and many an old campaigner still retains a too vivid recollection of his privations from hunger and thirst while chasing the red devils over the plains and mountains of Arizona. The rugged nature of the mountainous region where the Indian always resorted when closely pursued made it almost impossible to follow him to his rocky fastnesses, and his perfect knowledge of the country gave him an additional advantage over his pursuers. He was fighting on his native heath, knew every trail and water-hole, was accustomed to the climate, inured to hardship, and an adept in all the stratagems of savage warfare.

Yet against these heavy odds the fight was maintained, and the foe steadily driven back. The outside world knew little of the struggle going on for years in distant Arizona; and the dry and meager details of an official dispatch are the only record left of many a combat made memorable by

deeds of personal bravery and individual prowess. Had these actions been performed on a civilized stage, with all the world for spectators, History would have embalmed them in her pages, poets would have wedded them to immortal verse, and the trump of fame would send the names of the participants down the ages, not unworthy to rank with those who kept the bridge "in the brave days of old." Many of the officers who rose to high command in our Civil War, and whose names are now a part of the history of that great struggle, first saw service in Arizona; and their experience here proved valuable in the wider field of civilized warfare.

The limits of the present work will not permit the writer to give a full and complete account of the military campaigns against the Apaches, in Arizona. Even if space would allow, the necessary data for such a presentation cannot be had. Nearly all of the records were destroyed in the fire which consumed the Headquarters, at Fort Whipple, some years ago. From the fragments which escaped the flames, and from the lips of many who participated in the stirring incidents of those dark and bloody days, a sketch of the several posts is here presented, together with a brief résumé of the memorable events interwoven with each. It will give the reader some idea of the trials and the triumphs of those who followed the trade of war in this Territory. And in paying this tribute to the names and deeds of the living, as well as the dead, there is only performed an act of simple justice to the men whose good swords conquered a peace, and brought security and prosperity to Arizona. The memory of those who yielded up their life in the fierce struggle will always be precious to the citizens of this Territory; and their humble graves sacred shrines, where bravery and honor shall often kneel,

"When Spring, with dewy fingers cold,
Returns to deck their hallowed mold;
She there shall dress a sweeter sod
Than Fancy's feet have ever trod."

In May, 1870, Arizona was formed into a separate Military Department, with the present Governor of California, then Bvt. Maj. Gen. George Stoneman, in command. The subsequent commanders have been as follows, in the order named: Maj. John Green, 1st Cavalry; Brig. Gen. George Crook; Col. A. Kautz, 8th Infantry; Col. A. B. Wilcox,

12th Infantry; and Gen. George Crook, who is the present head of the Department.

After the acquisition of the Gadsden Purchase, in 1854, the first troops to enter and take formal possession in the name of the United States was a detachment of the 1st Dragoons, under Maj. Fitzgerald. Two companies of the regiment established Fort Buchanan, at the head of the Sonoita Valley, about 65 miles south east of Tucson. This was the first military post established by the Government in Arizona. Some time afterwards, another post was laid out near the junction of the Aravaipi with the San Pedro, and named Fort Breckenridge. For several years Capt. Richard Ewell, who, later on, achieved such distinction in the Confederate service, commanded at Buchanan. From the establishment of the post, up to its abandonment in 1861, the garrison was nearly always in the field against marauding bands of Apaches, who were continually harassing the scattered settlements on the San Pedro. Many an old warrior now on the San Carlos reservation retains a vivid recollection of "Baldy" Ewell, and many a stalwart brave went down before the keen sabers of his dashing troopers, food for the buzzard and the coyote. Although he had but a handful of men, Ewell worsted the enemy in every engagement, and showed himself as thorough an Indian-fighter as he afterwards proved a brave, daring, and accomplished general.

Ewell was succeeded in 1860 by Col. Morrison, with two companies of the Seventh Infantry. A short time after he assumed command, a settler in the Sonoita valley, named Ward, came to the Fort, and complained that the Indians had plundered him of two mules, three horses, and a Mexican boy whom he had adopted. Lieut. Bascom was sent out with a detachment to Apache Pass, one of Cochise's strongholds, with instructions to recover and bring back the stolen property and the boy, if they could be found. Bascom, who had just graduated from West Point and was totally ignorant of Indian character, met Cochise at the Pass, and stated the object of his mission. The chief, who was then ostensibly at peace with the Americans, replied that neither the stock nor the boy were taken by his band, but that he would try and discover where they were and endeavor to have them returned to the owner.

Next day Bascom invited Cochise and a number of his warriors to a "big talk." They came at the appointed

time, among them being the chief's younger brother. When all were seated, a cordon of soldiers, with fixed bayonets, surrounded the tent, and the lieutenant informed his dusky guests that he should hold them as hostages, until the property he was in search of, and the boy, were delivered up. Springing to his feet, the Apache chieftain sent forth the war-cry of his tribe, and drawing a long knife, slashed open the side of the tent and sprang out. His companions did the same, and a desperate hand-to-hand struggle with the soldiers then began. Cochise received a bayonet wound in the knee, and was seized by a powerful infantryman. The agile chief freed himself from the grasp of his assailant and fled to the hills. Several Indians were severely wounded, and six were made prisoners—among the latter being the brother of the Chiricahua leader.

After reaching the camp of the tribe, Cochise mounted a magnificent white horse, and riding to the summit of one of the surrounding peaks, shouted his defiance to the troops. He declared that never again would he live in peace with the Americans, but would hunt them to the death while he could lift an arm. His subsequent career of murder and robbery proved how well he kept his word. That evening, signal fires flashed from the surrounding mountains, and next morning a thousand warriors surrounded the beleaguered band, shut up in the overland stage station. Had not speedy reinforcements arrived from Buchanan and Breckenridge, not a man would have escaped. The six captured Indians were taken to a point near the western end of the pass, and there hanged from the limbs of a clump of oak trees. The troops then returned home. And so began and ended the first act in the drama of blood and rapine which desolated southern Arizona for nearly fifteen years. The causes which brought it about were trivial, but the effects which followed were something frightful. Bascom, the young officer whose rash imprudence brought on the catastrophe, was killed at the battle of Val Verde, in New Mexico, less than a year after the tragedy at Apache Pass.

After the breaking out of the civil war, forts Buchanan and Breckenridge were abandoned, the buildings set on fire, and immense quantities of stores and material destroyed. The troops were ordered to New Mexico to meet the Texans who had invaded that Territory. Nearly all of them were afterwards sent east, and participated in the campaigns of the Great Rebellion. Arizona was left without military

protection until the arrival of the California Column, in June, 1862. These troops had a spirited fight with Cochise, at Apache Pass. That wily savage held possession of the spring, and for a time disputed the advance of the troops. A mountain howitzer was brought into requisition, and the Indians were soon flying to the hills, in mortal terror of the flying shells. A temporary camp was then established, and called Fort Bowie. It was made a permanent post by the 15th Regulars in 1863, and has been garrisoned ever since.

In August, 1867, Camp Crittenden was established on the hill just above old Fort Buchanan. Troops were maintained here for a number of years, and did efficient service in protecting the exposed settlements on the Barbacomiani, Sonoita, and the Upper Santa Cruz. They were constantly engaged in hostilities with the Indians; and it was while leading a detachment from this post against Cochise's band in the Whetstone Mountains, on the 5th of May, 1871, that the gallant Lieut. Cushing was killed. He was a *beau sabreur*, and one of the most dashing officers in the service.

Fort Mohave, on the Colorado river, was established in 1858, by Col. Hoffman, 6th Infantry. The Mohave tribe were then at war with the whites, but in a sanguinary engagement with the troops their strength was utterly broken and their warlike spirit forever subdued. In this fight Col. Hoffman used the mountain howitzer with effect and made fearful havoc in the Indian ranks. The memory of that bloody day is still fresh among the old warriors of the tribe, and ever since they have been as mild-mannered a tribe as can be found on the continent.

The headquarters of the department, now known as Whipple Barracks, was first located in Chino Valley, 22 miles north-west of its present site. This was in December, 1863. In May, 1866, the garrison was removed to the quarters it at present occupies, one mile east of Prescott. The post is situated on a bench above Granite Creek, having for a background the pine-clad Sierra Prieta range. It is one of the handsomest posts in the Territory. Here reside the General commanding the Department, and his staff. The headquarters are connected by telegraph with every military station in Arizona.

Fort Verde, on the stream of the same name, 40 miles east of Prescott, was established in 1864, and was first known as Camp Lincoln. As a protection to the farming settlements along the Verde Valley, and a check against

the incursions of the marauding Tonto Apaches, it was for years an efficient bulwark.

Fort McDowell, near the Salt and the Verde rivers, was laid out in September, 1865. The Pinal and Tonto Apaches were then very troublesome, and the establishment of a garrison here did good service in affording protection to the settlers in the Salt river valley some years later. Scouting parties were almost continually in the field from this post, as well as from Verde, and many a spirited skirmish and warm combat took place in the rugged defiles of the Mazatzal and Pinal ranges.

Camp McPherson was established in 1866. The name was changed to Camp Date Creek in November, 1868. The camp was situated on Date creek, about sixty miles west of Prescott, and in the heart of the Apache-Mohave country. This mongrel tribe, while professing peace, was always on the alert for an opportunity to rob or murder a white man. The post was maintained until the tribe was removed to the Verde reservation, in 1874, when it was abandoned. It did good service in affording protection to the travel between Prescott and the Colorado river in early days; and many a traveler hard pressed by the red devils found safety and protection within its walls.

In May, 1862, the California Volunteer column established a garrison at what is now Camp Lowell. It was maintained until September, 1864, when the place was abandoned. In May, 1865, it was reoccupied, and in August, 1866, it was declared a permanent military station, and given its present name, after a gallant officer, who fell at Cedar creek, Virginia. The post is about seven miles from Tucson, and has a pleasant situation at the foot of the Santa Catalina range. It was at one time the headquarters of the department, and is one of the most important posts in the Territory.

Fort Apache, situated on the north fork of Black river, and about seventy miles south of St. John's, Apache county, was established in 1870. It is in the center of the White mountain Apache country, and its garrisons have had many a brush with those savages. After the attack on Gen. Carr's command, at Cibicu creek, in August, 1881, the hostiles made an attack on the fort, but were soon beaten off. The post has a delightful situation in one of the best watered and timbered regions of the Territory.

Fort Grant, near the western base of Graham mountain,

was established in 1873. Before that date a garrison was maintained at what was known as Camp Grant, the site of old Fort Breckenridge. Owing to the prevalence of malaria in that region, the troops were moved to their present healthy situation in 1873. Fort Grant is one of the largest posts in the Territory, and has the strongest garrison.

In 1876 a post was established in a beautiful valley at the northern end of the Huachuca mountains, and named Fort Huachuca. For some years a detachment of troops had been maintained at a point on the Barbacomari, a few miles distant, and known as Camp Wallen. The camp was abandoned, and the present post established. It has one of the most charming situations in Arizona; fine water, and abundance of shade, make it a delightful summer resort. Situated near the Sonora border, and only six miles from the line of the Arizona and New Mexican railroad, Huachuca is a point of much strategic importance. Quarters for more troops are now being erected; and the place will soon have the strongest garrison of any fort in the Territory.

Fort Thomas is on the Upper Gila, near the site of old Camp Goodwin. It is only a short distance from the San Carlos Indian reservation, and its garrison keep a watchful eye on the untamed tigers of that menagerie.

The troops at present in the Department of Arizona number 1,864. This force is divided among the different posts as follows: Apache, 243; Bowie, 177; Grant, 314; Huachuca, 173; Lowell, 210; McDowell, 184; Mohave, 55; Thomas, 256; Verde, 112; Whipple Barracks, 139. There are, besides this force, 150 Indian scouts, 100 of whom perform police duty at the San Carlos reservation, the remaining 50 being stationed at Apache. When we consider the vast area over which this handful of men are scattered, and the long stretch of frontier they are expected to guard, the verdict must be, "Well done, good and faithful servants!" To keep securely the long line on the Mexican border, and watch that nest of marauding thugs on the San Carlos reservation, is no easy task; but in justice to officers and men, it must be said they have done all that was possible with their limited numbers.

The campaigns of Gen. Crook against the Apaches are among the most brilliant and interesting in the annals of Indian warfare. The writer regrets that he has not the data at hand to enable him to present a detailed and succinct narrative of the struggle which ended in the subjec-

tion of the wildest tribe of Indians on the American continent. From the fragmentary information at hand, a brief account of the principal engagements with the savages during the years 1872-'73, is here presented:

The battle of the Caves, in the Salt River Cañon, took place Dec. 28, 1872. The hostiles had taken refuge in a large cave above the river, and could not be dislodged. The troops were ordered to aim obliquely at the rocky roof of the cavern, and volley after volley was poured in. The Indian fire slackened, and after a while ceased altogether. When the soldiers entered, they saw a sight which told how effectively they had done their work. Piled together indiscriminately at the end of the cave, was a heap of Indians, dead and dying. The bullets, striking the roof, had glanced downwards, and the leaden shower had sent some fifty braves to the happy hunting-grounds. Beneath the heap of carcasses, three or four of the band were found untouched. When the dead bodies above them were removed, they sprang up and tried to escape, but the unerring carbines rang out, and they were sent to join their friends on the other side of the "dark river." The battle of the Caves was one of the heaviest blows the Apaches received. It taught them that there was a man on their trail determined to follow them to their hitherto inaccessible haunts, and which no obstacle, however difficult, could deter from his purpose. In this fight 70 Indians were killed.

At Bad Rock Mountain, and in the Mazatzals, Crook's troops worsted the savages in two engagements fought on the 11th and 13th of December, 1872. The number of Indians killed could never be definitely ascertained. In the early part of 1872, Col. Mason, with several companies of the 3d Cavalry, had a bloody fight with the Apache Mohaves, on the Santa Maria. The Indians were surprised, but fought desperately. Over 30 were killed, and a number afterward died of their wounds. This fight brought these Indians to terms, and they were soon glad to sue for peace.

At the Red Rocks, north of Fort Verde, the redskins were again routed. They had taken position in the rough and precipitious cañons and gorges of that region, and deemed themselves secure from assault. But the troops, aided by their Indian allies, found a way to their stronghold; and the ringing volleys from rifle and carbine told them their hour had come. In this fight more than 20 Indians

were killed and a much larger number wounded. Several of the troops were wounded, but none seriously. In their stronghold in the Superstition mountain, in January, 1873, the Pinal Apaches met with a crushing defeat. Many of their best warriors were made to bite the dust, and the band was so thoroughly broken that they soon after begged for peace.

In January, February, and March, 1873, Crook and his command entered Tonto Basin, the home of the Tonto tribe. This band had been among the most troublesome of all the Apache nation. They had for years been committing depredations and murders on the adjacent settlements. In a short campaign of less than three months, they were attacked in the retreats which they had always deemed secure. Their mescal and corn patches were destroyed; many of their best warriors were killed; fire and sword laid waste their rancherias; they were hunted like wild beasts through mountain and glen, and to save themselves from total extermination, the hitherto unconquered Tontos humbly sued for peace. This was one of the most brilliant exploits performed by Crook and his men, and brought lasting peace to that portion of Arizona. Among the officers who participated in these campaigns and who were mentioned by the commanding general for conspicuous services and gallantry in action, were the following:

Captains Gerald Russell, W. H. Brown, A. B. Taylor, James Burns, Geo. F. Price, Emil Adam, J. M. Hamilton, and Lieuts. Jacob Almy, E. D. Thomas, C. H. Rockwell, C. D. Parkhurst, F. Michler, A. E. Woodson, J. B. Babcock, W. G. Schuyler, and C. H. Watt, all of the 5th Cavalry. Capt. C. C. Carr, and Lieuts. Brodie, Garvey, Bomus, and Grant, 1st Cavalry, Lieuts. John G. Bourke, 3d Cavalry, W. J. Ross, 21st Inf., W. F. Rice, 23d Inf., and assistant surgeons Porter, Matthews, and Stirling. The campaign resulting from the outbreak of 1882, is still fresh in the memory of all. The battle of Big Dry Wash was one of the most hotly contested of the combats fought during its progress. It took place July 17, 1882. Capt. A. R. Chaffee, 6th Cavalry, commanded. The Indians were routed after a stubborn fight, leaving many dead on the field. Lieuts. Morgan and Converse were wounded. Two enlisted men were killed, and six wounded. The Indians participating in this fight were the renegade Chiricahuas, from the San Carlos Reservation. The following is a partial list of offi-

cers who fell in action during the Apache wars in Arizona. It is copied from the official records, now available at Fort Whipple:

Capt. E. C. Hentig was killed at Cibicu Creek, August 30, 1881, in the attack made by the Indian scouts upon Gen. Carr's command. Lieut. Jacob Almy, 5th Cavalry, was treacherously murdered in an outbreak of the savages at the San Carlos agency, May 27, 1873. Lieut. Reid T. Stewart, 5th Cavalry, was killed by Indians at Davidson's Cañon, east of Tucson, August 27, 1872. Dr. Tappan was killed by the Chiricahuas, between old Camp Grant and Tucson, in 1870. Lieuts. Yaton and Smith fell in an engagement with the Chiricahua Apaches in the Whetstone mountains, May 5, 1871. Lieut. J. I. Carroll, 32d Infantry, was killed between Fort Bowie and the present site of Tombstone, in 1866. Capt. W. C. Miller, was killed by the savages near old Fort Grant, in 1866. The following officers died from wounds and disease: Capt. Edmund Thompson, 12th Infantry; Capt. James Burns, 5th Cavalry; Lieut. William Allen, 12th Infantry; Lieut. Allen R. Jordan, 3d Cavalry; Lieut. Col. Geo. W. Schofield, 6th Cavalry; Maj. J. W. Mason, 3d Cavalry; Capt. Thomas Byrne, 12th Infantry; Maj. Nicholas Nolan, 3d Cavalry.

No book treating upon the military history of Arizona, would be complete without some mention of the invaluable services performed by Major General George Crook.

It is not the writer's intention to recite these services in detail or to enter into anything like eulogy; he will simply give a plain statement of facts. No man in the United States has ever gained such a thorough knowledge of Indian character or has such a complete mastery over those under his charge as General Crook. With the exception of the years of the civil war, when he was performing important services in the armies of the Union, Crook has been without cessation upon the border engaged with the worst savages upon the American continent. No tribe has ever proved so formidable as the Apaches, but they found a master in Crook, who has performed more arduous and successful work upon the frontier than all the other generals of our military establishment put together.

Previous to Crook's first arrival in Arizona the Apaches and confederated tribes raided and plundered at will all over Texas, New Mexico, and Arizona, as well as in the Mexican States of Sonora and Chihuahua. The timid set-

tlar tilled his fields with revolver ready capped at belt, and trusty rifle strapped to the plow-handle. Travelers were afraid to follow the highway by the light of day, but crept along from point to point under cover of darkness. The mails were repeatedly robbed and plundered, and mail-riders were killed within the present limits of Tucson.

When Crook was assigned to command, he issued no pompous orders, held no meaningless parades, donned no gorgeous uniform. Attired in a well-worn suit of canvas, he traveled rapidly from post to post, informing himself of the efficiency of each officer and his company, meeting the citizens, visiting the Indians not yet on the war-path, and winning their friendship, and, last but not least, studying every mountain-pass, the position of every spring and the course of every river. When hostilities began, as they very soon did, the management of affairs showed that a practiced hand was in charge, who made his combinations with the exactness of clock-work, and dealt his blows with the force and precision of a trip-hammer. Officers who had no claims but high rank were ignored and made to stand aside in favor of young lieutenants and captains who had the physical power, the intelligence, the nerve and the will to execute orders. The Apaches found their house divided against itself, and one half of their best young warriors enrolled under Crook's banner. A most efficient train of pack-mules, the equal of which has never been seen in our country before or since, was organized, and carried into the deepest cañons and across the steepest mountains the meager supplies allowed for the use of the various scouting parties.

The Apaches were attacked and surprised in retreats which, up to that moment, they had had good reason to look upon as impregnable. In the Caves, in the cañon of Salt River, in the Superstition Mountains in the Sierra Ancha, in the Pinal, in the Tonto Basin, band after band was wiped out, the warriors killed or wounded, and the squaws and children driven into captivity. No enemy could long withstand such terrible punishment, and it need not surprise our readers to be told that the Apaches, who had defied the Caucasian since the days of Cortez, surrendered to the modest, quiet soldier, who issued no buncombe orders, wore no dude uniform, held no councils of war and relied solely upon himself.

Three hundred of the Apaches surrendered uncondi-

tionally at old Camp Grant, in February, 1873, and over two thousand (2000) at Fort Verde, in April of the same year. Before the summer rains had started the green grass in the valleys, the last of the hostiles had sued for peace and been put to work. If in war Crook had been a scourge to the Apaches, in peace they found in him their best friend. He compelled every one to work, but he provided a ready cash market for all the products of their toil. The quartermaster's department purchased from the Apaches all the barley, corn, hay and wood used by the military garrisons nearest them. The consequence may be summed up thus: the Indian found the path of peace more profitable than the war-path. He gained a little money, with which he bought cattle, and day by day he saw his herd increase and himself in possession of property which war would imperil.

This is a meager outline of Crook's methods and of Crook's services. Had he been kept in Arizona, there is scarcely a doubt that the Apache question would have been settled years ago. But this was not to be; Crook was called away to suppress the Sioux and Cheyennes of the plains.

Incompetent military officials and rapacious Indian agents destroyed much of the good he had accomplished, drove many of the Apaches again to the war-path, and compelled his return to Arizona. At the very earliest opportunity he made his celebrated move against the Chiricahua Apaches in their retreat in the depths of the Sierra Madre, in Mexico. This particular branch of the Apache nation never had been under Crook's control, but had been placed under the care of General O. O. Howard, whose efforts had not met with much success. They are really a Mexican Indian, who have depredated boldly upon Greaser and Gringo alike.

Crook's expedition against them in the summer of 1883 was the boldest ever made against Indians by any portion of our regular army. When we consider the feeble force led by Crook—one company, forty-three (43) men—of the 6th Cavalry, and two hundred (200) friendly Apache scouts; the fearful roughness of the trail followed, from which pack-mules were dashed to pieces upon the rocks in the cañons below; the complete success of the expedition, which resulted in placing at work upon the Apache reservation the last man, woman, and child of the Chiricahuas; the scarcely concealed hostility of the Mexican au-

thorities, and the mealy-mouthed, lukewarm support given by those in Washington, we are not afraid to say that it will form in the eyes of all who study it, one of the brightest episodes in the military history of the gentle, modest and gallant soldier who may well be styled the Saladin of Indian warfare, "a fox in the council, a lion in the field."



CHAPTER VI.

BY RAIL AND STAGE.

THE last time the writer enjoyed a stage ride in southern Arizona, he occupied a seat beside the driver. Under the genial influence of a Sonora cigar—that never paid duty—that worthy became communicative and sadly bemoaned the passing away of the good old times. “Stage drivin’ will soon be played out in Arizona,” remarked this venerable Jehu; “in a short time these infernal kyars will be runnin’ in to every town and mining camp in the whole blessed country;” and the knight of the whip sadly shook his head and sighed to think that his occupation would soon be gone.

He was right. The iron horse is steadily driving out the buckboard and the Concord coach. But old Arizonans will always retain a vivid recollection of their experiences in the early days of staging in this Territory. In their memory will linger the incidents of many a pleasant hour, and also the saddening thought of many a friend and traveling companion sent to his long home by the bullet of the treacherous Apache. If their “tongues” could give voice, what a tale some of those old coaches could tell of the lonely ambush, the sudden attack, the groans of the dead and dying, and the wild race for life over mountain, hill and plain! As has been stated in another place, the first stage route established in Arizona was the Butterfield line, from Marshall, Texas, to San Diego, California. It ran until the breaking out of the civil war. The next line was that established from La Paz, on the Colorado River, to San Bernardino, California. It was afterwards extended to Prescott, and for years was the only means of communica-

tion between northern Arizona and the outside world. James Grant was the owner, and James Stewart the Superintendent. Grant has long since passed "over the river," but "Jim" Stewart is still at his post, as active and as genial as he was twenty years ago. After the death of Mr. Grant, the line passed into the hands of Gilmer, Salisbury & Co., who still control it. After the Southern Pacific railroad reached Yuma, the line west of the Colorado was taken off, and the route is now from Maricopa to Ash Fork, by way of Phoenix and Prescott.

After the close of the war, Kerns & Mitchell restocked the old Butterfield line, and carried the mail from Fort Worth to San Diego, until the building of the Southern Pacific road. The old line is now running from Florence to Silver King and Globe, and the company is known as the "Kerns & Griffith Stage Co." W. M. Griffith is Superintendent.

These were the principal stage lines in the pioneer days, though there were many shorter ones, which have long since ceased to turn a wheel. Arizona in those days was a veritable *terra incognita*, but the opening of two trans-continental railroads through the Territory has removed the barriers of isolation which so long separated it from the active, bustling, progressive world. It is no longer as far removed from the centers of civilization as the distant regions of Central Africa. No longer is the traveler compelled to undergo the hardships, discomforts and dangers of long, dreary and dusty stage rides; no longer is he subjected to the miseries of a "buckboard," and exposed to the burning suns by day and the chilling winds by night; no longer does hunger, thirst, loss of sleep and weariness of mind and body accompany the visitor who journeys to the marvelous country.

Those features of travel in the early days are now but reminiscences of the past, and a trip to Arizona at the present time can be made as comfortably and as pleasantly as to any part of the Union. The palace car has superseded the rickety stage, and the railroad hotel has taken the place of the wayside station; and instead of bacon and beans, bread and black coffee served up by a picturesque individual with slouched hat, unkempt beard and big six-shooter, the traveler sits down to an inviting table, and dines as well as at the best city restaurant. A jaunt to the Territory now is one of pleasure and recreation. Lolling

in a luxuriously cushioned seat, the sight-seer can enjoy the ever-changing panorama of mountain, plain and *mesa*, the brilliant sunshine, and the wonderful atmospheric tints which soften the rugged outlines of many a barren mountain and jagged peak. The journey of a month across the continent has been shortened to six days; and the time when the adventurous visitant to the wilds of the south-west deemed a small arsenal an indispensable part of his outfit, and nervously watched every cañon and curve and rock and bush along the roadside, is past, never to return. The shriek of the locomotive has sounded the death-knell of isolation and savagery, and those twin relics of an unprogressive past have been swept aside by the irresistible tide of civilization. The dark shadow which their presence cast over this fair land has been dispelled by the rising sun of modern progress; and the advent of the iron rail heralds the brightest epoch in Arizona's history.

The Southern Pacific railroad enters the Territory at Yuma, and follows the wide, rolling plains that skirt the Gila river, to Maricopa Wells. From this point it trends south-westerly to the city of Tucson. After leaving Tucson the road runs in a north-easterly direction for some distance; thence turning due east it passes the Dragoon, the Chiricahua and the Steins Peak ranges to Deming in New Mexico, where it forms a junction with the Atchison, Topeka and Santa Fé road. Its length through the Territory is $384\frac{17}{100}$ miles, and its course is between the thirty-second and thirty-third degrees of latitude.

The region through which it passes is not a very inviting one; and a stranger gazing at the vast stretches of dry, treeless plains and barren mountains is not apt to be favorably impressed with the country. But nearly every one of those rocky and forbidding mountain masses is rich in precious metals, and north and south of the line the country presents an entirely different appearance. The building of this road has been of great benefit to southern Arizona. Every industry has felt the advantages of quick and reliable rail connection, and mining, more especially, shows a marked improvement since its completion. Many prosperous towns and camps have sprung into existence; cattle-ranges have been established; prospectors, speculators, and traders have poured into the country; capital has sought investment, and Tucson has grown from a sleepy old hamlet to an active, wide-awake city of 10,000 inhabitants. All

this has been brought about by the building of the railroad, and is a fair sample of the beneficial change to be wrought in other portions of the Territory when they, too, are in possession of rail facilities.

To reach southern or central Arizona from San Francisco, the traveler takes the Southern Pacific railroad to Yuma, on the Colorado river, distant 730 miles from the city. From this point boats run up the river to Silver district, Aubrey, La Paz, and other camps. From Yuma to Silver district there is also a well-appointed stage line, which makes tri-weekly trips, the fare being \$6 each way. From Yuma to Maricopa is 157 miles, the fare over the road in Arizona being ten cents per mile. At Maricopa the stages of the California and Arizona company are always ready to convey passengers to Phoenix, twenty-eight miles distant, and to the towns and camps of northern and central Arizona. The coaches of this company are large and commodious, the stock good, and the drivers careful. The fare to Phoenix, the handsomest town in Arizona, is \$3, and from there to Prescott, the capital of the Territory, \$20; time, twenty-four hours. A line is also run to the Vulture mine and by the famous Antelope Peak, on top of which was found the wonderful deposit of placer gold.

Twenty-six miles east of Maricopa is the station of Casa Grande. From this point the Kerns and Griffith Stage Company run a line of commodious coaches to Florence, the county seat of Pinal county, twenty-five miles distant. At Florence the line branches, one to Pinal and Silver King, and the other to Globe, by way of Riverside. From Florence to the King is thirty-five miles, over a good natural road. If the traveler desires to reach Globe by this route, he will find saddle-animals at the mine, and can take the trail over the Pinal mountains, passing through the rocky gorge of the Devil's cañon, and other wild and picturesque mountain scenery *en route*. The road from Florence to the Globe mines passes by the Pioneer camp and over the lofty and heavily timbered Pinal mountains by a broad, smooth grade. The magnificent views of mountain, valley and plain which are seen along this route are not surpassed in the Territory. Fine stock and competent drivers are employed by this company, and a trip on one of their comfortable coaches is a treat to the new-comer who gazes for the first time on the wild and striking beauty of Arizona mountain scenery.

At Tucson, 978 miles from San Francisco, a daily line of coaches runs to Tubac, Calabasas, Arivaca, and all points in northern Sonora. This is a well-equipped line, six-horse coaches being used, and the road being one of the finest natural thoroughfares in the Territory. From this point also, a daily line runs to the Quijotoa mines, eighty-five miles distant. The road is one of the finest in the Territory, and the trip is made inside of twelve hours. There are relays every ten or twelve miles, and the horses go on a gallop nearly all the way. The line is owned by Pedro Aguirre, and is one of the best in Arizona. At Benson, forty-six miles east of Tucson, the Arizona and New Mexico railroad branches from the main line for Guaymas. The traveler for Tombstone and the adjacent mining camps changes cars here, and a ride of an hour brings him to Fairbanks station, where he takes stage for Tombstone, nine miles distant. At Wilcox, eighty-five miles east of Tucson, and also at Bowie, twenty miles further east, stages run to Globe and the San Carlos-Indian Agency. That from Bowie also passes through the Pueblo Viejo valley, one of the finest bodies of farming land in the Territory, only thirty-five miles north of the railroad.

To reach southern Arizona from the east the traveler has choice of routes by the Atchison, Topeka and Santa Fé, or by the Texas Pacific via El Paso. At Deming, in New Mexico, 1,149 miles from Kansas City, the Atchison and Topeka forms a junction with the Southern Pacific. The fare to Deming, from Kansas City, is \$70. From Deming to Benson it is 173 miles, fare \$17.30, and from Benson to Tombstone the fare is \$3. From Deming to Tucson is 219 miles, fare \$21.90—thus making the entire distance from Kansas City to Tucson, 1,368 miles. At Lordsburg, New Mexico, sixty miles west of Deming, a narrow-gauge road leaves the main line for the rich copper mining region of Clifton, seventy miles north. This road shows so many triumphs of engineering skill, that a short description of it may not be out of place. The road was built by the "Arizona Copper Co." for the purpose of developing their rich mines at Clifton. After leaving Lordsburg, the first sixty miles is over a comparatively level country. The Gila river is reached forty miles from the starting point. Twenty miles further on, at Guthrie station, the river is crossed by a 150-foot truss bridge—wood and iron. From Guthrie to Clifton is eleven miles over a very rough, mountainous country. In this short

distance there are four tunnels, aggregating 1,000 feet in length, and also 5,000 feet of trestle and pile bridging. On this part of the road the maximum grade is 105 feet to the mile; the curvature 28° . To look down from the car-windows on the frightful chasms below as the train winds, like some huge serpent, among those beetling cliffs, is an experience enjoyed but on few railroads in the world. At Clifton, the road crosses a bridge similar to that at Guthrie. The gauge of the road-bed is three feet; its construction and appointments are first-class. The total distance from Lordsburg to Clifton is seventy-one miles.

From the Southern Pacific, branch roads have been projected from Maricopa to Phoenix, from Casa Grande to Florence and Silver King, and from Tucson to Globe and Port Lobos. The branch from Maricopa to Phoenix will open up the finest farming valley in the Territory and afford an outlet for the large quantities of flour, grain, hay, fruits and live-stock now produced there. Such a road would be a paying enterprise from the start, and its business would steadily increase. There is every likelihood that the branch will be built in a short time. The proposed line from Casa Grande to the Silver King will pass through the valley of the Gila, and tap the rich mineral belt of which the great Silver King is the center. With a railroad to the Gila river, and reduction works erected on that stream, there are scores of claims in Pinal county which could be profitably worked. The Gila is the natural mill-site for the mines of Pinal, and with such a railroad as we have mentioned, mills and furnaces would line its banks above and below the crossing. Work has been commenced on the road from Tucson to Globe, and about ten miles of the distance has been graded. This line receives a subsidy of \$200,000 in bonds of Pima county. It will tap the important coal deposits on Deer creek, pass through the rich mineral country near River side, and afford an outlet for the extensive mining region of Gila county.

The projected railroad from Tucson to Port Lobos, on the California gulf, will pass through the Papaguera, and near to the Quijotoa mines, and bring that extensive mineral field into direct rail communication with the outer world. The harbor at Port Lobos is reported to be an excellent one, and by this route goods can be laid down in Tucson at such rates as will effectually bar out competition from California or the East. It is said the Mexican government

endowed this road with a subsidy of \$10,000 per mile, besides granting the right of way and several other minor concessions. It is expected that the Atchison, Topeka and Santa Fé company, who are now running over the Southern Pacific from Deming to Benson, will soon commence the building of a line from Socorro, N. M., to connect at Fairbanks with the road running into Sonora. This road will pass by Tombstone, and place that flourishing camp on the line of a transcontinental railroad.

To reach Northern Arizona from San Francisco, the traveler takes the Southern Pacific railroad for the Needles via Mohave Station. The Needles are $2\frac{1}{2}$ miles west of the Colorado river, and 622 miles from San Francisco. At this point the passenger takes the Atlantic and Pacific road for the towns and mining camps of the northern part of the Territory. From the Needles to Ash Fork, the station for Prescott, is 174 miles.

Parties desiring to visit northern Arizona from the East, take the Atchison, Topeka and Santa Fé road to Albuquerque. At this point the Atlantic and Pacific railroad turns westward and enters the Territory by the valley of the Puerco. It follows that valley to its junction with the Little Colorado, near the town of Holbrook. From this point there is connection by stage with St. Johns, the county seat of Apache county. From Holbrook the road crosses the plains of the Cañon Diablo and the deep chasm of the same name, over which a bridge has been thrown, 225 feet above the bed of the creek. The road then climbs the southern slopes of the San Francisco peak at an elevation of 7,355 feet, and the northern spurs of the Bill Williams range, and then descends to Ash Fork.

From Ash Fork there is a daily line of stages to Prescott, distant fifty-two miles. This line is owned by the Gilmer and Salisbury Stage Company, and is as well equipped and conducted as any in the Territory. Close connections are made with trains from the East and the West, and the drive to Prescott is made in about ten hours. After leaving Ash Fork the road passes westward through Mohave county, and down the broad Sacramento valley to the Colorado of the West, which it crosses by a wooden bridge 1,600 feet in length, connecting on the western bank with the branch of the Southern Pacific from Mohave station, in California.

This road traverses the Territory, almost on the line of

the thirty-fifth parallel of north latitude. It passes through the rich valley of the Little Colorado for a distance of nearly forty miles, and will prove of great benefit to the agricultural industry of that region. The sheep and cattle interests of this part of the Territory will likewise feel the effects of cheap and rapid transportation to the great markets, east and west. In Yavapai county the road passes through the northern end of the great Mogollon forest, which is here some fifty miles in width. Several saw-mills are now at work in this magnificent pinery, shipping the product by rail. The scenery along the line in Arizona is, much of it, new and novel, and can not fail to have many attractions for the tourist. The rocky escarpments of the cliffs along the New Mexican divide have a weird beauty and picturesqueness found only in Arizona. The petrified forest south-west of Holbrook, where former monarchs of the wildwood five and six feet in diameter lie prone upon the ground, turned to solid stone, will always be worthy of a visit from the scientist and the sight-seer.

At Peach Springs, the track is within eighteen miles of the Grand cañon of the Colorado, and conveyances are always in readiness for tourists who desire to view the wonders of this mighty chasm, before which all other scenes in either hemisphere are tame and commonplace. Already the completion of the Atlantic and Pacific railroad is beginning to show its beneficial effects in the renewed activity visible in the mining camps of Mohave and Yavapai counties. The work of development has been stimulated and encouraged by low rates on freight, and the facilities for the shipment of ores. The connections made by this road with the California and Eastern systems, the great valleys of the Mississippi and the Ohio, and the populous cities of the Atlantic sea-board, must bring to northern Arizona a rapid growth and development within the next few years.

The Central Arizona Railway Company was incorporated May 10, 1884, for the construction of a road from a point near Ash Fork, on the Atlantic & Pacific, to Prescott and Phoenix, with a branch to Jerome, the prosperous mining camp of the United Verde Copper Co. The distance to Prescott is estimated at 74 miles, passing nearly the entire route over rolling foot-hills and level plains. At a point in the Agua Fria valley some 14 or 16 miles from Prescott, what is to be known as the Southern Division of

the road, strikes south to Phoenix, the Garden City and the granary of Arizona. This division will be about 115 miles in length and will follow the Agua Fria valley nearly all the way. The Arizona Central Railway, passing through the heart of the Territory, will open up one of the richest mining, farming and grazing lands on the coast. The Salt River Valley is the largest body of arable land in Arizona, and with facilities for getting its productions to market, could support a population of five times its present number.

Prescott, is in the center of a rich mining region, that only requires cheap transportation to make it one of the largest bullion-producers in the Territory. The shipping of cattle will also be a large and steadily increasing revenue for the road. From a statement published by the company, it is shown that Prescott shipped in 1883, nearly 11,000 tons of freight, which will be largely increased by the construction of the road. A very careful estimate, based on the present traffic, gives the gross earnings of the Prescott division for the first year at \$243,722. With the impetus given to every branch of industry by the opening of the line, this will largely increase year by year. Taken altogether, there is no region of the West of the same extent, that contains so much natural wealth, nor is there another railroad proposition that promises surer returns for the money invested. Hon. F. A. Tittle, Governor of Arizona, is at the head of the enterprise, which is a sufficient guarantee of its soundness and practicability. Preliminary surveys have been made, and work is expected to begin in a short time.

From Flagstaff, on the Atlantic and Pacific, a line has been surveyed to Globe. The distance is 160 miles, through one of the finest grazing, the richest mineral, and the most magnificent timber-lands of the Territory. The route for the greater portion of the way will skirt the western slope of the great Mogollon forest. Careful estimates place the whole area of timber land tributary to this road at more than 7,000 square miles—an area as large as the whole State of Massachusetts. Low estimates put the total quantity of lumber in this vast area at 78,000,000,000 feet. A railroad tapping this great pinery would not only meet the home demand, which must eventually look here for its lumber supply, but could find a ready and profitable market east and west. Along the line of this road there

are nearly 6,000 square miles of as fine grass-lands as can be found in the west, amply able to sustain 200,000 head cattle. This industry will be one of the main sources of revenue to the road, and is sure to attain important proportions.

The mineral resources of the region through which this line passes are unsurpassed in the Territory. Gold, silver and copper are found in nearly all the mountain ranges, and in the neighborhood of Globe the copper deposits are among the largest and richest in the Territory. With direct rail communication and cheap freights, the development of the mines would receive a powerful stimulus, and make a profitable business for the road. Two companies have been organized to carry out the enterprise. One is known as the "Construction and Development Company," organized under the laws of the State of Virginia; the other is the "Arizona Mineral Belt Railroad," incorporated under the laws of Arizona. The former company intend to erect extensive works on Salt river, where the low-grade ores of Tonto basin and Globe district can be cheaply worked by the never-failing power of the stream.

From Globe it is proposed to continue the road south to Benson, thus making a connecting link between the Atlantic & Pacific and the Southern Pacific and opening a continuous line of rail from the thirty-fifth parallel to Guaymas, on the Gulf of California. The benefits of such a line through the heart of the Territory cannot be overestimated, and the many and varied industries which would spring into life and grow up around it assure a large and profitable business. Besides the roads mentioned, the Southern Pacific Railroad company is said to have in contemplation the building of a line from the present terminus of their Mohave branch at the Needles, to Tucson. This line would pass west of Prescott by the Siuks of Date creek, by Wickenburg, through Phoenix and up the rich valley of Salt River to Florence, and from thence south to Tucson. If this branch should be built, it would afford rail connection to a rich mining region in northern and central Arizona, and pass through the largest body of farming land in the Territory.

From this brief summary of the roads now in operation and in course of construction, and those projected, it will be seen that the country promises in a few years to be

gridironed by the iron rail. From the two transcontinental lines which cross the Territory, north and south, feeders will soon branch out to every principal town and mining camp, and there will hardly be a point of any importance in Arizona not linked with iron bands to the outside world. This wished-for consummation means cheap material and cheap supplies for mines, mills and furnaces, an increased production of the precious metals, and a wonderful development of the mining industry; it means a permanent and lucrative market for beef, mutton, and wool, and a rapid and healthy growth for the grazing interest; it means for the farmer in the Salt and the Gila valleys low rates on his grain, flour, fruits and vegetables, will bring him in direct communication with the consumer, will stimulate production, and cause many a barren acre to bloom and blossom. The benefits which a net-work of railroads will confer on the country are almost incalculable. Every branch of industry and every calling will feel its healthful effects. Population will increase, capital will seek investment, the productive powers of the Territory will be stimulated and assisted, and Arizona will take that place among the sisterhood of States which her grand resources entitle her to.

The telegraph, next to the railroad, is the leading factor in our modern civilization. While the Territory is not as well provided in this respect as could be desired, yet nearly all the principal towns are linked with that girdle which has annihilated time and space, and bound the earth with a circle of lightning. The Western Union Company have a line along the track of the Southern Pacific railroad, connecting at Yuma, Tucson and Tombstone with all points east and west. The War Department has built a line to connect all the military posts in the Territory. This line passes through Phoenix, Wickenburg, Florence and other towns, and joins them with the Western Union. Globe is connected by a wire with San Carlos, built and owned by a private corporation. At the latter place it joins the military line from Wilcox, on the Southern Pacific. Clifton has a line to Lordsburg, owned by the Arizona Copper Company. A line has also been built along the Atlantic and Pacific railroad. The telephone has been introduced in Arizona, and is in general use in Tombstone and Tucson, and connects the principal mines, their reduction works and offices, in all parts of the Territory.

CHAPTER VII.

CLIMATE.

“A pleasing land of drowsy-head it was,
Of dreams that wave before the half-shut eye ;
And of gay castles in the clouds that pass,
For ever flushing round a summer sky.”

IT is the boast of every new country that it possesses “the finest climate in the world.” Not always are those who make such a claim actuated by a love of veracity or by motives purely disinterested. Enterprising pioneers who are the fortunate owners of corner lots—which they wish to dispose of—sometimes indulge in a little exaggeration when speaking of the climate of their particular neighborhood. To induce immigration and capital is the aim of these worthy citizens, and they do not stickle at facts when their interests are concerned. Though the malaria may rage for nine months in the year ; though the cold be so intense in winter that only an Esquiman can stand it ; though cyclones, tornadoes and blizzards may be looked for every year ; though the rain may come down with such persistent regularity that a glimpse of the sun is like a vision of Paradise, yet notwithstanding all these drawbacks, the sanguine settler will tell you that he “never lived in a better climate,” and that the only mortality is caused by whisky and six-shooters.

The writer of this volume has no desire to send forth misstatements on this all-important subject. He will simply give facts, and let them speak for themselves. Believing that the prospective immigrant should know the truth regarding a matter that so nearly concerns his health and happiness, he will tell it, even if by so doing he should deter some from coming hither.

Among the many errors concerning Arizona, which for years have received the sanction of general acceptance,

there is none greater than that relating to its climate. To most people the very name is suggestive of desert wastes devoid of vegetation, scorched by the fierce heat of a southern sun whose blinding glare neither man nor beast can withstand. A region where the temperature during the summer months is almost unbearable, and where outdoor labor is impossible. A country where everything dries up under the consuming heat; where, to quote the language of that facetious traveler, Ross Browne, "bacon is eaten with a spoon, chickens come out of their shells already cooked, and the bones of mules rattle within their shriveled hides."

This, for years, has been the popular opinion of Arizona's climate; and even the opening of two transcontinental railroads, and a diffusion of reliable information regarding the territory, has not entirely dispelled it. The eastern correspondent who happened to make a hurried trip to the country in the summer months has always made it a point to astonish his eastern readers with a description of the intense heat; and where the actual facts were not strong enough to suit his taste, he has never hesitated to draw upon his imagination to supply the deficiency. In fact, travelers and tourists through Arizona would consider they were derelict in their duty to their friends at home if they failed to embellish their impressions of the territory with blood-curdling tales of its savage Apaches, minute descriptions of its venomous snakes and reptiles, and highly colored pictures of the fearful heat of its burning suns.

And yet nothing can be further from the truth. Arizona is blest with one of the healthiest climates on the American continent. She has brighter skies, purer air, a more bracing atmosphere, more lovely cloudless days, more brilliant starlit nights than any like division of the great Republic. She possesses a climate suitable to all constitutions, ranging from the soft, semi-tropic mildness of the south to the cool, bracing air of the north. Every breeze wafted across her mountains, valleys and plains bears upon its wings health, strength, vigor of mind and body. In the pure, dry atmosphere of its mountains and vales diseases are unknown, and beneath its glorious skies a man can camp in the open air every month in the year, and gather new life and strength from quaffing deep draughts of the ozone which fills mountain, plain and table-land.

Probably the first question which nine out of ten emi-

grants will ask is in relation to the climate of the country where they intend to make their future abode; and it is a matter of the first importance, deserving of careful consideration. Health and strength are generally the only capital which the new-comer brings with him to his western home; upon them he depends for success and prosperity; and with them, aided by temperance and industry, he can meet and overcome the obstacles of his new surroundings, and in a few short years gain the goal of independence. But no matter how rich or productive the soil, how generous the yield, how beautiful the surroundings, or how desirable the location, if health does not bless the scene, they can have no allurements for those in search of new abiding places. To the information of people who may seek homes in Arizona this chapter is devoted, and the statements made can be relied upon.

Arizona may be said to possess two distinct climatic zones. In that portion of the Territory extending from the thirty-fourth parallel to the boundary of Utah, and east of the Colorado valley, embracing the great plateau, the climate in summer is among the most delightful to be found in the United States. Elevated from 4,000 to 6,000 feet above sea-level, the average temperature during June, July, August and September is about 70°. The nights are deliciously cool and pleasant in this region, insuring perfect rest, to which a pair of blankets, during the hottest season, is always an agreeable auxiliary. There are no more delightful retreats on the Pacific coast than the mountains and glens of northern Arizona during the summer season; and now, with first-class railroad facilities, the region will soon become a favorite resort for tourists. During the winter months snow sometimes falls on the elevated mountain peaks to a depth of five and six feet. It quickly disappears from the lower hills, but remains on some of the higher ranges until the middle of June. These winter snows feed the rivers and water-courses which carry life and fertility to the lower valleys, and upon which the farmer must always depend for the raising of a crop.

The winters in northern Arizona have that cool, bracing, healthful quality which people in the East are familiar with. The wonderful purity of the air makes it a positive luxury to breathe it; and those who have once drunk in its exhilarating draughts will agree that few places are blessed with a climate possessing the golden mean—not too cold in win-

ter nor too warm in summer—of the northern Arizona plateau. With its towering pine-clad mountains, its lovely grassy glades, shady glens, beautiful streams, clear, cold springs, and abundance of game and fish, there is no more delightful region to pass the summer months in all North America.

As showing the mean temperature and the rain and snow-fall at Prescott, each month for the three years ending July 31, 1883, the following tables, copied from the records of the Signal Service Bureau, are herewith presented:

MONTH AND YEAR.	Temperature— Degrees.	Precipitation— Inches.	MONTH AND YEAR.	Temperature— Degrees.	Precipitation— Inches.
August, 1880.....	69.3	2.80	February, 1882.....	33.5	2.04
September, “.....	63.5	1.26	March, “.....	43.2	0.28
October, “.....	51.7	0.18	April, “.....	48.8	0.45
November, “.....	37.0	0.42	May, “.....	57.3	0.45
December, “.....	38.1	1.84	June, “.....	65.9	0.47
January, 1881.....	35.1	0.16	July, “.....	72.9	1.64
February, “.....	41.1	0.10	August, “.....	69.7	3.34
March, “.....	40.6	2.91	September “.....	61.6	2.57
April, “.....	54.7	0.67	October, “.....	50.5	0.39
May, “.....	58.7	0.44	November, “.....	41.6	1.55
June, “.....	67.4	0.00	December, “.....	38.2	0.00
July, “.....	72.0	3.27	January, 1882.....	34.5	0.31
August, “.....	68.4	5.25	February, “.....	37.6	0.63
September, “.....	61.4	1.69	March, “.....	47.4	2.33
October, “.....	52.9	0.33	April, “.....	47.9	0.86
November, “.....	38.4	0.30	May, “.....	56.5	0.15
December, “.....	39.7	0.33	June, “.....	69.0	0.09
January, 1882.....	30.4	2.53	July, “.....	70.4	3.20

This shows the highest mean temperature for any month during three years to be 72.9, and the lowest 30.4. The average precipitation (rain and snow) for the three years has been a fraction over 15.30 each year. Prescott is 5,600 feet above sea-level, possesses one of the finest climates on the continent, and is one of the healthiest towns in the West. Malarial diseases are unknown, and the clear, crisp air which sweeps down from the mountains, laden with the balsamic odor of the pines, is one of the best in the world for consumptives.

Fort Apache is situated in the Sierra Blanca, in the north-eastern portion of the Territory, and about the same elevation above sea-level as Prescott. The following table will show the temperature and precipitation at that point for the past three years and a half:

	1880.		1881.		1882.		1883.	
	Temp.	Precip.	Temp.	Precip.	Temp.	Precip.	Temp.	Precip.
January....	34.6	1.31	33.3	.20	34.5	2.82	31.9	.85
February...	29.9	.95	40.1	1.17	37.5	2.85	39.3	2.46
March.....	41.7	.80	41.6	2.45	44.0	1.09	47.5	2.03
April.....	49.4	.46	53.6	1.53	48.6	.91	48.0	.22
May.....	58.5	.....	59.7	.35	55.8	.94	56.4	.86
June.....	67.7	.46	69.8	.....	64.8	3.27	69.0	.02
July.....	70.7	5.83	72.6	5.63	72.1	4.79	70.3	5.46
August....	69.7	1.44	68.3	8.31	69.8	7.36	69.4	4.26
September..	63.6	.55	60.9	5.41	60.9	1.02	.....	.....
October....	52.3	.56	53.7	4.68	50.2	.....	.....	.....
November..	37.5	.03	37.4	.85	41.9	2.34	.....	.....
December..	36.6	2.38	38.3	.54	36.0	.23	.....	.....
Total.....	.....	14.77	.....	31.12	.....	27.62	.....	.....
Mean.....	51.0	1.23	52.4	2.59	51.3	2.30	.....	.....

It will be seen from this that the average yearly rain and snow-fall in this portion of the Territory is a fraction over twenty-four inches a year. Upon the winter snows which fall upon the mountains of Northern Arizona the entire Territory depends almost entirely for its water supply. When this snow-fall is heavy, the rivers through the southern valleys carry an abundant water supply and a bountiful crop is assured. Barred by the peninsular continuation of the Sierra Nevada from the north-west trade winds, Arizona has to depend for moisture on these winter snows and on the summer rains which are borne hither on the wings of the south-west trade winds. These cloud-bearing winds, after sweeping over northern Mexico, reach Arizona about the first of July, when the rainy season commences, and generally last until the first of September.

With the coming of these summer rains a transformation as sudden as it is beautiful takes place. Grass and vege-

tation of all kinds spring up as if by magic; flowers cover the hills, plains, *mesas* and mountain-sides; all nature rejoices under the life-giving fluid, and the whole country, decked in its robes of green and adorned with myriads of wild flowers, presents as charming an appearance as one could wish to look upon. Life on the Arizona plateau at this season is a luxury found but in few spots on earth. There is a delicious softness and elasticity in the air by day, while at night the blue heavens are gemmed with countless stars, whose brilliant light flashes down upon the beholder, impressing him anew with the might and omnipotence of Him who set them in their separate spheres.

The winter months of this portion of the Territory are cool and healthful. Sleighing is sometimes indulged in on the streets of Prescott, and a visitor to northern Arizona at this time of the year is apt to have his notions concerning the country materially changed as he gazes upon the snow-clad mountains which stretch south and east from the capital to the Territory. He will realize that the country is not the dry desert which some have painted it; and the nipping night-air will be apt to dissipate any notions he may have entertained as to the oppressiveness of the heat. Such a thing as epidemic disease is never heard of, and, in fact, disease of any kind is so little known and sickness so rarely occurs that medical men find their occupation all but gone, and quickly seek fresh fields where death, the reaper, finds a richer harvest.

Fort Grant is fifty miles north of Tucson, in the foot-hills of the Graham mountains, and some 5,000 feet above sea-level. It is only a short distance west of the fine agricultural valley known as the Pueblo Viejo, a description of which will be given in another place. The tables below give the temperature for the years 1881 and 1882, and for seven months of 1883. As will be seen, the climate is delightful, while the moisture will average fifteen inches each year.

Throughout Arizona this elevation gives a temperature without a rival for evenness and salubrity on the American continent. The summers are delightful, while, at no time during the winter months is the cold at all severe. At this elevation, an Arizona climate leaves nothing to be desired, and, those who have enjoyed it for any length of time, are loth to change. Here, indeed, the tropic and the temperate climatic zones may be said to mingle and form a climate

the most conducive to health, vigor and long life. During the warm summer season, these elevated regions attract many visitors from the lower valleys.

1881.	Temperature.			Precipitation Inches.	1882.	Temperature.			Precipitation Inches.
	Mean.	Maximum.	Minimum.			Mean.	Maximum.	Minimum.	
January....	45.7	68.0	17.0	.60	January....	41.6	65.0	21.0	.86
February....	38.9	65.0	19.0	.48	February....	43.7	62.8	23.0	1.26
March.....	48.3	75.0	31.0	.85	March.....	51.4	79.0	21.0	1.84
April.....	55.9	80.0	30.0	.08	April.....	56.4	85.0	32.0	.07
May.....	67.6	90.0	42.0	.00	May.....	65.2	86.0	37.0	.81
June.....	77.9	98.0	56.0	1.32	June.....	72.5	94.9	51.0	1.47
July.....	75.8	100.0	56.0	5.63	July.....	77.9	99.0	61.5	2.02
August....	71.6	93.0	57.0	3.73	August....	72.1	93.9	55.0	4.73
September..	71.5	91.0	52.0	1.01	September..	67.9	88.4	51.5	.80
October....	61.0	88.0	35.0	.47	October....	59.4	77.9	34.0	.00
November...	47.4	68.0	20.0	.00	November...	50.7	76.9	31.0	.79
December... 45.3	69.0	18.0	1.57		December... 44.5	65.9	22.2	.17	
An. means.. 58.9	82.1	36.1	.....		An. means.. 58.6	81.2	36.7	.....
Total.....	.....	.....	.....	15.74	Total.....	.....	.....	.....	14.82

1883.	Temperature.			Precipitation Inches.	1883.	Temperature.			Precipitation Inches.
	Mean.	Maximum.	Minimum.			Mean.	Maximum.	Minimum.	
January....	40.5	64.6	10.0	1.21	May.....	64.5	89.9	39.0	1.16
February....	43.9	65.8	17.0	1.40	June.....	77.7	101.5	54.0	1.26
March.....	52.2	75.9	37.0	1.27	July.....	75.1	95.4	61.3	2.90
April.....	55.7	78.4	32.0	.03	August....	73.8	91.2	61.2	3.07

South of the thirty-fourth parallel there is a marked change in the climate of the country, There is a difference in altitude of from 2,000 to 4,000 feet. This portion of the Territory embraces the large agricultural valleys of the Salt and the Gila rivers, and the wide open plains which stretch away beyond the Sonora border. In this part of Arizona the climate is warmer than on the northern plateau. Snow rarely falls in the valleys, and the temperature for nine months in the year is unequalled for mildness, salubrity and



NATURAL BRIDGE, TONTO BASIN.

BANCROFT - LITH - S.F.

healthfulness. While the heat during June, July and August is sometimes great, so dry, pure and exhilarating is the atmosphere that no injurious effects are experienced, and sunstrokes are unknown.

During the autumn and winter months the climate of the southern portion of the Territory cannot be surpassed. In the warm, dry, balmy air there is a sense of new life and a buoyancy of spirit unknown to those who have never drunk their fill of the pure, elastic atmosphere which wraps the mountains and plains of southern Arizona. In the great farming valleys of the Salt and Gila rivers, the fields are green in the middle of winter; and when snow and ice wrap the landscape in their chilly embrace in other lands, in this favored region trees and shrubbery are in bloom, roses are diffusing their fragrance through orchard and garden, and the husbandman goes about his out-door labors in his shirt sleeves!

Phoenix, the center of the largest body of agricultural land in the Territory, has a winter climate such as has been described. Although the thermometer registers rather high during the summer months, yet so healthful is the atmosphere, that no serious results are ever experienced from exposure to the heat. Below is a table showing the maximum and minimum temperature and the rain-fall in the valley, for the year 1882, and for six months of 1883. The records for a longer period have been destroyed by fire.

1882.	Maximum.	Minimum.	Rain-fall or Melted Snow.	1883.	Maximum.	Minimum.	Rain-fall or Melted Snow.
January	74.5	19.0	1.52	January.....	86.7	15.0	0.83
February.....	72.5	23.0	0.00	February.....	80.2	22.7	1.27
March	81.5	40.2	0.00	March	91.6	38.4	1.16
April	100.9	37.0	0.00	April	98.6	30.1	0.00
May	102.3	51.0	0.00	May	107.2	40.7	0.44
June.....	101.3	56.0	0.37	June.....	112.5	55.2	0.00
July	111.7	70.2	0.32				
August	112.5	64.7	1.81	Total rain-fall.....			4.70
September	105.2	45.0	1.25				
October	97.3	44.2	0.10				
November.....	91.5	24.5	1.30				
December.....	94.6	23.5	0.00				
Total rain-fall.....			6.67				

The winter of 1883-4 witnessed a heavy rain and snow-fall all over the Territory, and during the months of January, February and March nearly five inches of water fell in Phoenix and the Salt River valley. The town is situated 1,800 feet above sea-level, and possesses a perfect climate for nine months of the year. During June, July and August, while the thermometer sometimes runs above 100°, the heat is so dry and pure, that its effects are not at all oppressive.

The city of Tucson is 2,500 feet above sea-level. The annexed table gives the maximum, minimum and mean temperature for a year, together with the rain-fall.

MONTH.	Maximum.	Minimum.	Am't Rain or Melt'd Snow.
January	78.0	14.0	0.56
February	77.0	20.0	0.15
March	87.0	35.0	0.41
April	88.0	36.0	0.04
May	104.0	44.0	0.00
June	110.0	60.0	0.00
July	108.0	65.0	1.62
August	106.0	66.0	1.28
September	106.0	58.0	1.89
October	94.0	40.0	0.09
November	73.0	30.0	0.00
December	80.0	28.0	0.57
Annual means	92.6	41.3	6.61

The winter climate of this city is making it a favorite resort for invalids, who find in its equable atmosphere rest and recuperation.

The climate of Yuma has long been a subject of facetious comment, and ever since "John Phoenix" told the story of the soldier and his blanket, a good deal of funny (?) capital has been made out of the subject. That the temperature of the place is a trifle hot during the summer months cannot be gainsaid, but during six months of the year there is no more perfect climate on the continent. The clear sunny days, and the delicious mildness of its bright starlit nights, make this a most desirable place for those troubled with pulmonary complaints to pass the winter months. There is probably not another spot in the Union blessed with so many days of bright sunshine during the year. Out of the

365, it is estimated that there are not over twenty that are cloudy. So high an authority as Ross Browne has written: "The climate in winter is finer than that of Italy. It would scarce be possible to suggest an improvement. I never experienced such exquisite Christmas weather as we enjoyed during our sojourn." This is the verdict of a traveler who has seen many lands, and experienced all varieties of temperature. The place is coming to the front as one of the best sanitariums in the West. And now that good accommodations are provided for invalids, the number of those who seek its mild and healing air is steadily increasing. It would be difficult to find a spot in the Union so well adapted for the cure of consumption and lung troubles, and the valley of the Colorado, from the Grand Cañon to the Gulf is blessed by a climate of similar mildness during the winter season. The Indians born and bred in this region are noted for their magnificent physique. The only diseases amongst them are those introduced by the whites, and many of these "sons of the river" attain a great age. No better proof of the healthfulness of this climate need be looked for.

Below is a statement showing the maximum, minimum and mean temperatures, and the precipitation in inches and hundredths, at Yuma, Arizona, for each month from the commencement of observations to January, 1883, compiled from the records on file at the office of the Chief Signal Officer, U. S. Army, Washington, D. C., April 9, 1883.

MAXIMUM TEMPERATURES.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1879.	80.	90.	100.	103.	102.	111.	116.	115.	113.	102.	91.	74.
1880.	77.	73.	84.	94.	104.	110.	110.	111.	108.	97.	86.	76.
1881.	76.	89.	97.	102.	102.4	109.4	115.3	109.6	107.4	98.2	83.4	79.5
1882.	76.4	78.1	91.7	102.8	103.5	108.7	111.8	114.	107.3	90.	82.	79.8

MINIMUM TEMPERATURES.

Year.	Jan.	Feb.	Mar.	Apr.	May	June	July.	Aug.	Sep.	Oct.	Nov.	Dec.
1879	30.0	37.0	46.0	48.0	53.0	59.0	61.0	64.0	59.0	44.0	38.0	27.0
1880	30.0	25.0	37.0	44.0	51.0	61.0	69.0	67.0	58.0	46.0	31.0	37.0
1881	33.0	37.0	31.0	50.0	57.2	62.2	71.2	65.6	58.8	47.2	35.5	36.8
1882	27.2	35.8	38.9	43.7	53.8	58.2	72.7	72.2	50.0	49.5	37.0	31.5

MEAN MONTHLY TEMPERATURES.—[Computed from
the three telegraphic observations.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct	Nov.	Dec.	Means.
1876.	50.9	59.5	61.9	72.7	81.8	89.3	93.9	90.3	86.3	77.0	65.4	59.3	74.0
1877.	60.3	65.0	71.8	68.4	75.3	88.7	94.0	92.7	83.3	71.4	58.5	54.5	73.7
1878.	54.8	59.6	64.6	66.7	76.8	85.1	93.3	91.6	83.0	73.4	62.0	53.4	72.0
1879.	53.1	63.7	70.5	71.8	77.7	85.5	92.0	92.5	87.7	72.8	59.9	52.8	73.3
1880.	55.2	52.2	58.3	67.5	76.6	85.6	89.6	90.0	83.2	71.2	56.7	56.1	70.2
1881.	52.3	62.1	63.5	72.6	78.1	84.8	91.9	88.6	82.7	70.4	58.3	57.0	71.9
1882.	50.2	54.4	62.3	67.1	77.2	83.0	93.0	92.0	82.7	69.6	59.5	58.0	70.8
Means.	53.8	59.5	64.7	69.5	77.6	86.0	92.5	91.1	84.1	72.8	60.4	56.0	72.3

PRECIPITATION.—[In inches and hundredths.]

Year.	Jan.	Feb.	Mar.	Apr.	May.	June	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Amount.
1876.	0.44	0.46	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94
1877.	0.09	1.72	0.00	0.00	0.06	0.00	0.50	0.06	...	0.00	0.00	1.23	3.66
1878.	0.00	0.06	0.13	0.02	0.00	0.00	0.55	1.50	0.37	0.00	0.02	0.14	2.88
1879.	0.59	1.21	0.48	0.15	0.00	0.00	0.00	0.00	0.11	0.33	0.15	0.27	3.29
1880.	....	....	0.00	....	0.00	0.00	....	....	....	....	0.00	0.74	0.74
1881.	0.00	0.00	....	0.55	0.00	....	0.20	0.08	0.05	....	0.00	0.10	0.98
1882.	1.35	0.01	0.00	0.60	0.00	0.05	0.20	0.03	0.04	0.01	0.09	0.00	1.78
Mean	0.35	0.45	0.09	0.10	0.01	0.01	0.21	0.25	0.08	0.04	0.03	0.31	2.04

The winter climate of southern Arizona is indeed as near perfection as one can expect to find anywhere on the globe. The mild, balmy air, the days with their clear, cloudless skies, and the nights brilliant beyond description, with the luster of countless stars, like diamonds set in an azure field, present a picture which not even the vaunted clime of sunny Italy can rival. The lack of moisture and the peculiar dry elasticity of the air make this the most healthy region on the Pacific coast. In such an atmosphere disease cannot live or germinate. Constitutions shattered by hardships and exposure to the severity of northern winters will find no climate more mild, salubrious and strengthening than that of Yuma, Tucson, Florence, Phoenix, and other points in southern Arizona during the greater portion of the year.

There is no climate more conducive to longevity. This is proved by the great age reached by Mexicans and Indians born and bred here. Centenarians are not uncommon

among these people, and there are many of them who have passed the one-hundred mile-stone. Diseases among them are scarcely ever known; and although few of them observe hygienic laws, they seldom know a day's sickness, and travel down the vale of life with health and faculties unimpaired, and die at last of old age.

Arizona has been called the "Sunset Land," and well does it deserve the name. There is no region on the globe, not even excepting the Italian peninsula, that can show such grand effects of light and shade, such gorgeousness of coloring, or such magnificent sun-bathed landscapes. When the God of Day sinks to rest behind some rugged mountain, lighting up the western heavens with a blaze of gold, and pink, and crimson, and orange, and wrapping the jagged peaks of the bare and forbidding mountains in a soft and dreamy haze of purple and violet; when the banks of clouds around the western horizon look like masses of burnished gold set in a sea of silver, then is presented a picture to which neither pen nor pencil can do justice. And when the last ray has disappeared, and the western sky is yet blushing with the mellow radiance of the last glorious caress, the stars begin to peep out from the clear, blue canopy, and in a short time the vault of heaven's dome is lit up by the brilliant beams from the countless creations that gem the firmament. No artist has yet undertaken to paint an Arizona sunset, but for him who can transfer to canvas its wonderful colors and its inexpressible grandeur, there is both fame and fortune in store.

In the southern part of the Territory there is scarcely a day in the year when the sun is not visible at some time during the twenty-four hours. A cloudy day is an anomaly in this region, and, except during the rainy season, the warm sunshine bathes hill, mountain and plain every month in the year. Think of this, ye unfortunates, condemned to drag out an existence under the fogs and frosts of less favored regions, where life is a continual struggle for existence.

The healthfulness of the country is proverbial. The extreme purity and dryness of the air does away with malarial diseases, and prevents the spread of anything like epidemics. It is safe to say there is not a population of equal numbers in the United States where the mortality from natural causes is less than in Arizona. In the valley of the Salt, where irrigation is extensively practiced, and

where, owing to the numerous water-ways, one would expect malarial fevers to prevail, such a thing is unknown. Men work in the fields and in the water, winter and summer, and enjoy the best of health. No better evidence of the virtues of Arizona's climate can be found than this.

The tables here presented, and the facts given, will convey to the reader an idea of the climatic conditions of the Territory. Instead of the sun-scorched desert, which some have pictured it, he will see that it is a land blessed beyond most countries with a climate whose health-giving qualities few can equal. The summers of northern Arizona reach as near a perfect temperature as any on the continent, while the winters in the southern part of the Territory possess all those desirable features of mildness, salubrity and recuperative power which so many seek for in vain in foreign lands.

The emigrant who thinks of casting his lot in this growing Territory need have no misgivings about the climate. Under its genial skies he can follow his calling in the open air every month in the year. He will find bright sunshine, pure and invigorating air that will bring the flush of health to his cheek, and send the warm blood bounding through his veins; he will find strength and vigor in every breeze, and long life and happiness in a favored land which combines all the beauties of the tropic and all the virtues of the temperate zones. Such a land is Arizona, blessed with a climate unsurpassed in either hemisphere.

Some readers may be inclined to think that the writer here presents an overdrawn picture of the virtues and beauties of Arizona's climate. A residence of twelve years in different parts of the Territory enables him to speak with the knowledge which experience only can give, and truth compels him to say that for healthfulness and salubrity it has not an equal in this broad Union. There may be particular localities with a more even temperature, but there are none where man can enjoy existence at all seasons of the year with more satisfaction. Here indeed life is worth living for; and the race of future Arizonians, born and nurtured in her matchless clime, will possess every physical and mental attribute which brings human nature nearer to the Divine.

CHAPTER VIII.

MINES AND MINING.

“————— here’s the rich Peru !
And there within, sir, are the golden mines,
Great Solomon’s Ophir !”

ARIZONA has been well-named a land of sunshine and silver. History and tradition have long made famous its marvelous mineral wealth, and the glamour of romance has hung about it ever since Cabeza de Vaca told his wondrous tale of the “Seven Cities,” and Padre de Niza embellished it with all the coloring which his zealous missionary ardor could inspire. The very name of “Arizona” is synonymous with vast treasures of glittering gold and virgin silver, hidden away in the dark recesses of rugged mountains, guarded by the fiercest of savages. The daring Spaniards, who braved the perils of hunger and thirst, and the dangers of death at the hands of its unconquered aborigines, had their imaginations fired by the tales and traditions of the Pimas, and the mystic region to the north of Mexico was to them a land “fraught with the rarest charms of romance.” Its massive mountains, its jagged and fantastically shaped peaks, its vast and solitary stretches of plain and *mesa*, and over all, the rich, glowing atmosphere that lent such an inexpressible charm, was to them a country where anything was possible—a country whose wonderful streams, like those

“Where Alph, the sacred river, ran
Through caverns measureless to man
Down to a sunless sea,”

had their banks “three leagues in the air ;” whose glowing skies eclipsed in brilliancy their own Castile, and whose every breeze wafted across mountain and desert, whispered golden tales of inexhaustless wealth.

No wonder Coronado and the daring band who followed him were ready to risk life and limb in the eager quest, and undergo any hardship, however great, to gain the prize in view. They did not find the golden treasures they expected in the Moqui towns, but the hidden wealth which they passed over in their journey thither was greater than that which Pizarro wrung from his Peruvian captive, or that Cortéz found in the halls of the Montezumas. But the men who made the expedition to Cibola were not of the kind who dig and delve for gold and silver. If there was a chance to win it by the aid of their good swords they were ever ready to undertake the job; but when it could only be had by laborious toil they preferred that some one else should do the work. So the first white men who penetrated Arizona did nothing to demonstrate its great treasure of precious metals, and it was not until more than a century had elapsed that the first effort was made to develop the hidden wealth of this region.

The Jesuit fathers were the pioneer miners of Arizona, and the first Europeans to attempt the extraction and reduction of its rich silver ores. When or where this first mining was done we have no means of knowing; but it could not be long after the establishment of the missions at San Xavier and Tumacacori. That it was prosecuted on an extensive scale, there is reason to believe from the old shafts and tunnels which are found in the mountains surrounding these old Missions, and from the piles of slag which are yet seen in the vicinity of the ruins.

The success of the Mission fathers induced others to engage in the business. Many rich discoveries were made, and a great deal of bullion was transported from Pimeria Alta. The unearthing of vast masses of virgin silver in the Arizona mountains, near the line of Sonora, made a tremendous excitement in Old and New Spain, and carried the fame of Pimeria Alta as a silver-producing region to the remotest corners of the civilized globe. This discovery was made in 1736 by a Yaqui Indian, who revealed it to a trader. The report soon spread throughout Sonora, and there was a "rush" to the new diggings. Such masses of the pure metal were never found before. One "nugget" weighed 2,700 pounds, the largest piece of native silver ever unearthed. This magnificent lump was confiscated by Philip V., on the ground that it was a curiosity, and therefore rightfully belonged to his Majesty. Many other specimens

of the native metal weighing from 200 to 400 pounds were also found, and the stories of the marvelous wealth of the region to the north were at length being verified by tangible proofs.

Under the vice-regal rule mining was prosecuted vigorously in Sonora and Arizona, a vast amount of treasure was taken out, and a great deal of work done. The system of mining was crude and imperfect, and the appliances for ore-reduction of the most primitive kind. Water and ore was packed out of the mines on the backs of *peons*, and nothing but ores entirely free from base metals could be worked successfully. But so rich was the grade that under such disadvantages they were made to yield handsomely. The war for Mexican independence put a stop to nearly all mining enterprises in Sonora and Arizona, and in the latter region it never reached that degree of prosperity under Mexican rule which it had attained under the government of Spain.

When that portion of the Territory south of the Gila passed into the possession of the United States, there was not a single mine worked within the limits of the Gadsden Purchase, or in all of Arizona. Want of protection from Apache depredations had caused the abandonment of every mining enterprise, and the old shafts and tunnels, and the blackened walls of *haciendas* and furnaces, were all that was left of once prosperous mining establishments. The first mining by Americans in the newly acquired Territory was in the Santa Rita mountains. Hon. Charles D. Poston, who was afterward elected the first Delegate to Congress, organized the Sonora Mining and Exploring Company, and the Arizona Mining Company, some time in 1855. These companies secured possession of many of the old mines which had been opened in early times by the Mission Fathers, and recommenced work upon them, aided by all the improved machinery and appliances then in vogue. Many difficulties had to be overcome, and many dangers met. The country was overrun by the murderous Apaches; machinery, tools and supplies of every kind had to be freighted overland for hundreds of miles, skilled labor was scarce, and the country was virtually isolated from civilization.

But against all these obstacles, operations were pushed vigorously forward. Roads were opened, buildings erected, existing works put in place, mills and furnaces were constructed, and the sights and sounds of a prosperous mining

industry were again seen and heard in Southern Arizona. Tubac, the headquarters of the company's operations, became the most prosperous town in the Territory, and could boast a mixed population of between 400 and 500, with handsome residences, store-rooms, gardens, orchards, and many of the luxuries of civilized life. At Santa Rita, Sopori and Arivaca, the reduction works were constantly employed, and a great deal of bullion was taken out. The ores were exceedingly rich and easily reduced, and, notwithstanding the constant raids of the Apaches, the work of development went steadily forward.

The breaking out of the civil war brought to an abrupt ending this effort to develop the mining industry of Arizona, and retarded for years the Territory's advancement. The garrisons stationed in the country were withdrawn, and the population left to the mercy of the Apaches. At this time camps were established at the Patagonia, the Santa Ritas, Cerro Colorado, Sopori, and in the Cabibi district. The withdrawal of the troops was the signal for the savages to make their incursions more openly and vigorously. The marauding Mexicans from Sonora, believing that the government of the United States was broken up, crossed the border in large bands and carried off what the Apaches did not destroy. Exposed to constant attack, surrounded by savage foes, and harassed by semi-savage outlaws, the mining camps and *haciendas* were abandoned. Tubac was surrounded by a horde of blood-thirsty wretches, and had not a party from Tucson come to its relief, every person within its walls would have been massacred. The Apache and the Sonoraian outlaw burned, robbed and destroyed; Tubac was reduced to a mass of blackened adobe walls, and in a few short months heaps of desolate ruins were all that was left of the prosperous mining camps of southern Arizona. Those who were so fortunate as to escape with their lives fled from a country which seemed accursed of heaven and a very hell upon earth.

Two years of death and desolation passed over Arizona before the mining industry was once more revived. This time it was in northern Arizona, and gold was the glittering prize that allured thousands to the banks of the Colorado. In the year 1862, placer gold, in paying quantities, was discovered by Pauline Weaver in the neighborhood of La Paz, and within a year over 2,000 men were digging and delving after the yellow treasure in the mountains and dry gulches

east of the Colorado. A year later, a party headed by the same indomitable old pioneer, discovered the diggings which bear his name, in Yavapai county, and a short time after, the whole coast was electrified by the wonderful discovery of Antelope Peak. This find attracted thousands of adventurers to northern Arizona, and mining received such an impetus as had never been known in the previous history of the Territory. Ledges of gold, silver and copper were discovered and located, rich placer deposits were worked successfully, quartz mills were erected and a veritable "boom" appeared to have struck Yavapai and Mohave counties. The mines worked were all gold-bearing, the quartz being exceedingly rich and easily reduced.

But in the mean time the Apache was not idle. He saw his chosen domain invaded by the pale-faces, and he saw the hated race receiving fresh reinforcements day after day. He saw the game ruthlessly slaughtered, and his favorite mescal grounds staked off and claimed by the prospector, and he resisted the advance of *los Americanos*. By the lonely trail and the public road, behind bush and rock and tree, the red assassin lay in wait for his victim, and many an unsuspecting pioneer was sacrificed to his hate. Provisions and supplies of all kinds were only to be had at extravagant prices, almost everything being brought across the Colorado desert, at a cost of from fifty to twenty-five cents a pound. Under such unfavorable conditions it is no wonder that mining made slow progress in Arizona. But, nevertheless, it *did* advance. Capital was invested, many mines were opened, and a number of mills and furnaces erected, and considerable gold found its way out of the country.

The placing of the hostile Apaches on reservations, in 1874, marks one of the brightest periods in Arizona's history. Prospectors soon penetrated to the regions lately infested by the savages, and Globe and Silver King were the rewards of their toil and industry. The fame of these discoveries spread over the land; thousands of restless adventurers turned their faces southward, and millions of dollars sought investment in Arizona mines. The discovery of Tombstone, a few years later, created a grand excitement, not only on the Pacific coast, but throughout the East, and the rush to the wonderful Arizona camp has only been equalled by that to Leadville. The high grade of the ores, the vast extent of the deposits, and the

small cost of reduction, caused a heavy investment of capital in the bonanza camp. The steadily increasing yield of bullion has been the marvel of the mining world; has demonstrated beyond cavil or doubt the richness of Arizona's mines, and shown that her right to wear the title of queen of our mineral realm is well founded and fairly won.

The completion of the Southern Transcontinental route, in 1879, and of the Atlantic and Pacific, in 1882, have removed the barriers of isolation and opened the Territory to immigration and capital. All portions of Arizona have felt the quickening and progressive impulses imparted by the iron rail. The country has been drawn into close communion with the great commercial arteries of the Union, and no longer is beyond the pale of modern progress. Its vast resources are becoming more thoroughly understood and appreciated, and the mining interests of the Territory have entered on a career of prosperity never before known in its annals. Capital is seeking investment, mills and furnaces are being erected, new discoveries are being made, and new camps are springing up, prospectors are swarming through mountain and plain, a steady stream of bullion is finding its way out of the country, and Arizona is pushing her way to the front place as the leading mineral region of North America. The brilliant future which many of her ardent admirers years ago prophesied seems at last about to be realized. The legends, tales and traditions of the past, are proved to be well founded; and some of the late discoveries would show that the half has not been told about the metallic treasures of this wonderful land.

The whole Territory is literally a net-work of veins and ledges. Nature, here, in a prodigal mood, scattered her treasures with a lavish hand, and neglected no portion of her chosen mineral domain. In no part of Uncle Sam's vast mining farm is there found such a variety of ores, or such a number of beautiful mineral combinations. This marked feature of the Arizona mineral field was early noted by the explorers and scientists who visited it. Such rare specimens are found nowhere else. So beautiful in form, so rich, so dazzling with color, so brilliant in luster, no other country produces. Silver occurs in its native state, as a chloride, bromide, ruby silver, silver glance, brittle silver, polybasite, sulphides, carbonates, antimonial silver, sulphurets, and many other rich combinations. Gold

is found in its native state in alluvial deposits, in combination with sulphurets, and in its matrix of quartz. Copper occurs in its pure state, as a red and black oxide, as a carbonate, copper glance, a malachite, and sometimes as a sulphate.

No mining region on the globe can show ores carrying so high a percentage of the precious metals as Arizona. In this respect the country stands pre-eminent. Ores which range from \$1,000 to \$5,000 per ton are of such frequent occurrence that they create no comment; and rich chlorides, sulphides and glance, ranging from \$10,000 to \$20,000 per ton, have often been shipped out of the Territory. Before the opening of the railroad, ores that would not go \$100 per ton, were cast aside as worthless; and even low, in many of the camps, anything less than fifty-dollar "rock" is scarcely looked at. And as with gold and silver, so it is with copper. Ores ranging from sixty to eighty per cent. are of common occurrence, and those which do not average above twelve per cent. are passed by unnoticed. So also with iron, lead and other minerals, the grade of all being higher than any other mining country can show.

Besides the extraordinary richness of its ores, Arizona offers many natural advantages for the prosecution of mining enterprises, which few other countries can show. Its climate is unrivaled. No mountains of snow and no intense cold here interfere with the labor of the miner, and retard operations for several months in the year. Work can be prosecuted in the open air, in winter as well as in summer, and in this equable climate, miner and millman can pursue their labors day and night without interference from the severity of the elements. Wood and water are plentiful in nearly every district, and if there is sometimes a scarcity of the latter at the surface, an abundant supply can always be had by sinking a short distance. The cost of opening roads is much less than in other regions, where the mountains are higher and more precipitous; and since the competition of two railroads, the expense of getting in machinery is much less than in many other mining regions of the west.

Capital has done but little in the way of development. The intrinsic merit and wonderful richness of the mines have developed themselves. When a mine ceased to pay for the erection of machinery, the work of exploration, meet all running expenses and pay regular dividends to

stockholders, it has generally been abandoned. While immense sums have been expended in "dead work" in other Territories, and so-called mines carried on for years without returning a dollar of the money invested, an Arizona mine has had to pay from the "grass-roots" before capital would deign to notice it. The country has never yet had justice done to its vast mineral resources, or received that aid in their development which has been poured with so lavish and reckless a hand into other States and Territories; and yet, there is no mining country where capital has met with such encouraging results, or which offers a finer field for investment.

All mining regions are cursed, to a greater or less extent, with incompetency, ignorance and mismanagement in the conduct of operations, but it would appear as if Arizona has had more than her share of the quacks who are such a serious detriment to the prosperity of mining countries. Many a promising enterprise has been brought to a disastrous ending, and many a fine property ruined, by the mismanagement of such men. The mournful monuments to their incapacity and dishonesty are seen in the abandoned mills and furnaces in all parts of the Territory. So long as companies formed in the East will persist in appointing men to handle their properties and spend their money, whose knowledge of mining has been learned from books, so long must they expect their money to be squandered recklessly and carelessly, and so long will the Territory have to bear the odium of disastrous failures. And yet, those gentlemen who appoint such incompetents, are, no doubt, careful business men, who would hesitate before placing in their counting-rooms or stores, men who were not thoroughly conversant with the duties to be performed. "Every man to his trade," is a safe motto in mining as in every other business, and practice is the only thorough school.

The ores of Arizona are very easily reduced. In the early days of mining, the Jesuit Fathers employed the primitive *arrastra* and the rude adobe smelting furnace. From these imperfect facilities remarkable results were obtained, and in some districts both are yet used by Mexicans as well as by Americans. In the reduction of silver ores, the wet crushing system is generally pursued. Pans and settlers are also used, and the metal amalgamated by the aid of a few simple chemicals in conjunction with

quicksilver. This is the process which prevails in the Tombstone, and other districts where the ores are free from base combinations. Where silver occurs in connection with other metal, the ores are first crushed dry, after which they are roasted, and then passed thorough pans and settlers. Smelting ores of gold or silver are not plentiful, and there are only a few establishments where the smelting process is employed. The percentage of loss is very small, and a saving of ninety-five per cent. is not an unusual result.

We have said there is here the finest opening for capital presented by any mining country in the west, and the results already achieved will justify the assertion. Although not one-twentieth part of the money has been invested in Arizona that has found its way to Colorado or California, yet the dividends from the Territory, for the years 1881-82, have exceeded those from either of those States. Although the shipments of bullion from the country, eight years ago, were but a little over a hundred thousand dollars, it now stands third on the list of producers, and is destined in a short time to occupy the first place. We have seen what the building of two railroads has done for Arizona within a short few years, and it is not unreasonable to look for a corresponding improvement for the building of others. It has been clearly demonstrated that cheap and rapid communication is the chief aid which Arizona requires to place her in the front rank of the bullion-producing States and Territories, and from present appearances the day is not far distant when every county in the Territory will be provided with it.

As showing the wonderful increase in the yield of Arizona, since the opening of the Southern Pacific Railroad, we give the figures compiled by Wells, Fargo & Co's Express, for the past four years :

Production for 1879.....	\$1,942,403
“ “ 1880.....	4,472,471
“ “ 1881.....	8,198,766
“ “ 1882.....	9,298,267

From being seventh in the list in 1879, Arizona became fifth in 1880, fourth in 1881, and third in 1882. A large quantity of rich ore and base bullion which finds its way out of the country is not included in the above, and it is

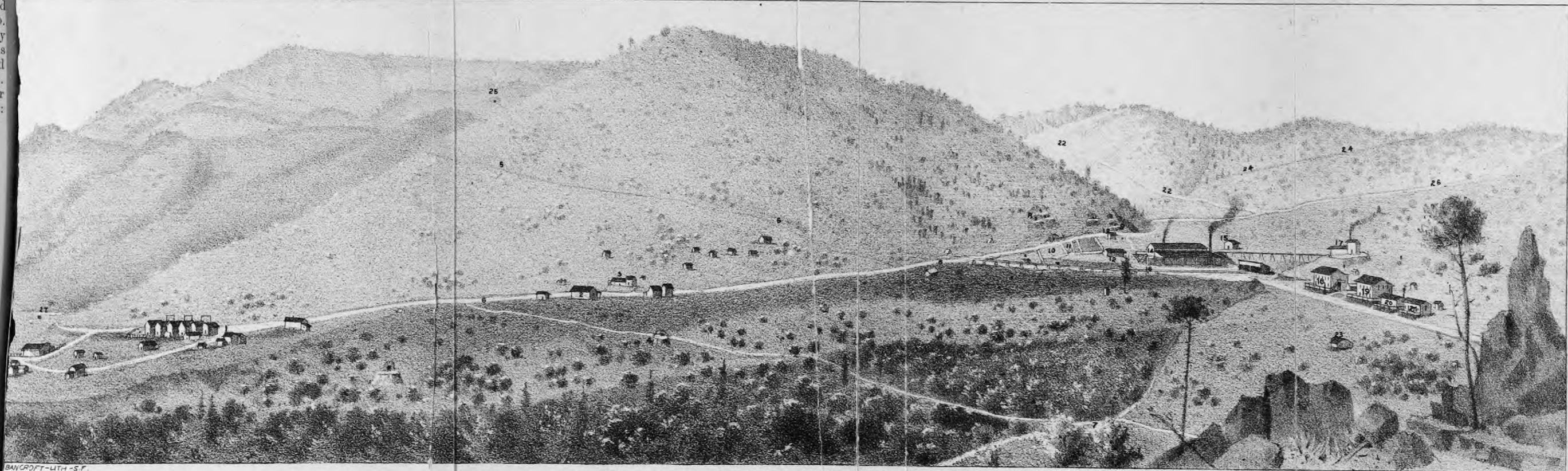
safe to estimate the value of such ores and bullion as ten per cent. of the figures given. From the most careful estimates and reliable data from every county, the total yield of gold, silver and copper for 1883 was \$12,000,000. For the present year there is likely to be a falling off, owing to the strike of the miners in the Tombstone district, and the temporary suspension of operations in that camp. There is no mining region on the coast or east of the Rocky mountains that can make a more flattering showing. Facts speak louder than words, and Arizona points to her record in the past as an earnest of what she will do in the future.

The copper product of the Territory for the past four years has been, as near as can be ascertained, as follows:

Production for 1880.....	2,000,000 lbs.
“ “ 1881.....	5,000,000 “
“ “ 1882.....	15,000,000 “
“ “ 1883.....	24,500,000 “

The value of the product for 1883, even with the low price of copper, reached nearly \$4,000,000, or nearly one-third the entire bullion yield of the Territory. With the number of new furnaces which have been “blown in” during the past year, it is not too much to expect that the yield of copper for 1884 will exceed 35,000,000 pounds. The growth of this branch of the mining industry of the Territory has been something remarkable. Ten years ago there was only one furnace in the country—a primitive concern in the Mexican style—with a capacity of from one to four tons, daily. Now there are in active operation twenty furnaces, with a capacity of over 1,000 tons. Although the market value of copper bullion has been very low during the past year, yet this branch of mining is making steady strides, and promises at no distant day to equal, if not surpass silver in the value of its product.

The possibilities of such a region are simply without limit. Where every mountain and hill, and peak, and isolated butte is seamed, and crossed, and gridironed with mineral veins, fortunes will be found centuries hence. The poor miner, with no other capital than his stout heart and strong arm, has done much to bring these treasures to light. He has suffered hunger and thirst, endured the scorching suns of the desert, and the chilling winter winds of the mountains. He has done all that an indomitable



BANCROFT-LITH-S.F.

MINES AND SMELTER OF THE UNITED VERDE COPPER CO. JEROME, YAVAPAI CO. A.T.

- | | | | |
|-----------------------------|--------------------------------|------------------------------|--------------------------------|
| 1 Jerome | 5 U. V. C Co's Water Pipe Line | 9 Eureka Mine *Eureka Tunnel | 13 Blacksmith Shop |
| 2 Buffum's Store | 6 U. V. C Co's Wagon Road | 10 Lime Rock Yard | 14 Smelter |
| 3 McKinnon's Boarding-house | 7 Bitter Creek | 11 Coke Yard | 15 Carpenter Shop |
| 4 Hermit Mine | 8 South Est Chrome Mine | 12 Warehouse | 16 Bullion Tramway |
| | | | 17 Wade Hampton Hoisting Works |
| | | | 18 Boarding-house |
| | | | 19 Lodging-house |
| | | | 20 Assay Office |
| | | | 21 U. V. C. Co's Office |
| | | | 22 Trail to Walnut Springs |
| | | | 23 Bath House and Barber Shop |
| | | | 24 Lime Dike |
| | | | 25 Venture Mine |
| | | | 26 To Prescott, 25 miles |
| | | | 27 To Verde River, 5 miles |

will and a dauntless energy can do, and he can do no more. He has opened the way, and marked the road, and stands beckoning for capital to follow after. He has shown the richness and extent of this vast field, and pointed out the opportunities for men of means who are desirous of investing in mining properties. He has demonstrated that this south-western corner of the United States is the treasure-house of the continent, and that vast fortunes are here waiting for men who have the enterprise and the energy to reach out after them. Here is virgin territory, as yet hardly touched by the pick or the drill. Here, large sums are not required for the erection of costly machinery to hoist the ore from thousands of feet below the surface, and keep out the vast quantities of water constantly flowing in. Here are millions of tons lying on the surface ready to be put under the battery or passed through the furnace. Here are high-grade ores; here is an equable climate; here are properties to be had at a mere nominal figure; and here is every inducement for investment in legitimate mining enterprises.

It is not possible in a publication of this nature to give more than a passing glance at the vast mineral fields of Arizona. A volume would be required to do full justice to it, and convey to the reader a clear idea of its richness, variety and extent. In this necessarily brief *résumé* the leading mines of the Territory can only receive special mention. No doubt there are many others, equally as valuable, now undeveloped. But as the acknowledged test of the value of a mine is its bullion yield, those who have not yet made such a record cannot look for extended notice. For the purpose of conveying to the reader some idea of the mineral resources of the different portions of the Territory the mines of each county are given separately.

Cochise is the banner mining county of the Territory, and has well earned that proud distinction. In the extent of its ore bodies, their high grade, the comparative cheapness of mining and working them, and the output of bullion, it ranks with the great mining camps of the United States. It is safe to say there is no mineral region of like extent in the West that can make a better showing for the same length of time; there is none can show a larger return for the money invested, none where the dividends have been larger or more regular, and none where the assessments have been fewer.

There is no division of the Territory more thoroughly mineralized. Every hill, mountain and *mesa* within its borders is seamed with some valuable metal. The natural facilities for the reduction of ores are not surpassed in Arizona. There is abundance of wood and water in its mountain ranges, and the San Pedro river, which flows near its principal silver belt, always furnishes a never-failing supply of the latter. The climate is as perfect as one could desire, and out-door operations can be carried on in winter as well as in summer. The topography of the country makes the principal mining camps easy of access, and two railroads running through the county give it direct communication with the outer world.

Tombstone, the leading mining camp of Arizona, and one of the most prosperous in the west, has gained a national reputation for the marvelous richness of its silver deposits and its large bullion yield. Its output during the past four years has upheld the reputation of Arizona as a mining region abroad, caused the investment of capital, and attracted the attention of moneyed men to the grand opportunities which this Territory offers.

The discovery of mineral in this portion of the Territory dates from the latter part of 1877. The region was long known to contain deposits of the precious metals, and as early as 1858 some prospecting was done near the San Pedro and the Bronkow mine discovered, but the presence of hostile savages prevented any extended development. The district was the favorite haunt of the noted chief Cochise and his band of blood-thirsty Apaches. From his natural fortress among the rocky crags of the Dragoon Mountains he overlooked the country for miles, always on the lookout for the coming of any small party of prospectors or travelers.

When A. E. Shieffelin, a persistent prospector, announced his intention of exploring the country beyond the San Pedro, he was warned that he would find a tombstone instead of a fortune in Cochise's domain. Nothing daunted by these gloomy prophecies, the indomitable prospector left Camp Huachuca in the latter days of 1877, and directed his steps east of the San Pedro. In February, 1878, his industry and energy were rewarded by the discovery of the rich silver deposits that have since gained a world-wide reputation. In remembrance of the doleful prognostications of his companions at Huachuca, he named the dis-

district "Tombstone," and thus it came that a name so "gloomy and peculiar" was conferred on this famous mining camp.

The report of the rich discoveries in south-eastern Arizona spread like wild-fire to every camp east and west of the Rocky mountains, and an army of adventurers flocked to the new Silverado. Thousands of locations were staked out and many valuable discoveries made; a city sprung into existence as if by magic, reduction works were erected, and a steady stream of bullion began to find its way out of the camp. The first stamp was dropped in June, 1879, and since that time the flow of the precious metal has been steadily increasing. During this period—a little over five years—it is estimated that the district has produced \$25,000,000, and from not more than 150 stamps. There is no camp on the coast can make so good a showing, and the work of development is yet in its infancy, the deepest explorations being but a little over 600 feet. The ores thus far reduced have been found above water-level, and it is only within a brief period that preparations have been made to tap the bodies of mineral below the water-line.

In the size of its veins, Tombstone stands pre-eminent among the mining districts of the Territory. Ore bodies of such size and richness have been found in no other portion of Arizona. The ores are generally chlorides, and are very easily worked, yielding ninety per cent. and upwards by the "wet" process of stamps, pans and settlers. Thus far all the ores of the camp have been reduced by this treatment, which has given very general satisfaction.

The mineral belt of Tombstone extends about eight miles east and west, and may be said to extend south to the Bisbee copper deposits, nearly twenty-five miles. The geological features of the belt are an interesting study. Porphyry is the most widely distributed, and is the formation in which most of the large ore bodies occur. The veins and deposits are nearly all covered by a capping of lime, and in some places large chambers of ore are found in this rock. As depth is reached the lime disappears, and considerable quartzite is encountered. This also gives way as the work of development proceeds, and at the water-level a feldspathic porphyry encases the ore bodies. On the western ledge of the district there is a well-defined granite formation, the veins being compact and regular with smooth walls. The country in which the mines of the dis-

tract occur, may be described as a series of rolling, grass-covered hills, being the northern end of the Mule mountains.

In the work of development, Tombstone leads all camps in the Territory, and, although a greater depth has been reached in other localities, there is none where that development has been so general, or carried forward so systematically. The leading mines are provided with the most-improved machinery, and immense pumps, capable of handling the heavy flow of water, are now being introduced.

The camp can show a brilliant record in the past, and has a bright outlook for the future. It is now undergoing the crucial test, in passing through what may be termed the surface deposits to the ore chambers below the water-level. That such ore bodies exist, has already been proved, and there is every reason to believe they will show larger and richer than those above. When they are fairly opened up, mining throughout the district will receive an impetus never before known, and a long and prosperous career assured to this camp. There are over 3,000 locations in the district. In this short sketch we can only notice a few of the leading bullion-producers, although, no doubt, there are many yet undeveloped which will prove equally as valuable.

The year 1884 will be memorable in the annals of Tombstone for the strike of the miners, who stopped work rather than accept any lower wages than \$4 per day. In consequence, all the mines shut down on the 1st of May, and remained closed for over three months. A miners' union was formed for the maintenance of a \$4-a-day wage, and for a time it appeared to gain strength, being supported by the unions of Bodie, Cal., Virginia City, Nev., and other places, who supplied funds to enable the workmen to hold out. The owners maintained that, until the water had been controlled, they could not afford to pay any higher rate than \$3 per day; although a large quantity of low grade ore was obtainable above water-level, yet it would not pay to work at old rates. Guards were for some weeks maintained at the mines, day and night; and although for a time trouble was anticipated, a squad of soldiers arrived in town from Fort Huachuca, and the excitement began gradually to cool down. The miners' union was dissolved after holding out for nearly four months, and work has been again resumed.

At the Grand Central, the large reserves of low-grade ore are being taken out at the rate of 100 to 120 tons daily, giving employment to about 180 men. Prospecting is being closely followed on the first four levels with very flattering results, especially on the 3d and 4th levels. New and larger pumps have been contracted for, which, when working in conjunction with those of the Contention, will, it is anticipated, be fully able to control the large amount of water below the 600-foot level. The *Contention* company, not having such a large reserve of ore above water-level, will, it is stated, not recommence operations for at least three months yet. Their pumps are ready, however, to start in whenever the Grand Central gives the word to commence.

Almost weekly some mine closed on account of the strike is reported as starting up again, and once more Tombstone begins to assume the appearance of the prosperous times of 1881-83. The population has considerably diminished, as many of the non-producers have left camp. Tombstone has, in fact, settled down to business on a basis firmer than ever, and the outlook for the year 1885 is one of great promise.

The Contention is the leading mine of the camp, and, considering its bullion production, is the leading mine of the Territory. Since its discovery, it has produced over \$5,000,000, and gives no sign of diminution in the size or richness of its immense ore body. Outside of the Comstock, there is no mine on the coast with such a magnificent record. As showing what development will accomplish, it may be stated that the mine was at one time on the point of being abandoned by its original owners, and was disposed of for the insignificant sum of \$10,000.

The claim originally cost.....\$10,000

The Western Mining Company paid the following dividends:—

In 1880, 7 dividends\$525,000

1881, 12 " 950,000

----- \$1,475,000

As Contention Company:—

In 1882, 11 dividends\$687,500

1883, 5 " 312,500

----- \$1,000,000

Total dividends to May, 1883..... \$2,475,000

The property was first incorporated in 1880, as the Western Mining Company, which, about the close of 1881, on the consolidation of the property with the Flora Morrison, and 600 feet of the south end of the Sulphuret, was changed to the Contention Consolidated Mining Company, under which name it now carries on its business.

In 1882 the company extracted a total of 25,017 tons of ore, an average of 2,086 per month. This produced 632 bars of bullion, valued at \$1,676,705.96.

In the first five months of 1883, the ore raised and treated amounted to 13,652 tons, which produced 205 bars of bullion, valued at \$553,085.91.

In this mine there are five levels; the depth of the main working shaft is 600 feet, and the amount of underground workings on all the properties, including drifts, cross-cuts, winzes, raises, intermediary levels, etc., etc., measure very nearly twenty miles.

The cost of mining is only one-third of what similar work costs on the Comstock, the rock being, for the most part, soft and easily blasted; whilst, so far, the depth attained, has not been great, and not nearly as much timbering is required here as in Nevada. The ore is met with in porphyry, the walls being composed of quartzite, limestone, and shales, while the guage is quart. The water-level is about thirty feet below the present deepest workings, to which a winze has been sunk from these workings. To cope with the water expected to be encountered this company have lately gone to great expense in increasing the size of their main working-shaft and erecting substantial pumping apparatus. The cost will be about \$350,000, and until operations are begun dividends have, in the mean time, been stopped.

Before incurring so heavy an expenditure, the management have taken every means in their power to find, beyond doubt, that the ore body below the water-level will amply repay for such an outlay, and the engineer and acting manager, Professor I. E. James, speaks in the most sanguine manner of the outlook, and gives it as his opinion that the bodies of ore that will be opened up, as sinking goes on, will astonish the mining world, and none more so than the fortunate shareholders of this valuable property. Josiah H. White is the local general manager and superintendent.

The Grand Central Mining Company, of Youngstown,

Ohio, own and control Grand Central, Leviathan, Naumkeag, South Extension, Grand Central, Emerald and other claims. The company possess two steam-hoisting works, the old hoist being now abandoned. The new hoist, one of the most complete and substantial on the Pacific coast, is with its present capacity capable of sinking 2,000 feet. There are six levels, and a total of underground workings of at least twenty miles. Depth of shaft, 750 feet, the level of the new hoisting works being fifty feet higher than the old. The ore is shipped to the company's thirty-five stamp mill on the San Pedro river, ten miles west of Tombstone. This mill started milling about March, 1881, and since then has produced over \$3,000,000 in gold and silver bullion.

To cope with the water in the lowest levels, extensive and complete pumping apparatus has been placed in position. For the short time it was in operation, it pumped about 1,000,000 gallons per twenty-four hours, and during this period it was found that the water in the bottom of the Contention shaft was considerable lowered, when further work was stopped until that mine (Contention) could get their own pumps going. When this great work is once fairly started, it is confidently expected that, together, these two mines will be fully able to handle the water and reach the great ores bodies which are known to exist below. The water appears to lie in large basins, and when once emptied will cause no further trouble. Everything connected with the mines is of first-class make and finish. Machinery, buildings and ore-bins are most substantially constructed and put together, while the underground workings are well ventilated and timbered.

The property joins the Contention on the south, and embraces over a mile of surface ground, all of which is mineral-bearing, and carrying, no doubt, within its lines, the extension of what is known as the Grand Central fissure vein. The vein is a strong and well-defined one, and has every appearance of a true fissure. It is one of the great mines of the camp, and has been ably managed by E. B. Gage, who is general superintendent. The Emerald mine, owned by this company, is now being rapidly opened up, and bids fair to rank as one of the best mines of the district, large bodies of rich ore having recently been struck. The old Grand Central Hoisting Works have been erected on

this property, and at present fully forty men are constantly employed.

The Tombstone Mill and Mining Company is a New York corporation, and was among the first to commence operations on an extensive scale in this district.

The company own eleven mining claims, having a total area of $161\frac{1}{2}$ acres. These claims were first located in March, 1878. Mining began in June, 1878; and milling, in June, 1879.

From June, 1878, to March 31, 1883, the company		
extracted from their claims	73,565 $\frac{3}{4}$	tons of ore.
Which produced in gold		\$ 6,856 42
" " silver		2,863,930 70
	Total bullion	\$2,870,787 12

The total weight of which is about 98 1-5 tons, avoirdupois.	
This ore has produced in silver, per ton	\$50 29
" " gold, per ton	1 92
	Total \$52 21

Since commencement the company has paid out in	
the shape of dividends	\$1,250,000
Amount paid owners whilst incorporated under the	
laws of Arizona	400,000
	Total \$1,650,000

At first, the claims on which the principal work was done were the Toughnut and Goodenough mines. The bodies or bunches of ore were found in many instances close to the surface, mostly in limestone and porphyry.

The Goodenough main-shaft is down 350 feet, while the deepest workings on the Toughnut are 268 feet deep.

The West Side main-shaft has reached a depth of 416 feet. There are four levels, and over a mile of underground openings; the ledge being opened for a distance of over 1,200 feet. The average value of this ore, is about \$63 per ton, silver and gold. The percentage of gold in the West Side is much larger than in either the Toughnut or Goodenough claim.

The Toughnut, Goodenough, Lucky Cuss and other claims owned by this company, were the first locations made in the camp by Shieffelin, and have been worked almost continuously since their discovery. The company have erected a smelter near their mill, on the San Pedro,

for the working of the tailings. It has proved a complete success, the manganese from the Lucky Cuss making an excellent flux, and also carrying some silver.

The Empire is a Boston incorporation. The property adjoins the Tranquillity, Girard and Goodenough. There are two shafts on the claim, one a double compartment, being down 500 feet, and the other a "whip" shaft, 200 feet deep. Both are connected by a drift 300 feet in length. Four levels have been run, 200, 300, 400, 450 feet respectively, making the total amount of underground workings about 3,000 feet. The ledge runs north-east and south-west, and dips to the west. There are now on the dumps of this mine over 3,000 tons of ore, which will average \$25 per ton in silver. This is no doubt a valuable property. The situation and the surface indications are good, and the ore is easily reduced. The mine has complete hoisting works, and although operations have been temporarily suspended, it is expected the work of development will soon be resumed.

The Girard Gold and Silver Mining Company was incorporated in 1879 as a non-assessable company, with 200,000 shares.

It is not a full claim, only measuring 980 feet by 600 feet in width. The main shaft is down 450 feet; from which there are four levels, viz.: at 150, 250, 279 and 349 feet. In the way of prospecting and development less work has been done here than in any of the group of mines that was started about the same time, two thousand feet of underground openings being the entire extent. The location of the property leaves nothing to be desired, and there is a large body of ore, the extent of which can only be ascertained on further development. Three thousand six hundred tons of ore have been extracted, which averaged about \$60. An assay of the tailings, from the ore worked, showed them to contain \$47 per ton silver.

The Boston and Arizona Smelting and Reduction company is a Boston incorporation, and non-assessable. It has a twenty-stamp mill and a patent roasting furnace (rotary). These works, as well as the Stonewall mine, which is also the property of the company, have been worked steadily, and have paid handsomely. This mill, which is situated on the San Pedro river, between the towns of Charleston and Contention, three miles from the former place and ten

miles from Tombstone, has reduced and treated ore as follows :

Customs ore	12,500 tons.
Knoxville ore.....	5,300 "
	<hr/>
Total.....	17,800 tons.
Total bullion product therefrom was... .. \$1,250,000	
" amount paid by company for customs ore.	540,000
" bullion delivered to some of company's clients.....	140,000
Expenditure incurred since commencement in improvements.....	20,000

The Old Guard is situated near the Ingersoll Consolidated. It has a main-shaft sunk 230 feet on the ore body, having followed the ledge from the surface. There are over 300 feet of underground workings. The last development work opened up an ore body three feet wide, averaging \$100 per ton, on the fourth level. Considerable ore has been extracted and stoped from this property. The returns from 100 tons, in June, came to over \$5,000.

The Vizina is a New York incorporation, and is non-assessable. The main shaft is 500 feet deep, including a winze fifty feet.

The total underground workings amount to 5,500 feet.

No. of tons of ore shipped from this mine has been 8,022, producing in bullion.....	\$692,880
Which, for the amount of ore, is the highest average so far obtained in the camp (being \$86.38 per ton).	
The amount of dividends paid so far has been..	\$140,000
Cost of claim in first instance.....	50,000
For year, ending December 1, 1882, average of ore per ton.....	\$68.70
Average net.....	44.85

The Alps lies parallel to, and west of the Grand Central. The property is opened by two shafts, one being down 138 feet, and the other 104 feet. A tunnel has been run on the side of the hill, a distance of 126 feet, which has tapped the vein, showing it to be five feet wide, containing streaks of rich ore. On the south side of the claim an incline shaft is down 110 feet. There are five other shafts on the property, making in all over 600 feet of openings. On the south side of the Alps, float has been picked up, that went \$7,000 per ton, which evidently has come from a rich chimney.

The Lima Consolidated Mining Company own Lima, Green Cloud, and Old Necomis mining claims, situated on the north slope of Military Hill, directly south of the Grand Central mine. An incline-shaft has been sunk on the ledge, 270 feet. There are levels at 85, 135, 190, and 250 feet from the surface. Amount of drifts and underground workings, 250 feet. The ledge at the bottom of the shaft is four and a half feet wide. There are 200 tons of ore on the dump that will average \$35 per ton, silver. A tunnel is now being run from the level of the road to connect with the shaft. This tunnel will cut the shaft at sixty-five feet, and from this point follow the ledge all the way. Some very fine chloride and manganese ore has been taken from the tunnel. An average of the ore has been milled, showing its value to be as follows:

First quality.....	\$180 and \$190	per ton, silver.
Second ".....	80 and 35	" " "

The ledge is strong and well defined, with every indication of opening up a large mineral deposit with sufficient development.

The Bunker Hill, Mammoth and Rattlesnake are south of the Grand Central, and are owned by Chicago parties. The company also own the Watervale five-stamp mill, which is kept busily at work. At a depth of 160 feet the Rattlesnake and Mammoth have been connected by a drift over 400 feet in length. The ore body in the claims mentioned varies from four to eight feet in width. This group of mines are among the most promising in the camp, and give every indication of becoming steady bullion-producers at no distant day.

The San Diego mine is owned by the Woronoco Mining company, and is about two miles east of Tombstone. The main shaft is down 490 feet, from which several levels have been run. The ore carries considerable galena, and a smelter has lately been erected for its reduction, which is said to give good satisfaction. Some of the ore reduced has gone \$400 per ton.

The Ground Hog, one of the oldest locations in the camp, runs parallel to the Eden Lass, and has much the same character of ore. The vein is four feet wide, and will mill, by assorting, \$75 per ton. Both these claims are owned by an Eastern company who are vigorously prosecuting work.

The Prompter is one of the most promising mines in the

camp. The vein is well defined, and continuous carrying considerable chloride, and in places shows over forty feet in width. The formation is porphyry and quartzite. Shaft No. 1 is down 210 feet. The ledge has been crosscut at the bottom, and shows a width of forty-three feet. There are three pay streaks, five, seven, and nine feet respectively. The average of the ore milled from each has been \$35 per ton, silver. Shaft No. 2 is 450 feet east of No. 1, and is down fifty feet. A crosscut shows the ledge at this point to be thirty-five feet wide, with ore of the same character as in No. 1. Shaft No. 3 is 300 feet east of No. 2, and is down fifty feet, all the way in ore worth \$40 per ton. Shaft No. 4 is 200 feet east of No. 3, and is ninety feet in depth. This shaft is on a spur from the main ledge. At a depth of seventy feet a cross-cut connects it with Shaft No. 5. In running this cut a body of carbonate ore has been encountered, eight feet wide, assaying \$100 per ton. Shaft No. 5 is down 340 feet, and has three levels run.

The Way Up joins Goodenough, Empire, and Gilded Age. The discovery shaft is down 280 feet, and the main double compartment working shaft, 180 feet. These two shafts are connected by a drift 435 feet in length. The ore incline, which commences on the 100-foot level, runs to the 200-foot level, a distance of 250 feet. No. 2 shaft is down 155 feet. The various underground workings are about 1,000 feet. Since the commencement of operations, the quantity of ore raised has been from 700 to 800 tons. Amount of bullion shipped, \$62,000. The average of ore smelted yielded \$310 per ton; milled, yielded \$100 per ton. Twenty-eight tons of ore shipped some time back to San Francisco returned a gross yield of \$3,551. This mine has been shut down for a long time, owing to litigation with the Tombstone Milling and Mining Company, the latter claiming the valuable ledge which runs from Goodenough into Way Up ground. The late decision is in favor of the Way Up company, but the case being hotly contested, will likely be carried to a higher court.

The Blue Monday adjoins the Ingersoll Consolidated. The claim has been opened by two shafts, each 200 feet in depth, besides which there are 300 feet of other openings. The average value of ore shipped has been \$83 per ton, silver, while twenty tons of select ore have yielded \$156 per ton.

The Randolph is owned by a non-assessable company,

incorporated under the laws of Illinois. The mine has been opened by three 100-foot shafts, and by over 1,000 feet of drifts, cross-cuts and other underground workings. It is estimated there are over 200,000 tons of ore in sight in this mine. The ore is not of high grade, but is easily reduced, and with proper management should pay. About 300 tons of select ore has milled at the rate of \$40 per ton. The claim is now lying idle, but it is certain that such a valuable property will not long be allowed to remain so.

The Ingersoll is west of the Tombstone Mining Company's properties. It has produced large quantities of ore that milled \$100 per ton. The vein is a strong one, and the mine has been opened to a depth of over 400 feet. Complete hoisting machinery has been put in, but work is at present suspended.

The Mamie is about three miles west of Tombstone, on the road to Charleston, and has produced some of the richest ore taken out in the camp. There is a shaft on the property 250 feet deep; and the claim is further opened by drifts and levels. The ore is a chloride and carbonate. A lot of fifty-three tons lately worked at a custom mill, yielded \$4,000. The property is now being worked under a lease. In the neighborhood of the Mamie are a number of claims which have produced rich ore, and on which a great deal of work has been done. Among the most prominent are the Juniata, Bonanza, Blue Jacket, and several others.

The Stonewall is a strong vein, situated on the western edge of the ore belt. It has been opened to a depth of over 300 feet; has a total of 3,000 feet underground workings; and shows a strong, well-defined ore body, which has yielded about \$75 per ton. This claim has turned out over \$300,000, and is one of the finest properties in the camp.

On the western line of the district there are a number of fine-looking properties, upon which but a limited amount of development has been done. The formation here is granite, and the ledges have every appearance of permanency. The most prominent are the Monitor, Merrimac, True Blue, and Argenta. The Monitor has a five-foot vein of free milling ore that will go \$30 per ton, silver. It is opened by a shaft 120 feet deep. The Merrimac shows four feet of ore, some of which has milled \$60 per ton. The Argenta is west of the Monitor, and is a strong and regular

vein four feet across. Assays have gone as high as \$600 per ton, silver. There is a shaft eighty feet deep.

Near the San Pedro river there is a group of mines which have produced very rich ore. The Bradshaw is the principal claim of this group. It is opened by several shafts, and has yielded over \$50,000, but is not being worked at present. The Bronkow, the first location in the district, is in this neighborhood. It is notable only for the number of men who have been killed in the contest for its possession—some seventeen having met with violent deaths from this cause.

Bisbee, the great copper camp of Cochise, is in the southern end of the Mule mountains, about thirty miles directly south of Tombstone. The copper-bearing belt embraces an area of about five miles in length, by from two to three in width, and is situated on a spur which strikes easterly from the main range. The large ore bodies are found in lime and quartzite, but there is also considerable porphyry. The camp is easy of access, the ores are of high grade and easily reduced, and there is abundance of wood and water. Copper was first found here in 1875-6 by officers and soldiers of the army, during one of their hunts after Apaches. Jack Dunne, a scout, made the first location, named the "Sucker," in August, 1877.

The Copper Queen is the leading mine of the camp, and one of the great copper mines of Arizona. It was discovered in 1877 by Hugh Jones, and relocated in 1878 by George Warren, Ray, "Kentuck" Edelman and others. They gave an interest to George Anschutz for doing the assessment work, in 1880. In the same year Warren bet his interest on a foot-race and lost it, the winner being G. W. Atkins. In 1881 James Reilly bonded the mine for \$28,000. It was purchased by the company who now own it, and who have since developed it into the valuable property it now is. The original discoverer, Jones, gave it up, as he could see nothing in sight but some "copper-stained" rock, and Warren threw away a fortune in a drunken frolic. The mine has once changed hands for \$1,250,000, and today could not be bought for double that amount.

The mine is opened to a depth of over 300 feet, and by many levels, cross-cuts, drifts, etc. The ore body at the 300-foot level is found to be 150 feet in length and eighty feet in width. The ore occurs in immense chambers in the oölite limestone. It is composed of carbonates and oxides,

and carries sufficient fluxes for smelting. Besides the "Copper Queen" the company own the "Copper King," Copper Jack, Rucker, Copper Czar, Iron Monster, and General claims; in all about 55 acres. The course of the great mineral belt of the district is east and west, and in the Queen the dip is found to be southerly. This has determined the company to sink 500 feet perpendicularly on the Copper Czar, lying east of the Queen.

The following tables will give the reader some idea of the value and future possibilities of this fine property:

Statistics of the Copper Queen mine from April 1, 1883, to March 31, 1884:

Ore mined during the year.....	34,375	tons
Ore smelted " ".....	33,941	"
Black copper bullion produced.....	7,647,488	lbs.
Net New York value of bullion.....	\$1,033,045.62	
Cost of working, freight and administration.....	690,099.55	
Dividends declared during year.....	450,000.00	
Average fineness of bullion.....	96 3-10 %	
Average yield of ore in copper bullion....	11 26-100%	
Coke consumed during year.....	6,383	tons
Wood " ".....	3,617	cords
Probable monthly output of copper bullion for the fiscal year 1884-5.....	320	tons
Average number of men employed in and about the mine and smelter.....	180	

Statistics of Copper Queen mine from the commencement of work, April, 1881, to March 31, 1884:

Ore mined.....	90,021	tons
Ore smelted.....	89,586	"
Black copper bullion produced.....	12,050	"
Total value of product.....	\$3,368,878.59	
Total amount of expenses.....	1,384,974.58	
Total amount of nineteen dividends as paid April 1, 1884, surplus to carry forward....	1,225,000.00	
	159,974.58	
Average yield of ore in black copper bullion	13 45-100 %	
Average yield of bullion when refined....	96½ %	

The Atlanta is south of the Queen, and parallel to the latter. It shows some rich ore on the surface, and it is supposed the ore body of the Queen pitches into the Atlanta ground. A tunnel has been driven on the claim 300 feet, from the bottom of which a shaft will be sunk to tap this ore body. Work is carried forward steadily.

East of the Queen lies the Holbrook, owned by New York

parties. The main shaft, already 200 feet deep, proves this to be a valuable property, and as containing the easterly extension of the Queen lode. Work steadily progresses.

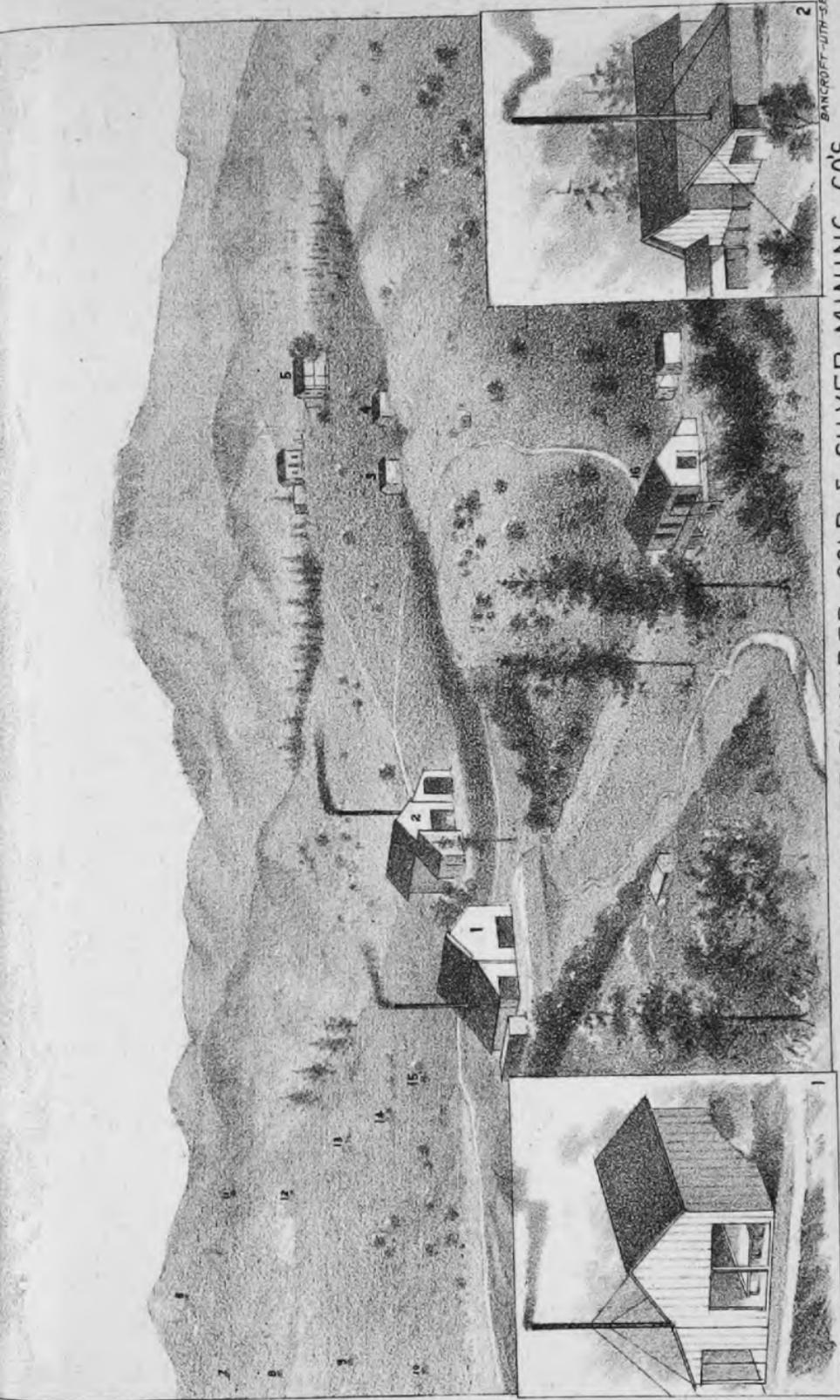
Still further east, we come to Mineral Hill, an enormous blow-out of iron ore (hematite) carrying copper. Here are located the Broad Gauge, Ironclad, Cliff and others, constituting a group of 13 claims, in extent 98 acres. All over the hill copper ore is found, but the development made is so far insufficient to fairly estimate their value.

The Neptune Co., of New York, own Uncle Sam, Brother Jonathan, Heyes, Neptune, Excelsior, Look-out, and other claims. They have done considerable work, scattered all over their ground, which, had it been concentrated, might have shown they possessed valuable mines, but the fact cannot be doubted that in most all their claims, they have extracted high grade-ore, especially from the Neptune, Uncle Sam and Heyes.

The Baxter, east of the Atlanta, the Hendricks, on west of Atlanta, Mammoth, near Neptune and Excelsior, and the Wade Hampton, about two miles south of the Copper Queen, are owned by Corbin Bros., of New Britain, Conn. The Hendricks has a well-defined ledge of lead carbonate ore, carrying silver, which has been fairly developed. Prof. John A. Church has worked a large quantity at the smelter of the Tombstone Mill and Mining Co., at Charleston, with good results, and has found nickel therein, which if encountered in large bodies would be an important adjunct to the metals of Warren Mining District.

The Copper Prince is owned by the Arizona Prince Company of New York. They have been steadily at work for the past year, and have extracted and shipped to Baltimore a large quantity of high-grade ore. This claim has been brought to public notice by its successful lawsuit with the Copper Queen Co. in 1883, by which the latter were enjoined from working 600 feet of the western portion of their claim. The Queen Co. failed in getting a new trial, and now the matter rests with the Superior Court. No doubt still higher tribunals will be invoked for a decision in this matter, if the two companies do not compromise, a result that is not improbable.

The Black Jack is near the Mammoth and Neptune. Some very high-grade carbonate ore has been taken out. It has two shafts, 90 and 60 feet, respectively. Many other



THE MILLS OF THE HIDDEN TREASURE & WONDER GOLD & SILVER MINING CO'S.
TURKEY CREEK DISTRICT, YAVAPAI CO. A. T.

BANCROFT-JUN-35

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claims are worthy of note, amongst which must be mentioned the Empire, New York, Galena, and Della Mack.

Cochise district is situated in the northern spurs of the Dragoon mountains adjacent to the line of the Southern Pacific railroad. It has a good supply of wood and water, and one of the most delightful climates in the Territory. The principal mine in the district is the Peabody. The claim is in the low, rolling hills seven miles north of Summit station, on the Southern Pacific railroad. The ore is copper-bearing, but it also carries some silver. A smelter has been put up, and run for over a year, but is now idle.

Winchester mining district is west of Cochise. Some very rich ore has been found here, and considerable work has been done. At present, operations have been temporarily suspended.

Dos Cabezas.—This district is situated in the Chiricahua range, in the north-eastern part of the county, and a short distance south of the Southern Pacific railroad. The camp has abundance of wood and water, and every natural facility for ore reduction. The ledges are large and regular, carrying gold and silver. A ten-stamp mill has been erected in the district, and has turned out a good deal of bullion. The Silver Cave, Juniper, Silver Cave South, Murphy, Bear Cave and Greenhorn are the leading claims. The first named contains three veins, running from seven to three feet wide, which have yielded \$35 per ton, gold. The Juniper shows a four-foot vein, select ore, from which goes \$150 per ton, gold and silver. Although undergoing a temporary depression, Dos Cabezas will yet become a prosperous camp.

The Huachuclas, and also the Whetstones, are rich in gold, silver and copper, and possess in abundance those important factors in mining operations, wood and water. Although no great amount of work has yet been done in the Huachucla range, the development is sufficient to show the merit of its mines. The Black Bear is a fine copper property, which has been opened by some shallow workings. The ore is of high grade, and the ledge a large one. With every facility for mining and milling, and with an unrivaled climate, the Huachuclas will yet become the scene of an active and profitable mining industry.

Turquoise district embraces the southern end of the Dragoon range, and is about eighteen miles north from Tombstone. There is plenty of water, and sufficient wood

for all necessary purposes. The ores are smelting, and yield from \$40 to \$300 per ton, silver. The Mono is a strong vein, averaging about three feet wide, and assaying about \$80 per ton. There are over 600 feet of shafting and drifting on the property. The Defiance shows a large ledge of carbonate ore, which assays \$75 per ton, silver. The Dragoon, Belle, Bodie, Star and Challenge are fine prospects.

California District.—This district is in the Chiricahua mountains, twenty miles south of the Southern Pacific railroad. The camp is well wooded, and there is a plentiful supply of water. The ores are a galena and carbonate of lead, carrying silver. The Texas shows the most development of any mine in the camp. It has been opened to a depth of 100 feet, and by many levels and drifts. The Eclipse is a fine copper property, which has been exposed at several points on the surface, showing a strong vein of high-grade ore. The Hell claim has been opened to a depth of 100 feet, showing a fine vein of silver-bearing carbonate ore. The Silver Creek, Opbir, Humming-bird, Drum, Josephine and Tower Hill are among the principal claims in the district.

Galiuro mining district is situated about twenty-five miles north-east of Benson, on the easterly side of San Pedro river. Many claims have been located. The principal mine is the Jackson, on which about 300 feet of development has been done. The formation of the country is porphyry and quartzite, and the ore is a chloride, which assays all the way from \$25 to \$1,000 per ton, in silver. So far, the district has been prospected but little, but with the many advantages at hand, this camp will not long remain unknown. Wood and water are abundant, and communication with Benson easy.

Yavapai county has long been noted for the great richness and variety of its mineral deposits. For years it was the leading mining region of the Territory, and before the opening of the Southern Pacific railroad the largest bullion producer. No portion of Arizona is so abundantly blessed with those two important factors in mining operations—wood and water. The ledges are regular and well-defined veins in the primitive rock, and generally free from the surface displacements, so noticeable in other localities. Silver is found in its native state as a chloride, a sulphuret, a carbonate, and in nearly every other possible condition in

which the metal occurs. The great richness of some of the deposits found in the county has been something phenomenal. Quantities of chlorides and sulphides, ranging from \$5,000 to \$25,000 per ton, have been taken from many of the districts, and ores assaying from \$500 to \$1,000 per ton are of common occurrence.

Yavapai county has always been the leading gold producer of Arizona, and has yielded more of this metal than all the rest of the Territory combined. It is also rich in copper of a remarkably high grade, as an oxide, carbonate, malachite, glance, and as a sulphuret.

The history of mining in this county dates from the discovery of the rich placers on Weaver creek, in May, 1863, and the remarkable deposit on Antelope Peak. Those discoveries attracted a large number of adventurers to northern Arizona; several mills were erected, and successful progress made in working the free quartz, but when sulphurets were reached the primitive appliances at hand were not equal to the task of reducing them, and nearly all of the mills suspended operations. Bad management, together with ignorance and dishonesty, combined to bring about this result, and have always been a serious drawback to the progress of mining in Yavapai. But against all the disadvantages of isolation and mismanagement, the county has gone steadily forward. The value and permanency of the mines have been proved beyond doubt, and the completion of the Atlantic and Pacific railroad is sure to draw capital from the East and from the West. With a climate unsurpassed for salubrity; with plenty of wood and an abundant water supply; with rail connection to the moneyed centers of the continent, there is no good reason why Yavapai county should not become one of the leading bullion producers of the Territory. Some twenty mining districts have been organized in the county, of which the following are the most prominent:

Peck District.—This rich camp is thirty miles south-east from Prescott, in the northern foot-hills of the Bradshaw range. The finding of the famous ledge after which it is named, was one of those accidents to which many great mines owe their discovery. In June, 1875, E. G. Peck, T. M. Alexander, C. C. Bean, and William Cole were prospecting in the neighborhood, and had established a camp not far from the mine. Mr. Peck took his gun and went out to find a deer. Passing the immense croppings of the

ledge which now bears his name, he stopped to quench his thirst at the spring which bubbled out below them. While stooping over, his hand rested on a rock, which he picked up and found to be dark-colored and heavy. He carried it to the camp, where it was submitted to a blow-pipe test and found to be rich sulphide of silver, worth \$10,000 per ton.

Claims were at once staked off and work commenced. The first ten tons of ore taken out were sold in Prescott for \$1,300 per ton. A mill was put up, and the mine worked successfully until 1879, when the original owners became involved in a law-suit, which ended by the property passing out of their hands and into those of California parties. It is estimated that the mine produced over \$1,250,000 during the short period it was worked. A shaft has been sunk 400 feet, and four levels, aggregating 1,400 feet, have been opened. A fine ten-stamp mill, with a roaster attached, has been put up near the mine. The Peck belt extends north and south for several miles, and is located all the way. The Alta is south from the Peck, and shows a foot vein of chloride ore, which has assayed from \$100 to \$5,000 per ton. The Evening Star is south of the Alta. It is opened by several shafts and drifts, and shows ore similar to the latter, and equally as rich.

Scarcely half a mile east of the Peck a large parallel vein occurs, and is known as the Silver Prince. The Prince has produced over \$150,000, the ore being nearly of the same character, and almost as rich as that of the Peck. The mine is opened by several shafts and drifts, and by a tunnel over 600 feet in length. The vein is a strong one, the rich ore bodies occurring in pockets and chimneys. It is now the property of a New York company.

The Black Warrior is south from the Prince, and is supposed to be on the same ledge. It is a large and well-defined vein, showing an ore body from two to three feet in width. The ore is different from the Peck and Prince, being composed of sulphurets, galena, native and antimonial silver, which gives an average yield of over \$100 per ton. The mine is the property of the company who own the Prince. Work is being pushed forward vigorously. The vein is opened by a shaft to a depth of nearly 300 feet, and by tunnels. It is one of the finest properties in the county. The ore is now being reduced at the Tuscomb mill. South of the Warrior, and presumably on the same ledge, are many locations which give a favorable showing for the

amount of work done. The Doyle, Lone Juniper, and a dozen others are in this locality. The Peck district has every advantage in the way of wood and water, and a fine climate.

Tip Top.—This camp is about fifty miles in a south-easterly direction from Prescott, and about forty-five north of Phoenix, in the southerly spurs of the Bradshaw range. Discovered and formed in 1875, it has been worked continuously ever since, and has produced more bullion than any district in Yavapai county. It has been the best chloriding camp in the Territory, and many a poor miner has made a "stake" from working the small but rich veins which abound there. The formation is a micaceous granite, and the veins, though small, are well defined and regular. Chlorides, carbonates, sulphides, and sulphurets are mainly the qualities of the ore. The Tip Top, the principal mine of the district, was discovered in 1875, and has produced over \$2,000,000. The Pearl is a large ledge of good milling ore. It has been sunk upon to a depth of sixty feet. The Seventy-six is a small vein of rich chloride ore, as are also the Silver Museum, El Dorado, Camp Cole and Argus. These claims are now being worked profitably, the ore being shipped to reduction works outside the Territory. The Virginia No. 2, situated on Tula creek, four miles from Tip Top, is another small but exceedingly rich vein, which has produced a great deal of ore worth over \$1,000 per ton. There are many other fine prospects well worthy of mention, many of which are paying their owners good wages.

Turkey Creek—This district, which has lately been brought into prominence by the discovery of the wonderful deposits of almost pure silver, is situated on the eastern slopes and foot-hills of the Sierra Prieta range. The camp has a bountiful supply of wood and water, and a climate among the most delightful in the Territory. The formation is granite, porphyry and slate, and the distance from Prescott twenty miles, in a south-easterly direction. The Pine Spring mine, whose recent discovery has created such a stir all over the Territory, is one of those mineral marvels peculiar to Arizona. From a small shaft not more than twenty feet in depth, \$50,000 have been taken. The ore—if, indeed, nearly pure silver can be called such—yields from \$2,000 to \$25,000 per ton. Such masses of horn silver were never before found in the Territory—chunks weighing sixty pounds, and worth \$14 a

pound, having been taken out. The mine was discovered by an old pioneer named Billy Gavin, who was prospecting on a "grub stake" when he happened on the buried treasure, in June of the past year. There are no indications on the surface, and the discovery was made by "tracing" the dark, metallic pieces of float found on the hill-side, some distance below. The financial condition of the finder was at a low ebb when he "struck it." To-day he has a fortune in sight, and refused an offer of \$150,000 when down only three feet. The mine is being worked steadily, and gives promise of proving one of the great mines of Arizona. That there are scores of other such bonanzas throughout the Territory, as yet undiscovered, there can scarcely be a doubt.

The Goodwin is the oldest location in the district, and is claimed for several thousand feet. The Holmes' claim is opened by a tunnel, 200 feet in length, and by a shaft eighty-five feet deep. The ledge will average three feet wide. The ore is a rich, gray copper, and antimonial silver worth from \$50 to \$1,800 per ton. The Hatz and Collier claim is north of the Holmes.

The Hidden Treasure Mining Co. of New York was incorporated in 1881, and is now developing the following named properties in Pine Flat, Turkey Creek district, viz.: Imperial, Juniata, Superior and Buttercup. The geological formation inclosing these veins is a slate crossed by dykes of porphyry, the latter rock sometimes forming one of the walls of the ledge. The Imperial and Superior are crossed by a gulch near the junction of the claims. On either side of this gulch, the hills rise to a height of from 200 to 400 feet, thus affording an excellent opportunity for driving tunnels on the veins. A seam of soft talcose slate, from eight to twelve inches wide, follows one of the walls of the vein, which helps materially the work of mining, and reduces its cost.

The ores in the Imperial, Superior and Butterfly are similar, being a fine honey-combed gold quartz, easily milled, and heavily impregnated with oxides of iron. The product is very fine, being worth \$19 per ounce. Each of the above claims contains from three to five distinct veins within their respective boundaries, with the same character of ore, and ranging from one to five feet in width. The Imperial has four of those veins, which are now opened and producing good ore. There are eight openings on the

main or location vein, extending for a distance of over 900 feet. These openings include four shafts and four tunnels. The pay streak is over two feet wide, high grade, and the mine bids fair to become the foremost bullion producer in the camp. The ore from the Juniata may be called a conglomerate of porphyry, slate and quartz, and resembles in a marked degree some of the ore from the Vulture mine.

The Superior adjoins the Imperial, and has two 50-foot shafts, besides many smaller openings along its entire length. The vein is about 28 inches wide, with a foot-wall of brown porphyry, and a hanging wall of slate. Between the slate and the ore there is a gouge of decomposed talc, a foot in width. There are three distinct veins within the boundaries of this claim, all showing good surface indications. This property is being opened by the company in a thorough and systematic manner.

The Buttercup vein is between four and five feet in width, and has three shafts, from 20 to 40 feet. Ore taken from this claim by the original owners, and worked by the crude *arrastra* process, yielded largely. The value of this property is enhanced by the heavy growth of timber within its limits. It is estimated that it will yield over 200,000 feet of pine logs.

The company have erected a 10-stamp mill with all the latest improvements, which started August 21, 1884, and is now running successfully, on ore from these properties. The different claims are in close proximity to the mill; the farthest away being not more than three-quarters of a mile, and there are good wagon roads to each. Forty men are employed at the present time. While furnishing an ample daily supply for the mill, the different claims are being thoroughly exploited, and large ore reserves opened for future contingencies. Blacksmith shops, storehouses, stalls, and all other accessories for conducting extended operations have been provided. There is an ample water supply in Pine Creek, which flows 50 feet below the mill.

The officers of the company are as follows: President, Fitch Landon; Vice-President, H. D. Hufcut; Treasurer, C. H. Davis, Jr.; Secretary, H. C. Rowley; General Manager, Theodore L. Chase, who ably directs operations on the ground.

The Wonder Gold and Silver Mining Company of New York was incorporated in 1884, with the following officers: President, J. Wade Hughes; Treasurer, Milo Hughes; Vice-

President, H. C. Mapes; Secretary, Seward Baker; General Manager, Theodore L. Chase. The company own the following claims, situated in Pine Flat in this district: Wonder, Big Chief, and Paragon.

The Wonder embraces seven well-defined veins within its boundaries, three of which are now being worked. The central vein has a shaft 75 feet, showing a strong ledge of blue quartz, heavily stained with oxide of iron, four feet wide; the walls are well defined, being on one side porphyry, and on the other slate. The ore is a good grade, and the mine promises to become a steady bullion-producer. South of this shaft another has been sunk a depth of 40 feet, showing the same character of ore and width of vein. East of this vein is another running parallel to it, which varies from three to seven feet in width. A shaft has been sunk to a depth of 75 feet, showing a four-foot ore body in the bottom. A tunnel is now being driven on the vein on the hill above the shaft, and from both these openings the ore can be run by a chute directly into the mill. Three hundred yards south there is another shaft on this vein. The character of the ore is a fine, black, fibrous quartz, heavily stained with copper and iron, and very easily reduced. The ore is high-grade, and will all pay to mill. The third vein now being worked is west of the original location. It is imbedded in slate and porphyry walls, and will average 18 inches in width. At the north end a tunnel has been driven south 150 feet, connecting with the 75-foot shaft, and a drift has been run 50 feet from the bottom of shaft. From this shaft, 25 feet below the surface, a level has been carried south opening a block of ore 50 feet square. Three stopes are now opened north from the shaft, all showing fine ore breasts. South from this shaft 175 feet, and 100 feet higher on the hill, another shaft is now being put down, and a level is being opened to connect both. North from the last-mentioned shaft 200 feet another is being sunk, and is now down 75 feet. In the gulch north of this, levels have been started to connect with the shafts. There are now 500 tons of ore on the dumps, and over 2,000 tons in sight in the mine. The vein is soft and easily mined, and the ground requires very little timbering.

The Big Chief location is in slate, with porphyry dykes, the latter sometimes forming one of the walls. There are three separate veins within this location, ranging from one to four feet wide. Beyond several shallow shafts from

four to ten feet, there has been no work done on this claim as yet, but it is the intention of the manager to thoroughly develop this property at an early date. The Paragon is 1,500 feet north-east from the Wonder and Big Chief. At the bottom of a 40-foot shaft it shows a vein four feet wide. The ore is principally silver bearing. This property is valuable for its fine growth of pine, oak, and cedar. It is estimated that this body of timber will yield 250,000 feet of pine lumber, besides a large quantity of charcoal and fuel. The company have just completed a ten-stamp mill, with power for twenty, on Pine creek.

The Peerless group of mines, owned by M. T. Brady and Thomas Brown, are situated at the junction of Pine creek and Turkey creek. They comprise five separate claims, the Blue Bell, being the most southerly, and the Peerless, Alice, and Red Bird, north extensions of the same. The Blue Bonnet runs parallel with and east of the Blue Bell. On the latter, openings have been made to a depth of 25 feet, showing a vein of black sulphuret of silver from 3 to 9 feet in width. There are four distinct veins on this claim. The Peerless has two shafts, 100 feet apart, one being 50 and the other 75 feet in depth. At the bottom of these shafts the vein shows four feet wide. Ore from this claim has gone from 100 to 300 ounces per ton, silver. The Alice has a shaft 50 feet in depth, and a 20-foot cross-cut at the bottom shows the vein to be a strong one. The Blue Bird has a shaft 20 feet in depth, showing a vein that has yielded ore worth \$300 per ton. The Trinity, Compton, Succor, McLeod mine, Nevada, Yankee Boy and many other fine prospects are in Turkey creek district.

Lynx Creek.—This, one of the oldest districts in Yavapai county, is six miles east of Prescott, and embraces a stretch of pine-covered hills and spurs on the northern slopes of the Sierra Prieta. Lynx creek has been the richest gold-bearing stream in Arizona, and is yet mined successfully when water can be had. It is estimated that over \$1,000,000 has been taken from the gravel beds of this creek. No spot in the Territory is better supplied with wood and water. The ores, while rich in the precious metals, carry large quantities of base material. A large smelter was erected in this district about a year ago, for the reduction of base ores, but after running a few months it closed down. It is likely to start up in a short time under different management.

The Shelton is one of the most valuable claims in the district. It has been opened by a tunnel driven on the vein, 150 feet, and by a shaft. The vein is strong, well defined, and continuous. It will average four feet wide, and has assayed as high as \$600 per ton. The ore is a carbonate of lead, with iron pyrites, and carries gold and silver.

The Pine Mountain shows a two-foot vein, that assays \$200 per ton, gold and silver. It is opened by a shaft 50 feet deep. The Kitty is a strong vein, showing an ore body similar to the Belle, and fully as rich. A shaft has been sunk upon it to a depth of 100 feet. The Accidental shows more development than any mine in the district, and has produced some very rich ore. This mine has yielded over \$75,000. On Lower Lynx Creek, a very rich discovery, known as the Kimball, has lately been made. A mill has been erected and is now producing bullion. The ore is a free, gold quartz. The Gray Eagle, Mountain Lion, Orion, Hirshel, American Flag, Real del Monte, Mark Twain, Eureka, Champion, Hidden Treasure, and scores of other fine prospects are in this district.

Agua Fria district is sixteen miles east of Prescott, in the foot-hills bordering the stream of the same name. The ores are silver of a very high grade, and the veins are found in a contact between slate and granite. The Silver Belt is the principal mine of the district, and one of the richest in the county. It has already produced over \$200,000. It is opened by three shafts, the deepest being 300 feet, and by many drifts and winzes. The ore is a carbonate, carrying large quantities of chloride, and yielding over \$250 per ton. A rude furnace has been erected on the Agua Fria, four miles distant, where the ore is reduced, and the base bullion shipped to San Francisco. Hoisting works have lately been put up on this property, and the work of development is being pushed forward vigorously. The Kit Carson, Silver Flake, Agua Fria, and Raible and Hatz claim, are all very fine prospects, showing rich ore.

Weaver.—This is the oldest district in the county, and famous as the scene of the discovery on Rich Hill. A Mexican, in the employ of Jack Swilling, who was mining on Antelope creek, in crossing over the mountains to the Weaver camp, happened on the wonderful deposit. In a depression on the summit of the mountain, about 4,000 feet above tide-water, the coarse gold was found lying on the

bare bed-rock. Pieces of the pure metal, worth several hundred dollars, were picked up, and over \$500,000 was taken from about an acre of ground. Butcher knives were used to dig the gold out of the seams in the rock, and it was not an uncommon thing to find from \$1,000 to \$5,000 under a small boulder. How the gold was deposited in such a place is a mystery which has not yet been solved. The gulches and ravines running down from the mountain contained considerable treasure, and are worked by Mexicans up to the present time. It is estimated that Weaver has produced over \$1,000,000 in placer gold. The ledges are nearly all gold-bearing. The Leviathan is a large vein of gold-bearing quartz, and has yielded ore that worked \$50 per ton in *arrastras*. It is opened by a tunnel, which cuts it 100 feet below the surface. It is estimated there are half a million tons of ore in sight in this immense vein. The Metallic Candle, the Sexton, the Buckeye, the Emerald, and scores of other promising claims are in this district.

Hassayampa.—The first discoveries were made in this district in 1863, and the creek has been worked for gold ever since. It is estimated that over half a million dollars have been taken out. The district adjoins Lynx Creek on the south, and embraces the best wooded and watered portion of the Sierra Prieta range. During the summer months its beautiful glens and grassy glades are among the most delightful spots in the Territory. The ores of the district are a free gold quartz on the surface, which changes into sulphurets and a high percentage of silver, as depth is reached. The Senator has been worked extensively, and has produced \$150,000 in gold. A ten-stamp mill has been erected, which is now lying idle, solely on account of bad management. The vein is from two to four feet wide—copper and iron sulphurets—and has yielded from \$20 to \$40 per ton. There is a shaft 250 feet in depth.

The Davis is about four miles south of the Senator, on the eastern side of the Hassayampa mountains. It is a large vein, carrying gold and silver, traceable on the surface for many miles, and located all the way. The original location has a tunnel driven on the ledge, over 200 feet in length. The vein will average five feet in width, and has produced ore that yielded \$300 per ton. Considerable work has been done along the vein, and wherever opened it shows remarkably well.

South-west from the Davis are a group of mines discov-

ered within the past three years. The Dosoris is the principal location, and has produced ore worth \$1,000 per ton. It is now being worked, and the ore shipped east. As admittance to the mine was denied, its present condition cannot be stated. The vein is said to be very narrow, but rich. The mine is operated by several shafts and tunnels. The "Buzzard" adjoins the Dosoris. It is now being worked, and is producing very rich ore, which is shipped to Pueblo for reduction.

The Mark Twain is west of the Dosoris, and is a very encouraging prospect. A correspondent of the *Rocky Mountain News*, who lately visited this camp, writes as follows:

"Among the most important mines in this district is the Dunkirk group, consisting of five adjoining properties. The group is situated upon the southerly slope of the Has-sayampa Mountains, in the south west portion of the district and upon the head waters of Slate Creek. The Dunkirk mine is the principal property in this group. It is easily traced from surface croppings for at least 4,000 feet, and it is without doubt one of the mother veins of this locality. The croppings are composed of ore and some vein matter. Commencing at the south end of this property is a tunnel twenty feet under cover. This shows a vein of sulphuret ore two feet in width. Ninety feet from this tunnel is a shaft thirty feet in depth, which in the bottom shows the same amount and character of ore as found in the tunnel. About 600 feet north of this and farther up the mountain side a tunnel has been driven twenty feet under cover. This shows a vein extending under the large croppings referred to. I carefully measured the ore vein in the breast of this tunnel and found three and one-half feet of gold-bearing sulphuret ore. About 400 feet farther up the mountain there is a shaft twenty-five feet in depth, the bottom of which is in ore. The ore is principally a gold-bearing sulphuret, while at the surface free gold is found in places, and at other places there is a honey-combed quartz carrying chloride of silver and some carbonate of lead and galena. From the mill runs thus far made, the showing is about \$200 per ton, and from all the tests made I think it safe to say that the ore will average \$100 per ton. This includes both gold and silver, a little more than half being gold. The custom mill already spoken of is situated three and one-half miles from this property, and at this mill the ore is being concentrated four or five tons into one. The

south end of this property extends down the mountain into a gulch which will doubtless furnish sufficient water for the purpose of concentrating the ores upon the ground at a nominal cost. This property is so situated that a good road can be easily built from it to the main stage road, a distance of two and one-half miles.

The other properties in this group are the north and south extensions upon the Dunkirk vein, and the Wren and Dardanelle. The Ruby is a branch from the Davis vein, extending in a northerly direction. The developments consist of one seventy-five foot shaft and a 100-foot tunnel. The ore averages about eight inches in width and is a sulphuret of iron and copper. It assays an average of \$40 in gold and silver per ton. The Buena Vista is the first north extension upon the Ruby vein. Upon this property the vein has been exposed to a limited degree, and shows ten feet between the walls, with an average of from one and a half to two feet of ore. This is also a sulphuret ore of \$35 or \$45 value. At the top of the mountain this vein has been stripped for 200 feet and has an open cut of twenty feet. The ore on the dump gives assay returns of \$40 gold and silver per ton. The Esmeralda is a fissure vein in granite. There are some small surface openings upon this property and an open cut thirty feet in length, which in the face is about fifteen feet in depth. This work shows a vein four feet in width which is filled with quartz, with the exception of a limited amount of vein matter upon each wall. The quartz carries free gold and brittle silver, and a portion of it sulphuret of copper and iron. The ore gives average assay returns of \$25 silver and \$25 gold, or a total of \$50 per ton."

The Crook is three miles east of the Hassayampa, and has produced over \$50,000 in gold. It is opened by shafts, tunnels and open cuts. A ten-stamp mill was erected, but as the ore changed to sulphurets, it failed to save the gold. East of the Crook is the Summer, a remarkable vein of micaceous iron, some of which is richly impregnated with silver. Ore from this mine has assayed as high as \$2,000. West of the Hassayampa, and about eight miles from Prescott, is the Perry claim. It shows a large vein of sulphuret ore, and some assays show \$500 per ton. It has a shaft 200 feet. The Sterling is an old location, and had a ten-stamp mill erected on it in the early days. It yielded some very rich quartz near the surface, but when sulphurets were en-

countered the gold could not be saved. These sulphurets assayed \$200 to the ton. The Grub claim, Pine Tree, Savage, Grovanor, Madison, Delaware, Montgomery, Silver Trail, General Sherman, and hundreds of other encouraging prospects are met with in Hassayampa district.

Tiger District.—This camp is thirty-five miles southeast from Prescott, in the southern spurs of the Bradshaw range. It has every natural facility in the way of wood and water for ore reduction. The formation is granite; the veins are large and regular, and carry silver and gold. The Tiger mine, which has given its name to the district, is a large ledge, being in places over seventy feet between smooth and regular walls. It has been opened to a depth of 400 feet, and is supplied with steam hoisting works and a ten-stamp mill. The ore is a sulphuret, carrying considerable quantities of native silver. The property is at present idle.

The Riggs and Hammond claim adjoins the discovery on the south. It is a strong ledge carrying some high-grade ore, and is opened by several shafts and tunnels. The Linn claim, north of the discovery, shows a large ore body, and is explored by several shafts and open cuts. South of the Tiger, on Castle creek, are some ledges carrying rich copper ore. Among the most prominent is the Girty, a vein from 5 to 50 feet in width, carrying a vein of copper ore from 4 to 16 feet wide that is said to average 20 per cent; it also carries gold and silver. But little work has yet been done on this fine property, but wherever opened it shows fine ore. The Grey Eagle is two miles east of the Tiger. It is a large vein of sulphuret ore carrying gold and silver. Assays give from \$20 to \$150 per ton. The Eclipse and Cougar are two miles east of the Tiger. They are good-sized veins, and carry some rich chloride ores. The latter claim has a shaft 100 feet deep, and 300 tons of ore on the dump. The Lorena is supposed to enter the Eclipse nearly at right angles from the east. It shows a vein twelve inches wide, which, it is claimed, will go \$200 per ton. The ore is a black sulphuret carrying horn silver.

In what is known as the "Basin," north of the Tiger, are many fine prospects, surrounded by an extensive timber belt. The Buckeye is a small vein, which has produced some rich gold and silver ore. The Union, formerly known as the Kansas, is south of the Buckeye. It has been explored by a tunnel 175 feet in length, and by a shaft sev-

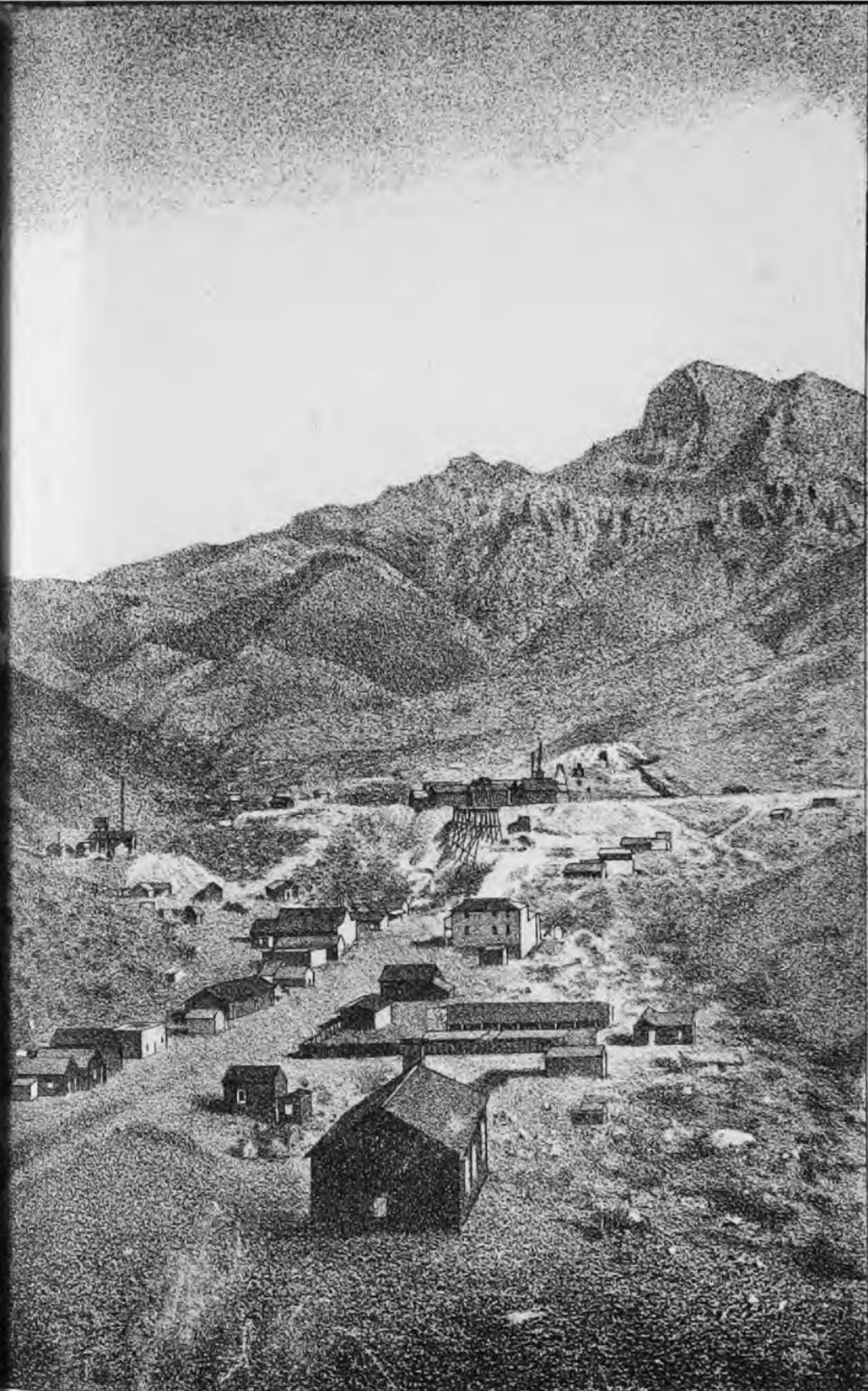
enty feet deep. North of the Basin, in what was formerly known as Pine Grove district, there are many fine properties, on some of which a large amount of work has been done. Among them are the War Eagle, which has been developed by several shafts, and has produced over \$50,000, the Del Pascoe, Bradshaw, Basin Rock, Red Rover, Union, and many others, all carrying gold and silver.

Black Hills.—The properties of the United Verde Copper Co. are situated on the east slope of this range, about 30 miles north-east of Prescott. The company have constructed a road over the mountains to the smelter, a distance of eight miles, and from thence to the Verde Valley, five miles beyond, at a cost of \$40,000. This portion of the Black Hills is finely timbered, affording an abundant supply for all purposes. The reduction machinery of the company consists of a 36-inch water-jacket furnace, a Blake rock-crusher, and a Baker blower. Water is piped from a spring a distance of $2\frac{1}{4}$ miles, at a cost of \$10,000. The supply is ample for all demands. Adjacent to the furnace are the company's store-rooms, coke bins and blacksmith shops. The smelter is connected with the wagon road by a tramway and car tracks, and tramways likewise connect the various mines with the furnace, over which the ores are hauled at a small cost. The office, boarding-houses, assay office, etc., are in close proximity to the works. The company was incorporated in March, 1883, in New York. The officers are: President, Jas. A. McDonald, Manager Queen Insurance Co.; Secretary and Treasurer, Eugene M. Jerome; Directors, F. A. Tritle, Arizona; Chas. Lenning, Phila.; Mr. Bushnell, N. Y.; Jas. A. McDonald, N. Y.; Eugene M. Jerome, N. Y. F. F. Thomas is the Superintendent.

The property of the company consists of 11 claims and 3 mill sites, situated on the east slope of the Black Hill range, about four miles west of the Verde river. The formation of the country rock is a metamorphic slate on the east, and on the west diorite and quartzite, the summit of the range being topped with lime. The Venture North and Venture South are $2\frac{1}{2}$ miles south of the smelter. The Venture North has been opened to a depth of 90 feet, and carries ore that goes 35 per cent. copper, composed of malachite and oxides. The vein averages four feet. The Venture South has a tunnel some 20 feet, following the ore body.

The Eureka, upon which the most development has been made, is on a steep hill-side, affording every advantage for working through tunnels. It is a large vein, averaging from 20 to 80 feet of copper ore, carrying a large percentage of silver. A tunnel has been driven into the mountain from the north end of the claim, a distance of 294 feet. At a distance of 140 feet from the mouth of the tunnel a cross-cut of 158 feet was made, all the way in ledge matter. At this point, a body of sulphide of copper was encountered, 85 feet wide, averaging 30 per cent. From the surface a vertical shaft has been sunk, connecting with the cross-cut where the large ore body was struck. The shaft is 88 feet deep, the last 40 feet in ore. At a distance of 50 feet south of the main cross-cut, another was run easterly some 50 feet, all in ore, very rich in silver. At the extreme south end of the tunnel still another cross-cut has been made for 65 feet, easterly, and a 6-foot ore body exposed that assays 25 per cent. copper. From this point, an upraise has been started to connect with an intermediate level which was run 40 feet above the main tunnel, and is 210 feet in length. From the south end of this level a cross-cut has been run 65 feet, the last 5 feet in fine ore. This upper level is connected with the main tunnel by two chutes, through which the ore is passed into cars on the track below, and then run on to the furnace floors. An open cut 65 feet above the main tunnel, and 105 feet from its mouth, shows a body of ore 80 feet wide, assaying 25 per cent. copper, and about 25 ounces silver per ton. But very little stoping has yet been done in this magnificent ore body, nearly all that has been worked having come from drifts, levels and cross-cuts.

The Wade Hampton is located immediately north of the Eureka, its ore bodies being a continuation of those in the last-named mine. The developments consist of a tunnel, 85 feet in length, from which two cross-cuts have been run. The first cross-cut is 15 feet in length, carrying ore that goes 15 per cent copper. A short cut has been made under the croppings, which stand from 30 to 40 feet above the surface. The ore from this cut runs from 25 to 30 per cent., with considerable gold and silver. A double compartment working shaft has been put down 150 feet, and steam hoisting works have been erected, capable of sinking 500 feet. From the bottom of the shaft there is a drift, in a northerly direction, 40 feet, showing a fine ore body, but



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owing to the unsafe nature of the ground, work was suspended in this drift. A westerly cross-cut has been made from the main shaft, a distance of 25 feet, and from that point drifts have been run north and south. The north drift is in 75 feet, the last 60 feet in ore. From the face of this drift, a cross-cut was run east for 47 feet, all the way in ore, going from 15 to 18 per cent. copper, and 18 ounces in silver per ton.

The south drift is 320 feet in length, which carries it into the northern end of the Eureka ground. At a point about 70 feet from the face of the south drift, a cross-cut has been run east about 30 feet, the ore averaging about 20 per cent. copper, all the way. At a depth of 100 in the main shaft, a level was run north, in which ore was struck 40 feet from the shaft. This ore body has been thoroughly exploited for a length of 90 feet, a width of 50 feet, and a height of 30 feet. This level is now 210 feet from the shaft, still in ore. Near the end of this level, an upraise for 65 feet exposed a rich body of green carbonate ore, averaging 30 per cent. copper. About 20 feet from the main shaft is the discovery shaft of the Wade Hampton, 68 feet deep. From the bottom of this shaft, there is a drift north 50 feet, 38 feet in ore. From this point a cross-cut was made to the west wall, 20 feet, mostly in ore. Beyond this cross-cut, the main drift has been extended northerly for a distance of 20 feet. Here a winze has been sunk connecting this level with the 100-foot level. Beyond this winze, the 60-foot level has been extended 70 feet, the last 50 feet in ore. A drift has also been run south from the shaft on this level, 120 feet, nearly all in ore. The ore taken out and worked has averaged from 15 to 20 per cent. copper, \$8 silver, and \$5 gold, per ton.

The Chrome South adjoins the Eureka on the east. Traces of old dumps, shafts and tunnels have been found on this claim, showing it to have been worked in the past. Stone hammers and other implements of the same material have been uncovered in the old workings, and portions of the vein show it to have been stoped by the ancient miners in the manner in vogue at the present day. The vein crops on the side of a steep hill, and five tunnels have been run on it, fifty feet apart. The lowest of these tunnels is 175 feet long, in ore the entire distance, the vein being four feet in width, oxide, carbonates and sulphurets. The tunnel next above, 140 feet, is ore of the same char-

acter every foot of the way. Tunnel No. 3 has been run 140 feet, showing equally with Nos. 1 and 2. A winze connects Nos. 3 and 4, the latter being in 118 feet, showing fine auzerite ore. No. 5 tunnel has been driven sixty-five feet, and is connected with No. 4 by a winze, which shows the ore body to be continuous.

On the Chrome North there is a twenty-five-foot tunnel, showing ore running twenty per cent. copper, and some silver. The Chromes are joined on the east by the Azures North and South, which are now being opened by an adit tunnel. To the east of the Azures lies the Hermit, which has already produced over 500 tons of ore, averaging over twenty-five per cent. copper. This mine has been opened to a depth of eighty feet. The Gift lies to the north of the Chrome North. The only development on this claim is a short tunnel, which has yielded ore carrying fifty ounces, silver, per ton.

The company's furnace was "blown in" August 1, 1883, but owing to severe storms, which prevented the delivery of coke, it ran but 119 days, up to January 1, 1884. During that period, the product was as follows:

Copper, pounds.....	2,008,422
Silver, ounces.....	125,000

During the month of January, 1884, but fourteen days run was had, producing:

Copper, pounds.....	318,426
Silver, ounces.....	14,124

In February, twenty-one days run produced:

Copper, pounds.....	346,875
Silver, ounces.....	11,822

The winter snows making the roads impassable, the works were shut down during March and April. For the last fifteen days in May, the product was:

Copper, pounds.....	351,091
Silver, ounces.....	23,464

In June, a run of thirty days yielded:

Copper, pounds.....	489,415
Silver, ounces.....	29,146

The yield for thirty-one days in July, was:

Copper, pounds.....	500,000
Silver, ounces.....	25,000

Making a grand total, during a run of 230 days, of 2,000 tons of copper, and over 225,000 ounces of silver. This showing for a thirty-ton furnace has never been exceeded, if ever equaled, by any mining company in the United States. During the time mentioned, over 1,000 tons of ore has been reduced.

The dividends so far by the company have amounted to \$97,500. Besides declaring these dividends, extensive developments have been made on the different claims, and a number of substantial buildings have been put up, including hoisting works on the Hampton. The company have also built a new and shorter road to Ash Fork, on the Atlantic and Pacific railroad, at a cost of \$15,000.

About seventy-five men are employed in the mines and at the smelter. Superintendent Thomas and Governor Tritle were the first to give these valuable properties a thorough examination, and on their favorable report the present company was organized. They are both experienced mining men, the Governor having been connected for years with some of the leading mines of the Comstock, Mr. Thomas has also had a wide experience, and combines in an eminent degree the practical and the theoretical knowledge of mining operations, being a graduate of the Mining School of Yale, and having been engaged in the pursuit for over twenty years.

There is no finer mining property in Arizona than the United Verde. Its yield in the past has been phenomenal, and with high-grade ore in every drift and stope, it promises equally well for the future. With the erection of another furnace, and with a railroad—which is now projected—running within a few miles of the mines, the United Verde company will be able to lay down copper in the markets of the east at a lower rate than can be done by the famous copper companies of the lakes. With abundance of rich ore in sight, and with every facility for its reduction, the United Verde may confidently look forward to many a year *en bonanza*.

Cherry Creek.—This district is in the southern end of the Black Hill, has plenty of wood and water, and a desirable situation. The ores carry gold and silver, and are easily handled. The camp is thirty miles east of Prescott, and ten miles from the Verde river. The principal mines are the Mammoth, with a shaft 125 feet; 350 tons of ore from this mine milled \$20 per ton, while the tailings

assayed \$16. The Conger Mining Company, of Canton, O., own four or five claims on the Verde slope of the mountain, which they are now developing. On the Conger they have sunk a shaft, and are taking out some very rich quartz. The vein is from twelve to eighteen inches wide. On the Cactus a tunnel has been driven 100 feet, showing a vein with two feet of fine ore. The company have hoisting works on the ground, and propose to erect a mill on the Verde river, five miles distant, to be driven by water-power. The Gold Ring and the Potomac are fine prospects. The former has been explored to a depth of 100 feet. A mill test of a 100 tons yielded \$100, per ton.

Walnut Grove district embraces the south-eastern end of the Antelope range and the foot-hills adjacent. A. W. Callen owns what is known as the La Coolavacho gold placer claim, situated in the gulch of the same name which finds its way to the Hassayampa from the Antelope range. An extensive dam and reservoir have been erected at the head of this gulch during the past summer, and a large area of ground prepared for washing. During the erection of this dam a great deal of coarse gold was picked up, some nuggets weighing a pound, solid gold. On the Hassayampa, below what is known as the upper cañon, Mr. Callen has secured a large tract of placer ground, including several rich bars. There is abundance of water for sluicing, and as far as worked the property has yielded a handsome profit. Hydraulic machinery will soon be erected on these valuable claims. Mr. Callen is also the owner of a claim on the top of Rich Hill, where was found the wonderful deposit of gold referred to in the description of Weaver district. This claim yielded largely in coarse gold during the past summer.

Tonto Basin.—This district has a delightful situation in the south-eastern part of the county, and between the Mogollon and the Mazatzal ranges. There is an abundance of wood and water. The ledges are well defined, the formation being principally granite and porphyry. There are two districts in the Basin, one silver-bearing, the other gold, separated by Wild Rye creek. The Silver district was organized in 1877, and named Mazatzal. Among the most prominent mines are the O'Doherty group, embracing 12 claims; viz., the Zone (North and South), Hornet (North and South), Tonto (North and South), Oriscanna, Oliso, and Laverick. The Zone is a large vein of free-milling ore,

and is opened by a shaft 60 feet in depth. The Hornet is traceable for 3,000 feet on the surface, and has a shaft 110 feet, showing a vein seven feet wide. There are several other openings, from 10 to 60 feet, on this claim.

The Silver Crown, Favorite, Aurora, and Succor are owned by House & Rouse. They are situated on a hill which seems to be a net-work of veins running in every direction. Seven shafts, from 25 to 80 feet, have been sunk on this hill. Three tunnels have also been driven, from 50 to 180 feet in length. The main tunnel has cut several veins, the largest being five feet in width. Two hundred tons of ore are now on the dumps, which sample \$175 per ton. The formation is felspar, porphyry and diorite.

The Warwick is a very promising claim, and has yielded ore that assayed \$5,000 per ton. The Parnell is a strong vein, and has been opened by a tunnel 200 feet in length. The Oxford is also a fine-looking property.

The gold-bearing district was organized in 1879, and called Green Valley Mining District. The Gowan shows the most development. It is opened by a 170-foot shaft and numerous drifts. A ten-stamp mill has been erected on this property. The Golden Wonder shows a 4-foot vein, and has a shaft 170 feet. Two drifts, 80 and 60 feet respectively, have been driven from the bottom of this shaft, all the way in ore. This mine has yielded over \$30,000 from *arrastas*. The Golden Waif, the first location in Tonto Basin, is south of the Wonder. It is a large vein, and carries some exceedingly rich streaks of gold quartz. The Ocoala is opened by a 130-foot incline, and shows a 4-foot vein.

The Excursion is a 5-foot ledge, well defined, and has been sunk to a depth of 160 feet. The Contact produces ore that samples \$40 per ton. The Zula shows a vein 8 feet wide, of high-grade quartz. The Ox-bow is a large vein showing some wonderfully rich quartz. A small mill is now being erected for the reduction of its ores.

Groom Creek.—This pleasant camp is six miles south of Prescott, in one of the very best timbered and watered sections of Arizona. The ledges carry gold and silver, and are found in a granite formation. Although not large, they are rich in gold and silver. The Arizona Queen Mining Company own the Chicago and its north and south extensions; also the Ironclad, Ida, Afghan, Oakdale, and Homer, a gold placer claim. All of the above claims are

1,500x600. Groom creek flows through these properties, carrying water all the year, and there are also many fine springs, which furnish an abundant supply. The claims are covered by a thick growth of black oak, walnut, and pine.

The Chicago was located some fifteen years ago, and has produced a large amount of bullion by the simple *arrastra* process. Some of the richest gold specimens ever taken out of a mine in Yavapai county came from this property. It was formerly known as the Emma and the Victorine. The developments on the claim are as follows: The main shaft has been sunk to a depth of 150 feet. At a distance of 60 feet from the surface two drifts have been run on the vein, north and south, both measuring 120 feet. At a depth of 120 feet two other drifts follow the vein north and south for a distance of 180 feet. The ore body in these drifts is from 18 inches to two feet in width, free-gold quartz, carrying also some silver. Sulphurets are encountered in some places, and assay very high, in gold and silver. A 5-stamp quartz mill has lately been erected on this property, with two Frue concentrators, for the purpose of handling the sulphuret ores. This mill has a capacity of from 8 to 10 tons every twenty-four hours. It is now running steadily on ores from the Chicago. Custom ores are also being worked from other mines in the vicinity. The ore from the Chicago has averaged \$25 per ton, gold.

The Ironclad, Ida, Afghan, Illinois, Bloomington, and Oak Dale are opened by shafts, drifts, and tunnels; and though as yet but partially developed, the ore bodies exposed have fully satisfied the owners that they will prove valuable properties. Work is carried on without intermission on these claims, and there is a steady improvement as development goes on. The officers of the company are as follows: President and Secretary, F. P. Clark; Treasurer and Superintendent, E. M. Clark; Directors—F. P. Clark, F. A. Chatman, R. B. Gilman, E. M. Clark, M. A. Clark. Office, 240 Broadway, New York. E. M. Clark, the superintendent and manager, is one of the heaviest owners and a mining man of large experience. He is opening his property in a systematic manner, and has every confidence in their permanency and value. A superintendent's office assay office, boarding and lodging house, stables, etc., have been erected in a substantial manner, and everything has been provided for the working of these fine properties

which a wise and economical management could suggest.

The Lone Star has a 2-foot vein of galena, which assays \$100 per ton. It is explored by a tunnel 160 feet in length. The Dauphin shows a 4-foot vein of milling ore carrying gold and silver. The Nevada, Minnetata, Golden Chariot, Mountain, Maribile, What Cheer, Surprise, Heathen Chinese, and dozens of other fine prospects are to be seen in this district.

Graham county has rapidly developed within the past three years as the great copper camp of Arizona, and to-day it has more capital invested in this branch of mining than any county in the Territory. Besides its vast copper deposits, it also contains gold in ledges and in alluvial deposits, likewise silver and coal. There is a large portion of the county within the San Carlos reservation that has not yet been prospected, but which is known to be rich in the precious metals. Wood and water is abundant in this region; the ores are of a high grade, and the climate the year round is superb. The first mineral discoveries, in what is now Graham county, were made by a party of prospectors from Silver City, N. M., in the fall of 1871. They discovered the Longfellow, the Detroit, and the Metcalf group. Bob Metcalf, the discoverer of the Longfellow, gave the Lesinsky Bros., of Las Cruces, N. M., an interest in the property, and in the early part of 1873 they erected a crude Mexican furnace, and worked the ores successfully for nearly a year, when they erected a water-jacket on the San Francisco river. In a short time the original locators were bought out, and the Lesinskys became the sole owners. They worked the property until September, 1882, when it was purchased by a syndicate composed of Scotch capitalists.

During the time the mines were worked by Lesinsky Bros., it is estimated they produced 20,000,000 pounds of copper bullion, and this under many disadvantages. The nearest railroad station was at La Junta, Colorado, nearly 700 miles from the mines. Roads had to be opened to Silver City, the nearest supply point, and coke was brought from the Burro mountains, eighty miles distant. All material and supplies cost enormously, but against all these obstacles, the richness of the ore left a handsome profit. Since the mines passed under the control of the present owners many important improvements have been made,

and a large sum expended in opening the several groups. Not the least of these improvements was the building of a narrow-gauge railroad from Lordsburg, on the Southern Pacific, to the furnaces at Clifton, a distance of seventy miles. This railway has effected a great saving in the cost of material and supplies, and has made it possible to work very low-grade ores. The opening of the road has also been a great benefit to the district, and many a mine formerly lying idle can be worked to a profit when fuel and supplies are cheapened.

The mines owned by the company are situated on the spurs and summits of steep mountains, on both sides of Chase gulch, a tributary of the San Francisco. To bring the ore from them cheaply and expeditiously, a narrow-gauge road (twenty-inch track) has been constructed up this gulch, and a small engine brings down car-loads of ore and carries back supplies. A great deal of heavy grading and cutting had to be done on this road, and the cost (seven miles) has been over \$200,000.

Leading up the steep hill-sides to the different groups of mines on each side of the track, inclines have been built, and the loaded car coming down brings up the empty one. Ore houses are built at the foot of these inclines, where the ores are dumped, and then dropped by a chute into the cars which carry them to the smelter at Clifton. The grade on portions of this road from the smelter to the mines is 300 feet to the mile. The incline to the Longfellow is 2,200 feet in length, that to the Metcalf group is 1,400 feet, while that to the Coronado group leads up the side of a rocky, precipitous wall, and pierces its jagged peak a distance of 3,200 feet, and from there, by a gradual descent on the other side, to the mine. This dizzy track is at an angle of 32° , and is probably the longest incline in the United States over which cars are run by their own specific gravity.

The company have at present in their employ 400 men, one-half being Mexicans and Chinese. There are two incorporations. One, under the laws of Arizona, known as the "Arizona Copper Company," own the mines and reduction works, but the entire property, including the railroad to Lordsburg, is owned by the "Arizona Copper Company, Limited," of Scotland.

The Clifton copper belt extends from the San Francisco river to Eagle creek, some ten miles east and west, and

nearly twelve miles from north to south, or 120 square miles of copper-bearing territory. The general formation of this immense ore belt is porphyry, quartzite and lime. The larger ore bodies are found in felsite and lime. They occur in large chambers and deposits, but there are some, like the Coronado and the Queen, that give indications of being regular veins. The ore bodies are found in the steep and rocky spurs of the Peloncillo range. These mountains are much broken and cut by deep cañons and gorges. They are covered with oak, juniper and pine, and there is always an abundant supply of water in the San Francisco, Chase gulch, and Eagle creek. Conglomerate beds of volcanic origin surround the district on nearly all sides, which effectually shut off the ore bodies. This volcanic flow is a portion of that which once rolled down the Mogollon range from the great cone of the San Francisco. The gold belt seems to lie all around the copper deposit, being between it and the eruptive rocks. The country shows, in every direction, the traces of a mighty upheaval, and of powerful volcanic action. The entire area mentioned is seamed with copper veins, and the waters of Chase creek are highly impregnated with the metal. The ores are of a high grade and easily reduced, and with its fine natural advantages and railroad facilities, Clifton is destined to become one of the great copper-producing regions of the United States.

The Longfellow is the principal mine of Clifton camp, and since its discovery has produced over 20,000,000 pounds of copper. The mine is about five miles from the smelting works, on the west side of Chase creek, and near the summit of a rugged mountain, which rises over 1,500 feet above the level of the creek. The property is worked by a tunnel, which taps the ore body about 200 feet below the apex of the mountain. Some 200 feet below the present tunnel another has been started, and both will shortly be connected by winzes. The ore is found in beds of felsite, resting on layers of lime, and occurs in large deposits, or chambers, some of which are 100 feet in length, by 80 feet in width. As far as explored the ore body appears to be about 600 feet in length, by 500 feet in width. Throughout this entire space the ground is honey-combed in every direction by drifts, cross-cuts, winzes, levels, stopes and inclines, making altogether over five miles of underground streets and alleys.

The ore is always found near the lime belts, which some-

times cut it off; but by driving through these dykes it is again encountered beyond. The entire ore body will average fifteen per cent. It is mostly a red oxide, and an auzerite. No ore has yet been discovered outside of the felsite and lime, and the mineral deposit seems to be confined to the space mentioned by the porphyry zone, which bounds it on the north and east. In the early history of the mine no regular system was observed in its working, and the pillars of ore left standing to support the roof proved inadequate to the task, and a cave has occurred in one portion of the workings. The damage, however, is not serious, and is being rapidly repaired. The extent of the ore body in the Longfellow has not yet been determined. It seems to extend through the mountain to the Detroit company's ground, and for a depth of 400 feet good ore has been encountered. It is certainly the grandest copper deposit yet opened in Arizona. The Modoc is the direct south extension of the Longfellow, and at a slight elevation above it. It is yet in an undeveloped state, but the many small openings along its surface, all of which show a fine grade of ore, and its formation, which is so similar to that of the Longfellow, attest its value. Near the line between the two mines a shaft has recently been sunk to a depth of about 50 feet. It is in ore entirely from top to bottom that will average full thirty per cent.

The next group of mines owned by the company are known as the Metcalf group, and are about three miles from the Longfellow, up Chase creek. The mines are on the sides of a steep mountain, 1,200 feet above the bed of the creek. The Little Annie, Little Giant and Oriental are the principal claims. The Annie shows the most development, the ore being taken from a series of open cuts along the ledge. The mineral occurs in pockets and chambers in a formation of lime and porphyry. It is a glance, with red oxides, carrying a high percentage of copper, and is covered by an iron capping, which also carries some copper. A tunnel has been started below the present workings to tap the ore bodies supposed to exist in the hill. Two tunnels have pierced the croppings, one being 230 and the other 400 feet. Good ore has been taken from each, and there is every indication of its depth and permanency. The Oriental adjoins the Little Annie on the east. It is a large ore body, and shows traces of old Indian workings, the savages having evidently resorted to the deposits of

chrome iron and bromide for their paint. The King is situated on the summit of a high mountain about half a mile east of the Little Annie, and at an elevation considerably above it. It is showing up splendidly at present. A shaft has been sunk to a distance of about 75 feet near the center of the claim, and shows the vein to be increasing in width as it goes down. At the bottom of the shaft the vein is about four feet wide, and is yielding an excellent grade of ore. The lead is in a contact, with walls as regular as though constructed by hand, and a clay salvage on both.

The Queen group of mines are about two miles above the Longfellow. They include a half dozen in all, but the Queen is the only one opened. Four adit levels have been run on the ledge, being respectively 200, 250, 200 and 225 feet in length. These levels are connected by winzes, and show a vein about eighteen inches wide, that goes 20 per cent. The Queen has the appearance of a regular vein. It is encased in porphyry walls and has a dip of 45° .

The Coronado group are on the summit of a steep and rocky range on the west side of Chase creek, and about eight miles from Clifton. The mine is approached by an incline from the railroad in Chase creek, which has already been noted. After passing over the summit of the rocky hill, the track is carried down a gradual incline, for over a mile, until it encounters the mountain on which the mine is situated. A tunnel has been driven through this mountain, following the vein, 1200 feet. The track is laid through this tunnel, and the ores on the upper levels are let down by chutes into the cars, while those below will be raised by steam. Above this level two others have been started, and will follow the vein through the hill. The levels have been connected by winzes, and large ore bodies exposed. After passing through the mountain, the track will be carried around on the hillside above the other claims on the vein, which will be connected with it by inclines. This railroad and incline system of the Coronado group is a fine piece of engineering, and is one of the sights of the Clifton camp.

The Coronado is a well-defined vein, averaging ten feet between smooth walls. The ore occurs in chambers, or swells, and is said to average fourteen per cent. It contains large quantities of silica, and requires to be mixed with other ores to smelt readily. There are six locations on the Coronado, some of them being opened by shafts and tunnels. Wherever opened the ledge is strong, continuous

and well defined, and has more of the appearance of a regular lode than any claim yet discovered in the district. With the present elaborate appliances for developing it, the Coronade promises to become one of the leading mines of the camp. The company own some forty claims, in all, but the above are the present ore producers.

The following description of the new reduction works of the company is taken from the *Clifton Clarion*. These immense works are now turning out over thirty thousand pounds of copper, daily, and are the largest ever erected in Arizona:

“The works are situated between the San Francisco river and Chase creek, and at the foot of a rocky peak which raises its jagged head nearly 500 feet above the river-bed. The face of the towering cliff has been blasted down for a distance of nearly 100 feet, forming four rocky terraces, and on these terraces the buildings and machinery have been erected. This upper terrace is fifty feet above the furnace-floors, and above it the beetling cliff towers to a height of 400 feet. Here are located the ore-bins. These bins are 250 feet in length, and twenty-five feet in width. Through the center, their entire length, a strong partition of thick plank divides them into separate compartments. On the top of this dividing line, if we may so term it, runs a railroad track, 20-inch gauge, which brings the ore directly from the mines on Chase creek, and dumps it into the ore-bins on either side. The lime and iron fluxes are also brought from the mines in the same manner, and delivered into separate bins from the same track. The ores and their fluxes from this upper store-house are now drawn off by means of ore-gates into sheet-iron cars, and conveyed over an iron track, a distance of 12 feet, to the crushing house, which stands on the second terrace. Here the ore is crushed by two Blake pulverizers. This crushing house is 60 feet long by 45 feet wide. Its situation below the ore-bins is such that the rock is dumped directly into the crushing machines, and after being broken is discharged through gates into cars which carry it by rail a distance of 12 feet, to what are known as the store-bins.

These store-bins are built on the third terrace of the hill, and are 250 feet long and 12 feet wide, and have a capacity of 2,200 tons. They are arranged into compartments for ore and fluxes like the bins above, and are solidly constructed. On this same terrace, and separated from the

store-bins by a space of 10 feet, are the fine ore and coke-bins. These latter bins are also divided into compartments, and have a length of 225 feet, and a width of 25 feet. Over the space between these two rows of coke and ore-houses, a double railroad track has been laid. One of the tracks is a 20-inch gauge, and connects with the road which winds its way to the mines on Chase creek. It brings from the ore shutes at those mines the copper ores already crushed, and which do not require to be passed through the rock breakers. The 36-inch track, which adjoins it, connects with the narrow-gauge to Lordsburg. Over this track the coke supply for the smelters is brought, and dumped into the lower line of bins. The ores and fluxes are next conveyed in iron hand-cars, to what are called the supply bins, situated on the charging floor of the furnaces. The sampling works adjoin the fine ore-bins already mentioned.

When the broken and pulverized rock from the mines is dumped into these storing places, it falls on an incline covered with strong sheet-iron. Along this incline, at a distance of 15 inches apart, slits, $2\frac{1}{2}$ inches wide and 20 inches long, have been cut. As the ore passes over this incline to the bins below, certain quantities go through these slits into small compartments, known as sampling bins. From these bins it is carried by cars to the large sampling room, where it is crushed fine by two 7x10 Blake crushers. As the ore is being crushed, small samples are caught by an ingenious contrivance of revolving buckets, which are set in motion by the action of the crushers. These buckets make about ten revolutions per minute, and take samples from every car-load. The samples are then spread on the ore-floor, quartered in the regular way, and carefully tested in the assay office. The plant consists of five furnaces, three of 60 tons daily capacity each, and two of 30 tons each. They are of the crucible water-jacket pattern, and provided with all the latest improvements for the reduction of copper ores. The smoke from the furnaces is drawn off by large sheet-iron pipes, above the charging floor, and carried into a brick flue, $5 \times 6\frac{1}{2}$ feet, which connects with the condensation chambers. These chambers are 30×50 feet and 15 feet high, and are divided into three compartments. Through these chambers the smoke has a strong and rapid circulation, and the friction against the walls causes the fine ore-dust it carries with it to settle at the bottom. By this mode of handling the smoke, it is estimated that from

five to ten per cent. of the ore will be saved which otherwise would be lost. The power to move the entire plant is supplied by the San Francisco river, the waters of which are conveyed a distance of 8,350 feet, to the works. Of this distance, 4,500 feet is through a flume built of redwood lumber, $7\frac{1}{2} \times 4$ feet in the clear. At the point where the water is taken from the river, a strong pile and boulder dam has been constructed. At the end of the flume, two turbine wheels receive the water and set in motion the power that moves the machinery throughout the entire structure. One of these wheels is situated north of the furnaces and distant from them 75 feet. This wheel is 44 inches in diameter, and, with a 24-foot fall of water, has a capacity of 142 horse power.

Close by this wheel, and between it and the furnaces are situated five blowers, connected by belting with the main shaft. These blowers discharge their blast into one main blast pipe 36 inches in diameter. This pipe extends along the rear of the furnaces, and is tapped for each by a pipe running from it at right angles, which conveys the blast to the interior of the furnace. At each blower, as well as at the entrance to each smelter, the power is regulated by means of blast gates, and the capacity of the furnace can be increased or reduced. About 150 feet east of the large wheel, is a smaller turbine, 23 inches in diameter, giving, with a 24-foot head of water, 40 horse power. This smaller wheel is used for the purpose of driving the crushers in the sampling works and the crushing house, the power being transmitted to those points by means of wire ropes. Besides this water power, the company have erected three engines, one $12 \times 20 \times 36$, a compound Corliss, to drive the blowers in case the river should get too low. Another engine is 9×16 , an automatic cut-off, to drive the crushers in the crushing-room, and another 8×12 automatic cut-off to drive the crushers in the sampling works. It is not expected that water will fail more than one or two months, at most, during the entire year, but the company have taken the precaution to have steam ready should the turbines be unable to run. The capacity of the works, when fully under way, will be from 225 to 250 tons of ore every 24 hours. The quantity of coke required will, it is expected, amount to fully 25 tons daily."

The Detroit Copper Co. of Arizona is another successful enterprise in the Clifton district. The smelters of this

company have lately been moved from the San Francisco river and put up adjacent to the mines. The water is forced to the works from the river, a distance of seven miles, through a wrought-iron pipe. The motive power is a 44-inch turbine wheel, and the point of delivery is 1540 feet above the stream. They keep steadily at work, turning out large quantities of bullion. The product is ninety-eight fine, and is known as the "Anchor" brand. It always commands a ready sale and high price in the market. These furnaces have been in operation over two years, and have turned out over 8,000,000 pounds of copper.

The mines owned by the company adjoin those of the Arizona Copper Co. on the north, and are known as the Yankee, Montezuma, Copper Mountain and Arizona Central. As the officers of the company declined to give any data regarding them, the writer is unable to present any description here.

The Hughes and Shannon claim is north of the Annie, and surrounded by the properties of the Arizona Copper Co. The following description of this valuable property is taken from the *Clifton Clarion*:

"The claim takes in the entire summit of Mecalf mountain, including the four slopes, and can be generally described as a vast chimney, nearly every class of ore found in copper mining being represented, such as glance, oxides, black copper, green and blue carbonates, and native copper. Beginning at the north end, a heavy bed of lime sets in and dips southward, with heavy iron croppings and porphyry overlying it. In the contact between the iron and lime there are immense deposits of high-grade copper ore, which crop to the surface boldly in many places. In one place on the east line, near the center of the claim, we noticed a face of ore that had been exposed by work which measured over 50 feet in length and averaged eight feet in height. From this quarry we can trace this body of ore for a distance of over 400 feet in a northerly direction. Further north about 100 feet distant, another opening has been made from which 50 tons of high-grade ore has been taken. On the west slope of the mountain, near the north-west corner of the claim, there are also other beds of ore, oxide and glance in character. Near the center of the claim, on the west side, a shaft was sunk about 30 feet through a solid body of green carbonates, the richest ore yet taken from the mine. The developement work here shows that

an area in the vicinity of this shaft will be highly productive of very rich ore."

The Clifton Copper Company, a New York incorporation, own a group of mines north-east from the Arizona company's properties. The principal claims are the Lone Pine and Keystone, both of which show large ore bodies, that give an average of from twelve to twenty per cent. They are opened by several shallow shafts, the deposit showing about twenty feet wide, and being capped with iron croppings from ten to thirty feet in depth. On the western side of Chase creek, and about eight miles from Clifton, there is a group of claims upon which some work has been done. The Bon Ton, Mountain Lion, Lulu, and Capitan are the most promising. The Lulu carries galena, which assays 240 ounces to the ton, in silver. The Bon Ton is opened by over 400 feet of tunnels, and has on the dump over 300 tons of ore, which is said to go twenty per cent. copper. Although but little work has been done on these properties, they show extremely well.

The Copper King Company own a group of mines on what is known as Greenlee Gold Mountain district, about five miles above Clifton, on the San Francisco. They are on a steep mountain, 1,500 feet above the river bed, and are known as the Union No. 1, Union No. 2, New England, and Montezuma. But little work has yet been done on these properties, but wherever opened they show strong, well-defined veins in a granite formation. The ore is an oxide and a copper glance, some of it going as high as twenty per cent.

The Great Western company own the Ollie and the Great Western, situated westwardly from the Copper King company's claims. They are in the same formation, and the ore is of the same character. There is a seventy-foot shaft on the Ollie, which has yielded ore that went thirty-seven per cent. There is plenty of timber near these properties, and water-power in abundance in the San Francisco.

About four miles above Clifton, on the San Francisco, large gravel deposits are encountered. The Clifton Hydraulic Company have brought water in iron pipes a distance of four miles, to these beds. They have sunk shafts and driven tunnels, and thoroughly exploited the ground. The gravel is on both sides of the river, will average in depth from ten to thirty feet, and has an estimated area of 3,000 acres. Gold is found all through this gravel, from

the surface to the bed-rock. High up on the mountain-side, above the gravel deposits, is a group of gold-bearing quartz ledges. These veins are from two to six feet in width, in a formation of granite, and can be traced for several miles across the country. A few openings have been made, and some ore worked that produced over \$20 per ton. With the fine water-power to propel machinery so near at hand, very low-grade ores can be worked, and a prosperous gold camp will yet spring up here.

Pinal County is, at the present time, the largest bullion producer in the Territory. Its ores have long been noted for their extraordinary richness, and for the variety of their mineral combinations. The ledges are large and well defined, and the formation in which they are found gives every assurance of permanency. The Gila river, which flows through the mineral belt, affords an unlimited supply of water, while wood is found everywhere in sufficient quantities for ore reduction. The formation of the Pinal ore belt has many of the complex characteristics peculiar to the geological structure of Arizona. In many of the mountain ranges the remains of former volcanic action are seen in the masses of conglomerates, lava-rock and sandstones, yet found in many places. Lime-stones, quartzite, syenite, granite and porphyry are found everywhere, the last two generally containing the ore bodies.

Every mountain range in the county seems to be thoroughly mineralized, and gold, silver, copper, lead and iron are met with in every hill and peak. No county has produced such magnificent native silver specimens, and none can show such immense masses of native copper. Except Cochise, no county has made a better record in the past, and none has a brighter outlook for the future. It has the ores in abundance, has an ample supply of wood and water, and is blessed with a perfect climate every month in the year.

Pioneer District.—In the year 1871, the present governor of California, who was then a colonel in the regular army, commanding in Arizona, established a picket post near where the town of Pinal now stands. The Apaches were very troublesome at that time, and were constantly raiding the farming settlements on the Gila from their fastnesses in the Pinal Mountains. A road was also constructed over the mountain into the higher valleys of the Pinal range, which is yet known as the "Stoneman Grade,"

and is the main traveled route from Pinal and Silver King, to Globe. A soldier, named Sullivan, employed in building this road, when returning from his work, one evening, sat down to rest on a boulder, near the camp. Seeing some black-looking pieces of rock, he picked them up and attempted to break them, but he found that they flattened out like a piece of lead. He knew nothing about silver ores, but he put them in his pocket and wended his way to camp.

Shortly after his term of service expired and he drifted to the ranch of Charley Mason, on the Gila River. Sullivan remained here some time, and frequently showed the black ore (pure sulphide of silver) to Mason and others, but would tell no one where he found it. One day he suddenly disappeared, and was not heard of for years. He was supposed to have been killed by the Apaches, or to have perished on the desert in the attempt to return to the place where he found the black nuggets.

For several years prospecting parties explored the Pinal range for Sullivan's find, but without success. In the search, a party of four farmers from the Gila valley penetrated to where the town of Globe now stands, and located the rich copper mine after which the town is named. In 1875, Chas. G. Mason, Benjamin W. Regan, William H. Long, and Isaac Copeland started for the Globe mines with a train of animals to bring in some of the ore. On the way back they camped for the night a short distance from the present hoisting works on the King. Next morning, when preparing to start, it was discovered that one of the mules was missing. Copeland went out to hunt the animal, and after a short search found him standing on the top of a "little brown hill" near the foot of the Stoneman grade. Going up to secure him, Copeland stumbled over the croppings of the great mine which has since become famous as the Silver King. Sullivan's secret was a secret no longer, and they had at last found the long-sought treasure. The discovery was made on the 22d of March, 1875, and it was the first claim staked off in what was afterwards known as Pioneer District. Thus was the famous Silver King discovered, and it is recorded that the mule who played so important a part in making it, was turned out to graze in green pastures, and never more carried saddle or *aparejo*. The mine was worked by the original locators until June, 1876, when Copeland sold his interest to Mason. Previous

to this a great deal of rich ore had been shipped to California. A short time after Long sold his interest to Regan, and he and Mason became the sole owners. In January, 1877, Mason sold his interest to Col. James M. Barney, and on the 9th of May, 1877, the Silver King Mining Company was incorporated under the laws of the State of California, and the work of development began in earnest. A twenty-stamp mill was put up on Pinal creek, five miles from the mine, and later on concentration works were added.

The total yield of this mineral wonder, since its discovery, has been over \$5,000,000; \$1,750,000 of which has been paid to stockholders, and to-day, at a depth of over 800 feet, it looks better than at any time in its history. The mine crops on a little conical hill, at the foot of the Pinal mountains. The formation inclosing the ore is porphyritic, but there are also many indications of quartzite.

The vein formation of the King mine is different from anything yet found in Arizona, and has long been an interesting study for scientists. To quote from Professor Blake's description, "this quartz-vein, instead of forming a sheet-like mass, or filling between parallel walls, is approximately *cylindrical* or columnar in its form, filling a nearly vertical, spirally formed cavity, as if it had risen as smoke rises in a chimney, but circling about the riven rocks, until it reached the surface by many outlets." This is the Silver King, an immense circular deposit of ore, with thousands of veinlets running into the country rock which surrounds it. These veins reticulate and cross each other in every conceivable direction. Along the western side of this immense ore-chamber an irregular mass of white quartz, of a circular shape, and some eighty feet in diameter, is found all the way to the deepest workings. This body of quartz carries bunches of rich ore, and has never yet been thoroughly explored. In fact, to quote the language of Mr. Phillips, the superintendent, "the ore-limits of the mine are not known in any direction underground."

So far as explorations have extended, no well-defined boundary to the ore has been found. Wherever the little veinlets are followed beyond the main chimney ore is found, and as there is nothing like a wall, the size of the ore body cannot be determined. Seven levels have been opened. The seventh, or lower level, is the largest. It is an immense chamber, which has already-produced over 20,000

tons of ore. Following around the walls of this immense excavation, the native silver, and the other beautiful mineral combinations, reflect back the light of the candles in a thousand brilliant flashes. Wherever penetrated, the small veins are still found running into the porphyry from the rich ore body in the center. The floor of this level is the richest yet found in the mine, and fairly sparkles with native silver in every direction. From this level, and from those above it, there is now enough of ore exposed to keep the works running for the next three years.

The richness and variety of the ores of the Silver King have made it famous throughout the mineral world. Such beautiful clusters of native silver no mine on the continent has ever produced. It is estimated that before the reduction works were put up, \$1,000,000 were shipped to California, and that this ore averaged \$1,000 per ton. The general character of the ores in the deep workings are sulphides of lead, zinc, and copper, highly impregnated with silver. Among the minerals found in this mine are argentite, zinc blende—in large quantities—barite, copper glance, horn silver, auzerite, and a dozen other varieties. Nowhere, throughout the mineral regions of the west, has nature set up such another laboratory. The native silver is found in beautiful forms of leaf and wires, and also in threads as fine as hair or silk, and of a dazzling whiteness. It is said that one-fourth of the bullion has occurred as native silver. The ores are hauled to the mill at Pinal, five miles distant, crushed and concentrated. The concentrations are then shipped to San Francisco. A late visitor to this mineral wonder thus records his impressions in the *Florence Enterprise*:

“After going the rounds ‘on top’ we were taken into the change room of the office, by Supt. Macy, and furnished a uniform suitable to go under ground. After which, we went down to the 700-foot level of the richest mine in Arizona. Arriving at the bottom Supt. Macy piloted us through the entire workings of this level. The dimensions of the sill floor of the 700-foot level are, 230 feet one way by about 175 the other, and all the sides and bottom are still in good ore. They have stoped out all the ore above the sill floor up to the eighth floor—or eight sets of timbers—and are now working on the eighth, ninth and tenth floors, leaving two full floors between the tenth floor and the 600-foot level. They only started to open up the tenth floor last week and

so far very little work has been done on this floor, there yet being an abundance of ore left to be stoped out on the eighth and ninth floors. The sides of all the various floors are in ore. The company is now working about 125 men in the mine proper—only 14 of whom are miners, or rather employed as such—the remainder being kept busy sorting the ore that these 14 men knock down. These workings present the appearance of forests of pine timbers, alive with human beings. It is more than probable that the 800-foot level will be opened up shortly.”

Whether we consider its singular geological structure, the wonderful richness and variety of its ores, its immense deposit, or its yield of bullion, the Silver King must be rated among the great mines of the world. It stands alone in its original and distinctly marked features; alone in its wealth of virgin metal, and unapproachable in the extent, grandeur and almost unlimited possibilities of its future. It has been rightly named, and is a worthy monarch for Arizona's vast mineral domain. No other can show such a treasure-house of silver gems, and there is none in either continent that has so brilliant a future.

PIONEER district extends ten miles each way from the Silver King location, and includes many valuable mining properties, which have proved exceedingly rich. North and south from the King, and for miles along the western slope of the Pinal range, the country has been located for miles. Surrounding the King, north, south, east and west, shafts have been sunk with the hope of striking the ore body in that mine, but thus far without. On the Bilk, west of the King, a depth of over 1,000 feet has been reached, while the South King went down over 400 feet.

In the vicinity of the King are the Last Chance and Mount View, owned by the Windsor Consolidated Mining Company. The former has a shaft 400 feet, and has produced ore worth \$100 per ton. It is a four-foot ledge. The Mount View is a three-foot vein, which has yielded \$100 per ton. The Josephine mine is one mile north of the King. It is a large vein, and has been located for over two miles. The principal claims on the ledge are the Pike, Union East, Lost Prize and Rosalie. Ore from the Pike has yielded \$50 per ton.

The West Union has a shaft 240 feet, and shows a two-foot vein of antimonial silver that assays from \$50 to \$200 per ton. The Monarch of the Sea is one mile from the

King. It is a small vein, but exceedingly rich. There is a tunnel on the ledge 340 feet. The Washington is 1,200 feet north of the King. There is a continuous ledge the entire length of the claim eight inches wide that goes from \$100 to \$700 per ton. The First Chance, an extension of the Mount View, Big Pete, Alice Bell, Fernandez, Flagstaff, and many others in this neighborhood, are very promising properties. The Redeemer runs parallel with the Fernandez, and four locations, the Amador, Norway, Scotland and Black Cloud, have been made upon it. These claims are owned by the Terra Rica Mining Company, of Pinal, are from two to four feet in width, and assay from \$50 to \$100 per ton. The Silver Queen is about two miles south of the King. It is the first location in the camp, and carries silver and copper.

The Continental group are situated about six miles from Pinal on the road to Florence, and embrace the Europe, Asia, Africa, America and Australia. They are all on one immense ledge which stretches across the country for several miles. This vein will average over six feet wide, and is thoroughly mineralized. The ore is mostly free milling, but there is, also, considerable galena.

Rodgers district is in the Superstition range twelve miles north of Pinal. There is abundance of wood and water, and while the ledges are not large the ore is a rich carbonate. The World Beater is the principal ledge, and has produced ore that yielded \$1,600 per ton. Coles district is to the west of the Rodgers camp, in the same range. It is a beautiful country, and its ledges are producing very rich carbonate ores. Box Cañon camp is six miles south-west of Pinal. It has some fine-looking properties, the Bruiser being the principal claim. It shows a six-foot vein of galena worth \$30 per ton, silver.

Belle Air District is situated about fifteen miles east of Florence, and about six miles north of the Gila river. The formation is porphyry, and the ore is a galena and carbonate of lead, carrying silver. The veins are large, and there is abundance of water and wood at the river. The Silver Belle is the principal mine of the camp. Over 5,000 tons have already been taken from this mine, which has yielded over \$160,000. The Martinez, Blue-bird, Guild, and many other valuable properties are found in Belle Air district.

Mineral Hill District is situated in the foot-hills of

the Pinal mountains, fifteen miles from Florence. The Specie Pay and the Alice are the principal locations. The latter shows a vein from five to ten feet in width. The Specie Pay joins the Alice, carries ore of the same character, and shows a ledge fully as large. It is opened by a tunnel which taps the vein at a depth of 250 feet. A five-stamp mill has lately been erected on the Alice mine, and is steadily at work day and night, turning out over \$12,000 per month. As work progresses, the claim is developing into one of the most valuable properties in Pinal county. The vein, in places, is over twelve feet wide, averaging over \$30 per ton, silver. The ore is free-milling, and easily reduced.

Mineral Creek.—This district is about twenty miles east of Florence, on a tributary of the Gila. The ores are copper-bearing, and the ledges are among the largest and richest in the Territory. The Ray Copper Company own the following claims: Ray, Poorman, Copper Bell, Clifton, Copper Bottom, St. Julien, Reed, Melrose, Burnside, Esperanza, National, Lily, Ida Bell, Tibbets, Monday, Monroe, Bilk and Scorpion. The company is an unassessable one, incorporated under the laws of the State of New York, with 500,000 shares, with a par value of \$10 per share. Geo. H. Sargent, of Boston, is president, and Louis Zeckendorf, of Tucson, is secretary. The Ray and Poorman are probably the most remarkable mines in the Territory. In the former, masses of native copper are found in a matrix of decomposed diorite, and in the latter, the metallic copper is found in the decomposed quartz. Such quantities of the native metal have been found nowhere else in Arizona. The following description of these properties is taken from an article in the *Florence Enterprise*:

“The Ray has been opened by a tunnel 300 feet in length. A working shaft 100 feet deep has been sunk, and a level run from that point. A level has also been run at a depth of 50 feet. “In these levels, each of which are several hundred feet in length, cross-cuts have been made with a view of ascertaining the exact width of the ore-belt, which on a general average has been found to be between 30 and 40 feet, generally approaching the latter figure. Every stroke of work done has been in ore. The ore is native copper, glances and oxides. It seems almost beyond the possibility of belief that such immense masses of rock should be mineral-

ized throughout; such, nevertheless, is a fact, as can be proven by personal inspection of the same. Scientific tests to determine values in the Ray mine are unnecessary, for wherever it be opened, whether it be in the shaft, tunnel, drift or winze, the indications are the same. As far as the pick has penetrated, barring the first 50 feet of surface-rock, where only carbonates were found, the ground is literally tied up in a mat or web of native copper. The Poorman, so far as opened by its 100-foot shaft and 240 feet of drifts and cross-cuts, is in its formation identical with the Ray, with the difference that in the Ray the heavy metallic copper is contained in the quartz, the decomposed dyorite, forming the ledge proper, carrying the glances and sulphides. The Poorman carries it in the quartz, otherwise it is much the same. The great width and wealth, as maintained in the other, in fact, is improved on in the Poorman. In the west drift, at the 100-foot level, a body of ore was struck carrying native silver. It lies over the heavy native copper, and is believed to be between that and the lighter bodies of copper."

A concentrating mill for the handling of the ores from these properties has lately been erected. It is supplied with Cornish rollers, Frue vanners, and all the improved appliances for ore concentration. The concentrations are hauled to Gila and formed into bricks, after which they are passed through the furnace and run into copper bullion. The concentrating mill has a capacity of seventy-five tons per day. These works have just been started, but when fairly under way the output of copper from Mineral creek will be large and steady. The mines are situated north of the Gila, and about five miles from that stream.

The Keystone, one mile north-east from the Ray, shows large croppings of copper ore, sixty feet wide on the surface. It is opened by several cuts and short tunnels. The ore is said to average sixteen per cent. The Monarch is also a very promising property. It is over thirty-five feet wide on the surface, between well-defined walls. A fifty-foot shaft has exposed a large body of oxides, glance and native silver.

Between Mineral creek and Butte there are a number of fine copper properties, the most prominent being the Copper Belle, which has lately been sold to an eastern company, who are now prosecuting work upon it.

The Owl Heads camp is thirteen miles north of Red

Rock station, on the Southern Pacific railroad. The formation is porphyry and syenite. The ledges are well-defined and crop out strongly on the surface. Water is found in springs, and mesquite and palo verde grow on the hillsides. The Jessie Benton is the principal mine. It is opened by a shaft 100 feet in depth, and shows a vein of chloride ore, two feet wide, which yields 200 ounces to the ton. The Desert adjoins the Jessie Benton, carries the same character of ore, and is opened by several shafts and tunnels. These properties are owned by the Jesse Benton Mining Company, who have erected a five-stamp mill, and are making regular shipments of bullion amounting to \$20,000 per month.

Casa Grande District.—This district is twenty miles south from Casa Grande station, on the Southern Pacific railroad. The principal mine is the Vekol. It was discovered by a Papago Indian, and has produced remarkably rich chloride ore. There is no regular vein, the ore being found in the chambers and caves of a limestone hill. Three tunnels have been driven into this hill, the longest being over 300 feet, and from these tunnels crosscuts have been run in all directions, so that the hill is literally honey-combed in search for the ore. For a distance of 600 feet along the length of the location, and for 300 feet in width, ore is found in streaks of from three inches to eight feet wide. The ore bodies have been tapped by a winze from the main tunnel, 150 feet below the surface. In fact, wherever opened, rich rock has been discovered. The ore is a chloride, containing large nuggets of metallic silver. It is assorted, and the richest shipped. There are now over 4,000 tons on the dumps, which is estimated at \$50 per ton. The property has paid its way from the start, and with reduction works on the ground would become one of the leading bullion producers of the county. The entire hill seems to be one immense bed of ore, whose length, breadth or depth has not yet been determined. The owners of this fine property are now erecting a ten-stamp mill, which will begin work on the immense dumps of second class ore. A force-pump will bring the water from the Vekol Basin, something over a mile away, where an abundant supply has been found. It is expected when this mill gets underway the output of bullion will be over \$30,000 per month.

Six miles north of the Vekol is situated the Copperosity copper mine. This is a large vein of copper ore, which

has lately been purchased by an eastern company, and is now being thoroughly developed. Large quantities of high-grade ore have been extracted, and two 30-ton furnaces are in course of erection. The mines are improving with depth, and the outlook for a large bullion yield is very encouraging. Near the Copperosity are the Little Chief, Silver Monarch, White Flag, and many other large copper and silver-bearing ledges.

The Lakeshore is the name of a new copper discovery in the Santa Rosa valley, in this district. The vein is an immense one, being in some places over 100 feet in width. The deepest shaft—40 feet—shows an even distribution of the ore from wall to wall. Assays give fourteen per cent. copper.

The Jack Rabbit is ten miles east of the Vekol, in one of the isolated ranges which cross this country in every direction. The vein is found in contact between lime and porphyry, is small, but exceedingly rich. The claim has paid its way since its discovery, and is emphatically a poor man's mine. The Silver Bell, Orizaba, Providence, Pacific, and scores of other very promising claims, are in this region, which is known as the Papago country. Water is somewhat scarce, but an abundant supply can be had by sinking. They are easy of access, convenient to the railway, and a large and prosperous camp will yet spring up here.

Gila county, the smallest political division of the Territory, has long been famous, both at home and abroad, for the richness of its ores. It is one of the most thoroughly mineralized regions of Arizona, and every hill and mountain within its borders is crossed and seamed with ledges of gold, silver, copper, iron, and various other minerals. With the Salt river flowing through it on the north, and the Gila washing its southern border, it is as well provided with a water supply as any county in Arizona. The masses of native silver which have been found in Gila have been equaled only by those famous *Planchas de Plata* of the early days. For years it has been one of the leading bullion-producers of the Territory, the output for 1882 being over \$500,000. Its isolated situation, and the cost of material and supplies of all kinds, have been a serious hindrance to its advancement. Wilcox, the nearest point on the Southern Pacific, is 120 miles from Globe, and over this long distance everything has to be hauled in wagons.

But the projected railroad from Flagstaff to Benson will pass through the heart of the county, and open up as rich a mineral region as can be found in North America. Gila was once the retreat of the Pinal Apaches, who guarded long and well the treasures of their mountain home. The first locations in what is now Globe district were made by Cal. Jackson, H. B. Summers and W. A. Holmes in 1870. The Indians were hostile, and the party built a fort and endeavored to hold their ground, but were finally compelled to abandon their claims. Many attempts were made to penetrate this part of Arizona, and as early as 1871 an expedition numbering 300 men, under the lead of the then Governor of the Territory, explored a portion of this region, but as the quest was for placer gold they discovered none of the rich silver lodes over which they passed. The discovery of the famous Stonewall Jackson, and the silver nuggets in Richmond basin, in 1875, led to the organization of the Globe district, and the establishment of the town which bears that name. At that time the large portion of the district was within the lines of the San Carlos reservation, and even now some of the richest mineral lands of the county are set apart for the use of the savages.

The geological structure of the county is made up principally of granites, porphyry and slates. Limestone occurs in many places, and there are also masses of conglomerates and lava rock, which would indicate volcanic action at some remote period. Of wood, there is an abundant supply in the Pinal mountains, and in the spurs and detached ranges along the Salt river. The ores of the county are noted for their high grade and variety of mineral combinations. In the Pinal mountains the silver ores are generally a sulphuret, requiring to be roasted. In the vicinity of Globe, Richmond Basin and McMillenville, they are a chloride, and easily worked by the wet process. The wonderful richness of the ores shipped from the Globe camp in the early days of its discovery created a furor all over the coast. Tons and tens of tons, sent to San Francisco, went for \$1,000 to \$20,000 per ton, and the magnificent specimens of native silver from the Stonewall have scarcely ever been excelled.

Two years ago very little attention was paid to copper mining in Gila county. Now it leads gold and silver in the value of its product and the amount of capital invested. The copper ores of this portion of Arizona are found to be

remarkably rich, extensive, and easily reduced. Four smelters, with a combined capacity of nearly 300 tons daily, have been erected, and it is estimated the yield for 1883 was over 5,000,000 pounds. But the cost of coke and other supplies has greatly retarded this development, and none but high-grade ores can be worked to a profit. Coke, shipped from Cardiff, Wales, costs, delivered at the furnaces, \$65 per ton. Owing to this state of affairs, three of the furnaces have stopped, preferring to wait until freights are reduced to a more reasonable figure before working their ores. When that time comes, and appearances indicate that it is not far off, the Globe country will be one of the great copper-producing sections of the Territory. As near as can be ascertained, this copper belt is over eight miles in length, and over a mile in width. The ore bodies within this area occur in veins and in immense deposits, and are generally found between lime and syenite. They are mostly carbonates, oxides and copper glance. Some of them are silicious, but there is abundance of fluxing material in the neighborhood.

Owing to a variety of causes, principally their remoteness from a railroad, the silver mines of the county have not made very rapid advancement. The rich surface ores having been exhausted, those of a lower grade cannot be worked under the present conditions with any profit to the owners. Where everything used or consumed costs so high, silver ores below \$50 per ton are practically valueless. There are scores of mines with this grade of ore all over Gila county now lying idle, awaiting the time when cheap and rapid transportation shall solve the problem, and give their owners a chance to realize some profit from the working of them.

The Construction and Development Company of the proposed Mineral Belt railroad have under contemplation the erection of immense reduction works on the Salt river, to be driven by the abundant water-power of that stream. If this is done, there are hundreds of mines in the county carrying large bodies of low-grade ores which can be successfully worked, and the stream of silver bullion which will flow out of the Gila county will be larger than at any time in its history.

But little deep mining has yet been done in Globe district, and with few exceptions the development is confined to mere surface-scratching. The Mack Morris mine, in

Richmond Basin, about fourteen miles north of Globe, has been sunk upon to a depth of 800 feet, and has produced over \$700,000. The surface ores of the claim were wonderfully rich. A ten-stamp mill for the reduction of the ore from this mine has been erected on Pinal Creek, five miles away. In this basin, situated on the western slope of the Apache mountains, were found the nuggets of silver which attracted thousands to the Globe country in early days. It is calculated that nearly \$100,000 in pure silver was picked up on the surface, and a few feet below it. The Silver Nugget, so called from the *planchas*, which were found a short distance from it, has produced some rich ore. The East and West Richmond are strong veins, carrying low-grade ores, which, with the coming of a railroad, can be made to pay handsomely. There are many other promising properties in this part of the district which are not being worked at present.

McMillenville.—This camp is twenty miles north of Globe, and eleven miles south of Salt river. The famous Stonewall mine is located there. This was the richest discovery ever made in the district, and at one time shipped to San Francisco nine tons of ore which yielded nearly \$200,000! This rich ore, two thirds native silver, came from a small vein which entered the main ledge at nearly right angles. Portions of this vein, three and four inches wide, were actually pure silver. The Stonewall ledge is an immense fissure which cuts across the country for several miles. This mine has been sunk upon to a depth of 700 feet. Rich ore has lately been struck in the lower levels, and a five-stamp mill makes large and regular bullion shipments. The Stonewall is one of the strongest fissures in the Territory, and thorough exploitation has proven its value and permanency. The Democrat and the Little Mack are on another spur which enters the main vein. They were extremely rich near the surface and produced over \$100,000 in native silver. A little five stamp mill has been erected on this vein which it is said has produced over \$300,000.

The Hannibal, Washington and R. E. Lee are on the Stonewall ledge, and have been developed to a considerable extent. The country north, east and west of the town of Globe is a perfect net-work of veins. Many of them are small but extremely rich, and have produced a great deal of high-grade ore. Several of them are also large and

strong ore bodies of medium grade, which cannot now be worked owing to the cost of material. Careful estimates show that there are now on the dumps of mines in the district 6,000 tons of ore that will work from \$40 to \$50 per ton, and the quantity in sight in stopes, drifts, and tunnels is almost unlimited.

Many of the small, rich veins are being worked by poor miners, who ship their ores or have them reduced at some of the mills. These "chloriders" earn good wages by this method, but are careless about making any systematic development. The Silver Fame is one of the richest of these veins, its ores being pure chlorides and sulphides. It is opened by a shaft and several tunnels, and has already produced several thousand dollars. What is known as the Tidwell claim, near the Chrome mine, is also turning out a great deal of bullion. A five-stamp mill has been erected, and is running steadily.

The Irene is a strong vein, and is opened by a shaft 300 feet deep. This shaft shows four feet of ledge matter, which has yielded \$100 per ton. The Stonewall No. 1 is a ledge that crops in places twenty feet above the surface. It carries some rich chloride ore, and is opened by a shaft 100 feet in depth. The California has two feet of \$50 ore, and is opened by several shafts and tunnels. The Miami has produced over \$30,000. The Golden Eagle has yielded over \$80,000; it is thoroughly opened by shafts and tunnels. A ten-stamp mill has been erected on Pinal creek to work the ores from this mine, some of which have gone as high as \$5,000 per ton. The Centralia, Emeline, Champion, Chromo, Townsend, Independence, Anna, Cox and Copeland, Blue-bird, Buckeye, Empire, Imperial, Rescue, McCormick, and scores of other claims are in the immediate vicinity of Globe. Many of them show considerable development, and nearly all of them have produced rich ores. The prospect of the speedy completion of a railroad has caused a renewal of work on many of them, and a great deal of ore is being piled up awaiting the time when cheaper milling and mining will make it profitable to reduce it. All over the district a large number of claims are being worked by the owners. The ore is assorted, and the richest shipped to the nearest reduction-works. Owing to the high rates of transportation, nothing but very rich ore can be handled.

Complete reduction-works capable of treating ores of every character, would be a paying investment in Globe district.

There is probably no portion of the Territory containing so many rich silver veins. Many of these are small, but can be made to pay a handsome profit to the owners if reduction-works were not too distant. Even under the present disadvantages a large amount of bullion is produced of which we have no record, and the amount of which can only be approximated. The total silver bullion for 1883, is put at \$350,000. As before stated, copper has taken the foremost place in the mining industry of Gila county during the last three years. In the size, extent and richness of these immense copper deposits, they stand without a rival in the Territory.

The Globe copper mine, the first location in the district, is about one mile north of the town. The ledge shows immense croppings on the surface, and is opened by two shafts, 320 and 100 feet, respectively. There is an incline 150 feet deep. At a depth of 200 feet a level has been run on the ore body, and connections made with all the shafts. Two cross-cuts have been made, which show the mass of ore to be 186 feet in width. The foot-wall of this great deposit is syenite, the hanging-wall lime. The foot-wall is smooth and well defined, and maintains its regularity all the way. The ore is a red and brown oxide, mixed with carbonates, and carries sufficient lime and iron to make it self-fluxing.

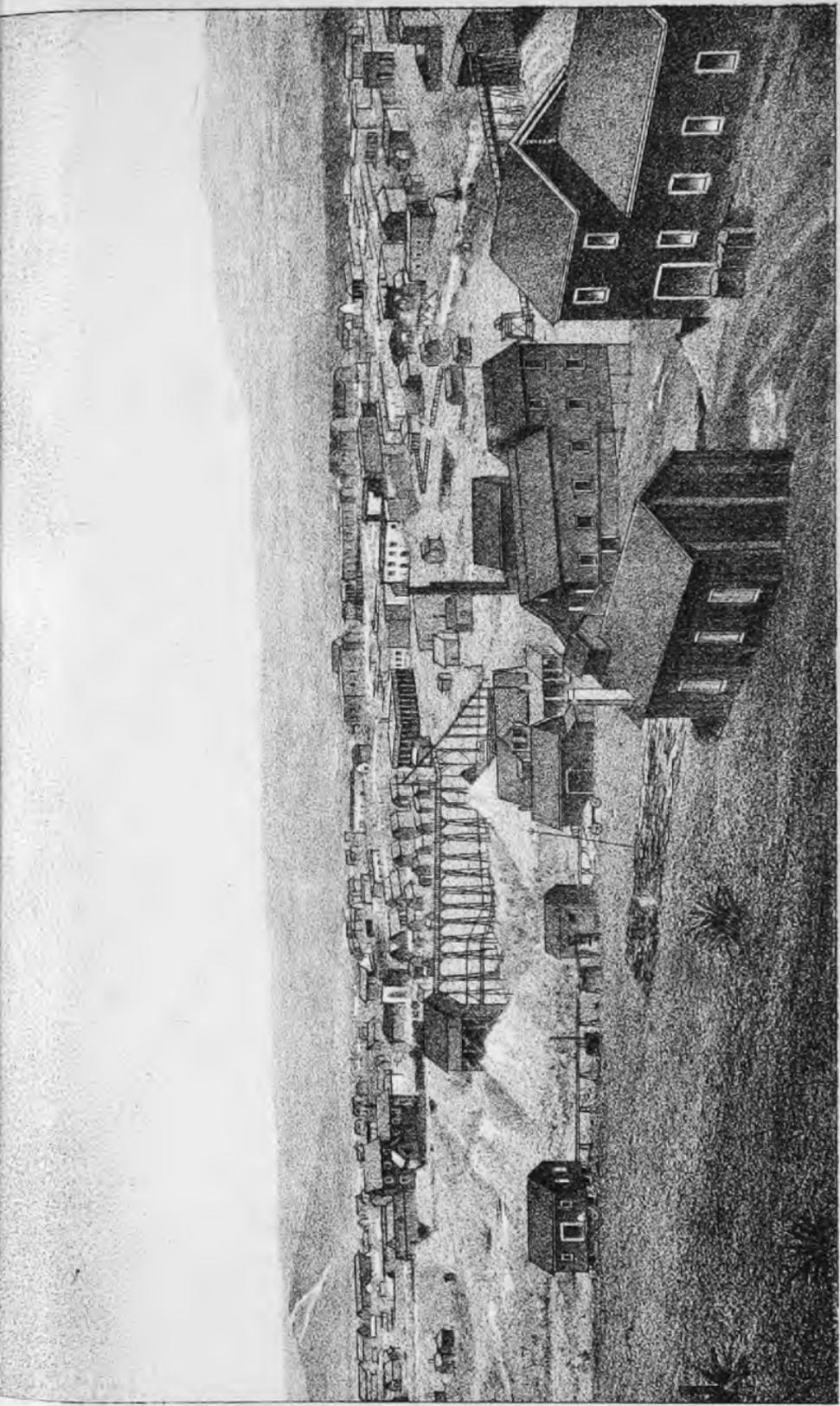
The total output of ore up to June, 1883, has been 12,000 tons, and the average grade has been $15\frac{1}{2}$ per cent. The yield from July 1, 1883, to June 30, 1884, was 2,508 tons of 98 per cent. bullion. The daily output at the present time is 100 tons of ore, which could be readily doubled if necessary. It is estimated there is now opened up and in sight, 20,000 tons of ore, not including the immense out-crop, which carries from three to ten per cent. copper. The strike of the vein is to the south, and its pitch about 35° . In the size and grade of the ore body in the Globe mine, it stands without a rival among the copper producers yet discovered in Arizona. Notwithstanding the heavy expense for fuel and the cost of transporting the bullion to the railroad, the property is being worked steadily and is yielding a handsome profit to its owners. This is due in a great measure to the lime and iron fluxes found in conjunction with the ores, but the remarkable high grade of the latter is the main secret of the brilliant success which has attended the working of this mine. In a letter dated July

18, 1884, Mr. Alex. P. Thomas, the superintendent, says: "About 130 men are employed by the company at their works, aside from a large number furnishing wood, hauling coke and mining supplies. The work of opening the mine is being pushed as circumstances will permit. Machinery is being improved and augmented. The ore body shows no diminution in size or richness."

A quarter of a mile from the mine, on Pinal creek, the company have erected three water-jacket furnaces, with a combined capacity of 150 tons daily. Two furnaces are in operation constantly, one being kept in reserve. English coke is used, and the bullion produced is 98 per cent. fine.

The works have been in operation since June, 1882, and have produced up to June 30, 1884, 5,000 tons of copper. The company is known as the Old Dominion Copper Company, and is incorporated under the laws of the State of New York. With a railroad to the camp, the Old Dominion will become one of the great copper producers of the United States. The ore supply seems inexhaustible, and it appears to steadily improve as depth is reached. Besides the Globe ledge, the company own the Old Dominion, about two miles down Pinal creek, and also the Keystone. These claims have produced over 1,000 tons of ore, which has yielded from twenty to twenty-five per cent. The company have another group of mines about five miles west of Globe, from which over 500 tons of ore have been taken, which has averaged eighteen per cent.

The Tacoma Copper Company own the Tacoma, Big Johnny, and O'Doherty, situated about two and a half miles north-west of Globe. The first named is opened by two shafts and a tunnel. Shaft No. 1 is down 140 feet, and shaft No. 2 200 feet. The tunnel is in 220 feet. The shafts are 700 feet apart, and it is designed to connect them with levels which are now being run. The ledge will average four feet wide, and carries oxides, carbonates, and some very rich copper glance. Some of the latter has yielded as high as fifty per cent. The Big Johnny and the O'Doherty are also well-defined veins, showing very high-grade ore. The company have leased a smelter of sixty tons daily capacity, situated on Pinal creek. The ore requires a considerable admixture of iron and lime to smelt it. Owing to the high rates on freight, the company have suspended operations at the furnace for the present, but the work of development goes on in the mine.



CITY OF TOMBSTONE.

The Buffalo and Mark Twain are situated north of the Globe ledge, and are supposed to be a continuation of the same vein. On the Buffalo, a tunnel has been driven 800 feet, which taps the ore 150 feet below the croppings. The ledge is found between lime and quartzite, has all the marks of a regular lode, and runs from four to fifteen feet in width. The ore is composed of carbonates, silicates and oxides, and averages from twelve to fifteen per cent. To be smelted, it requires a flux of iron and lime. A water-jacket, with a capacity of thirty tons, has been erected on Pinal creek to work the ores from this mine. It has produced 600,000 pounds of copper, ninety-eight per cent. fine. Owing to the cost of transportation, it has been compelled to shut down. The Buffalo is one of the finest properties in Globe district, and under favorable conditions will become one of its leading copper producers.

The Long Island Copper Company is another eastern incorporation, operating in Globe. It has put up a smelter some distance below the town, and turned out some bullion, but owing to the heavy tariff on freights, has been compelled to suspend. Its mines are situated near the town, but no data in regard to them were obtained. The copper interests of Globe district are yet in their infancy, but enough has been done to show they are among the richest in the Territory. With direct railroad connection, their output promises to be enormous. If there were no other resources to be developed, these mines alone would be a sufficient inducement for the construction of the road. The ore bodies seem to be inexhaustible, and the average grade is high. With reasonable transportation rates, Globe will become the leading copper-producing camp of the Territory. Under the present condition of things, nothing but the richest quality of ore will pay to work, and some of the finest properties are lying idle. No portion of Arizona needs a railroad so much as Gila, and there is no county that would be so largely benefited by its construction. That the building of such a road would be a paying investment hardly admits of a doubt, and that its completion can be much longer delayed is scarcely probable.

Mohave County is pre-eminently a mining region. Every mountain range within its borders contains mineral. Its agricultural lands are limited, and mining and grazing must always be the leading industries of its people. Gold, silver and copper abound in its hills and mountains. The

geological formation of the county is composed mainly of primitive rocks; the ledges are clearly defined, and the ores of a high grade. There is abundance of wood for the reduction of ore, and where water is scarce at the surface a supply can always be had by sinking. The ores of Mohave county carry many metallic combinations, and generally require roasting before the precious metals can be extracted. In the southern part of the county free-milling silver ores are sometimes encountered, but they change into sulphurets at a short distance below the surface.

The history of mining in Mohave, by Americans, begins in 1858. In that year a party of prospectors explored a portion of this region, but it does not appear that they made any locations or did any work, their search being for placer gold. In 1863 a portion of that swarm who were drawn to Arizona by the discovery of the gold deposits at La Paz drifted into Mohave county. Many locations were made, and a great deal of work was done. The hostility of the Hualapai Indians, who were then on the war-path, prevented any real development. Those savages attacked small prospecting parties, wherever the opportunity presented itself, and several miners were killed while at work in their shafts, and their bones left to moulder in the graves which they had dug for themselves. In 1871 began the work of steady development in Mohave, and since then mining has been prosecuted with varying success throughout the county. Several mills and furnaces have been put up, and a large amount of bullion has been shipped from the country. A great many mines have been opened, and the richness and extent of the mineral belt fully demonstrated.

But Mohave county, like all other portions of the Territory, has had to struggle against many disadvantages. First among these drawbacks was the cost of material and supplies. Isolated and cut off from the outside world, its only means of communication was by the slow and uncertain route of the Colorado river. For years nearly everything used or consumed in the county was shipped by water from San Francisco to the mouth of the Colorado, then transferred to light-draft boats and brought up the river. By this tedious mode of communication goods and material were sometimes months in transit, and the cost, when delivered at the different camps, was simply enormous. For years a pound of flour, bacon, sugar or coffee, was worth

from seventy-five cents to \$1; and powder, steel and all other mining material in like proportion.

The want of reduction-works necessitated the shipping of ores to San Francisco, and so heavy were the freight charges that scarcely any profit was left to the miner on ore that would not go over \$500 per ton. Under these adverse conditions it is no surprise that mining in Mohave county has made slow progress, or that capital has not sought investment within her borders. Yet despite every obstacle and drawback which her remote situation naturally entailed, the faith of those who thoroughly understand her great mineral resources has never wavered, and with an energy and perseverance which no failures or disappointments could dampen, they have waited patiently for the dawn of that brighter day when Mohave should take her place as one of the leading bullion producers of the Territory.

Their years of weary waiting are over at last, and the completion of the Atlantic and Pacific railroad heralds the dawn for the mining interests of this portion of the Territory. This road passes through the heart of the richest mineral regions of the county, gives them direct communication with the centers of capital east and west, and men of means are no longer compelled to travel hundreds of miles by buckboard to visit and inspect a mining property. This railroad will prove of incalculable benefit to the mines of Mohave, and hundreds of claims which for years have lain dormant will awaken to new life and activity under the quickening impulse of cheap and rapid transportation. The thousands of tons of low-grade ores found in every district of the county will have a value, and the work of development will be stimulated and encouraged by the cheapening of supplies and material.

Capital will seek investment in a region long famous for the richness of its ores, blessed with so admirable a climate, and possessed of such perfect railroad facilities. The "boom" for this part of the Territory, so long delayed, is near at hand, and the country will in a short time become one of the foremost mining regions of the Territory. Already the signs of renewed activity are visible all along the line, and the sound of the pick and the drill is heard in many a camp where undisturbed solitude has reigned for years.

Since the opening of the railroad, a great deal of ore has been taken out, and regular shipments are being made to

the smelting works at Benson and Pueblo. This ore is of a high grade, and leaves a handsome margin over all expenses to the owners, who are mostly practical miners, who by this means are not only developing their own properties but making them pay at the same time. It is estimated that ten car-loads a day, or 3,000 tons per month, of this rich silver ore is shipped from Kingman station, on the A. & P. R.

Hualapai District.—This district, which includes the town of Mineral Park, is situated in the Cerbat range, about thirty-five miles east of the Colorado river. The Atlantic and Pacific railroad passes down the valley on the east of the range, and the different camps are from ten to fifteen miles distant. There is an abundance of wood for milling purposes, and in nearly all the principal veins water is found as depth is reached. The formation of the district is generally a granite and a porphyry. The ore is of high grade, and the veins compact and regular. The Lone Star, near Mineral Park, has been opened to a depth of 200 feet, and has produced \$75,000. The ore is a sulphuret, and very rich. The vein is small but regular. The Keystone, in the same neighborhood, is a ledge of a similar character. It has been opened by several shafts, the deepest being 250 feet. The ore has worked \$100 per ton, and it is said the mine has yielded over \$100,000. The Fairfield is on the same vein as the Keystone. It has been opened by a tunnel over 1,200 feet in length. These and many other valuable claims are in the vicinity of Mineral Park. The Stark & Ewing is situated between the Keystone and Fairfield. There is a shaft on the claim, 135 feet, showing a three-foot vein in the bottom.

The Cole & Caffrey mine is between Cerbat and Mineral Park. It is opened by two shafts, a tunnel and several levels. There is a continuous vein, four feet wide, worth from \$75 to \$100 per ton, silver. This claim is being vigorously worked. The Union, situated in the same neighborhood, is a large prospect of carbonate ore, from 30 to 50 feet in width, that promises to become valuable.

About four miles north from the Park is the camp of Chloride, which has yielded a great deal of rich ore. The Connor shows a two-foot vein that has assayed \$100 per ton. It is opened by a 100-foot shaft, and has produced \$20,000. The Donohue and the Rodgers, very promising properties, are opened by several shafts, and have turned

out more than \$18,000 each. The Empire carries rich sulphurets, and has produced some \$10,000. The Valley View is a large vein, from four to eight feet wide, with an ore body that averages \$40 per ton. The Schenectady is a two-foot vein of argentiferous galena, the ore going fifty per cent. lead and \$20 silver per ton. This mine is now being worked and regular shipments made to the Benson smelter. The Schuylkill claim, in the same locality, is also producing ore of a similar character, which is forwarded to the same destination. There are a number of other fine-looking prospects in this camp, well worthy of inspection.

Todd's Basin is south of Mineral Park about four miles. There are a number of fine-looking properties which show only a limited amount of development. Among them may be mentioned the Oro Plata, with a tunnel over 100 feet, and a four-foot vein of milling ore going about \$50 per ton. The Todd is a foot-ledge, carrying sulphurets worth \$60 per ton. The Paymaster is a fine-looking property, the vein being three feet in width, and the assay value \$60 per ton. The Todd has lately been sold for a handsome figure, and is being thoroughly opened. The Oro Plata, Prosperity, Paymaster and other claims in this camp are being worked on shares at present. The ore is reduced at the Cerbat mill, and is paying the lessees good wages.

Cerbat camp is seven miles south of Mineral Park. The ores are of high grade, the ledges are regular and well defined, and there is sufficient wood and water for their reduction. The camp has produced a great deal of bullion, but its isolated position has brought mining almost to a standstill. Now that the railroad is completed the work of development is being renewed, and Cerbat is one of the liveliest camps in Mohave.

Many claims which have lain idle for years are being vigorously worked, and a great deal of high-grade ore is being shipped. Some of the richest silver ore ever found in Arizona has been mined in Cerbat, and late developments prove that the supply is by no means exhausted. After many failures and disappointments, the camp has at last entered on the high road to prosperity. Among the ore-producing mines of this part of Hualapai district at the present are the New London, which is opened by three shafts, one being 120 feet, and the others 60 feet each in depth. This is one of the most productive of the lead

mines of Mohave county, the present output being about seven tons daily, which yields from 50 to 60 per cent. lead, and from 25 to 30 ounces in silver. Hoisting works have been erected, the drifts and ore breasts are locking finely, and the claim promises to be a steady bullion-producer.

The Champion is north of the New London. This claim shows a four-foot vein, carrying about twenty inches rich carbonate ore. A quantity of fine ore is now on the dumps, and work goes on steadily. There is abundance of water in the neighborhood, and a smelter will soon be erected on this valuable property.

The Old Stand-by is located on the ridge between Cerbat and Stockton. There is a tunnel on the vein showing in the face seven inches of galena. Some of this ore shipped to San Francisco has yielded \$25 silver and 45 per cent. lead per ton.

The Sixty-three is one of the best-known mines in Mohave. Ore shipped from the claim in the early days yielded over \$200,000. Work has recently been resumed on the mine, and with the most encouraging results. Eleven tons of what was considered second-class ore, worked at the Cerbat mill, yielded \$150 per ton.

The Flores is a gold claim, situated between Mineral Park and Cerbat. This claim has been worked for several years, has paid its way from the grass roots, and yielded over \$30,000, gold bullion. The mine is opened by a tunnel 400 feet in length, and by several shafts, and shows a strong vein over four feet wide. The property has lately changed hands, and is now being thoroughly exploited under the management of Judge J. M. Murphy.

The St. Louis is one of the most valuable claims in the neighborhood of Cerbat. It is a strong and well-defined two-foot vein of rich galena ore. Mr. John Barry, the owner, has shipped over 100 tons of ore from the mine the present year, realizing over \$100 per ton.

The Cerbat is a strong vein of sulphuret ore carrying gold and silver. A 10-stamp mill was erected on this claim, but failed to handle the rebellious ore. It is now busily employed reducing custom ores.

The Fontenoy has yielded over \$30,000. It is opened to a depth of over 100 feet, and shows a two-foot vein.

The Black-and-Tan, Vanderbilt, Bay State, Tulare, and scores of other fine prospects, are in the neighborhood of Cerbat.

Stockton is three miles east of Cerbat, on the wooded slopes of the range above the Hualapai valley, and about seven miles from the railroad at Kingman. The veins are silver-bearing, and the prevailing formation granite. There is abundance of wood, and no scarcity of water. This camp is now the liveliest in the county, and large quantities of high-grade galena are being shipped to Benson, Pueblo and San Francisco.

The I X L, Legal Tender, Franklin, Little Chief, and Indian Boy are being steadily worked, and are sending forward regular shipments that give an average yield in lead and silver of \$100 per ton. These veins will average from two to six feet wide, and show steady improvement as depth is reached.

The Dictionary is situated in the cedars, at the foot of Stockton hill. The owners, in driving a tunnel to strike the ledge, encountered a streak of chloride ore about six inches wide, worth from 250 to 400 ounces per ton. Drifts have been run on this vein which have already exposed over \$20,000 worth of ore.

The Gibraltar claim is yielding ore worth five ounces in gold and 100 ounces silver per ton.

The Cupel was one of the richest veins ever located in Mohave county. Its shipments to San Francisco years ago reached \$150,000. The old dumps of second-class ore are being assorted again, and the richest shipped to Pueblo. It is said to yield over \$150 per ton.

The Tigress, Prince George, Silver Monster, and many more fine-looking prospects are on Stockton hill.

Maynard District is in the Hualapai range, on the east side of the Hualapai valley, through which the Atlantic & Pacific railroad passes. The mountains are covered with a heavy growth of pine, oak and juniper timber, and the water supply is abundant. The ores are a sulphuret, and of high grade. The American Flag is opened by over 2,500 feet of shafts, drifts and tunnels. It has produced over \$80,000 from ore shipped to San Francisco. The vein is not large, but the product is very rich. The Dean is a large ledge carrying sulphuret ore. It is opened by 600 feet of tunnels and 200 feet of shafting. It is now worked on a lease, the ore being shipped to Pueblo. The Antelope is also a strong ledge, averaging four feet in width, and opened by 400 feet of shafting. It has produced \$20,000. There are many more fine properties in this district, which

is only ten miles from the railroad, and has, besides its wood and water supply, a perfect climate.

Hackberry.—This camp is in the Peacock range, about three miles from the railroad. The Hackberry ledge is nearly forty feet wide in a formation of granite and porphyry. The pay-streak is confined to about eighteen inches, which has averaged \$200 per ton. The mine is opened by nearly 1,000 feet of shafting. The property has been idle for several years, but work has lately been resumed and is being pushed forward with a large force of men. The ten-stamp mill is running night and day, producing about \$30,000 per month. The mine has already produced over \$300,000. The mine has long been considered one of the leading properties of Mohave, and under proper management has again become a regular bullion producer. The Hester and the Hackberry South are extensions, and have produced over \$30,000.

Gold Basin is some forty miles north of Mineral Park. The ledges are large, gold-bearing dykes, the ores being of a high grade and free from base surroundings. A five-stamp mill has been put up in the district and has turned out a considerable amount of bullion. Water is scarce, but an abundant supply can be had at the Colorado, some thirty miles away. The supply of ore seems inexhaustible, and with cheap facilities for reducing it, Gold Basin will become one of the most productive camps in the Territory. The Northern Belle, Golden Rule, El Dorado and Indian Boy are among the principal claims.

Owens District.—This district is situated in the southern part of the county, near the line of Yuma. The discovery of the McCracken mine, in the latter part of 1874, created a lively excitement, not only in Arizona but outside of it, and a "rush" ensued to this part of the Territory. The McCracken lode, which cuts across the country for several miles, is one of the great mines of the coast, and wherever opened, shows from five to forty feet in width.

The ores are mainly chlorides and bromides, with some sulphides and galena. In the extent of its ore body the mine has few equals on the coast. A large amount of work has been done, and the fact demonstrated that it is a permanent fissure. For several years the McCracken was one of the leading bullion producers of the Territory, and the yield during the period of its activity reached \$1,000,000. The property is owned by a San Francisco company, who

put up two mills, one of twenty, and another of ten stamps. The cost of supplies and the heavy charges on freight compelled the owners to suspend operations, and for several years nothing has been done.

The Rattan is situated near the old Moss mine, and about eight miles distant from the Colorado river. It is a gold mine, and has a shaft eighty feet, showing two feet of ore which will average \$30 per ton. It is being worked by the owners, who propose erecting a ten-stamp mill on the Colorado river as soon as the mine is further developed.

San Francisco District is in the Union Pass range, ten miles east of the Colorado river. Here is located the famous Moss mine, whose extraordinary richness created such an excitement some years ago. The noted frontiersman, John Moss, after whom the mine is named, was guided to it by a Mohave Indian. The mine has produced some magnificent specimens of gold quartz, and has yielded over \$200,000. It has been worked at intervals since its discovery in 1863, but no attempt at systematic development has been made. Drifts, cross-cuts, and coyote-holes have been run in search of the rich pockets, leaving the larger ore bodies untouched. The ledge will average nearly thirty feet in width, and is said to yield \$10 per ton. With such an immense mass of free-milling ore, and with the water-power of the Colorado, only ten miles distant, this should yet become valuable property.

The mining camp of Cedar Valley is sixty miles east of the Colorado, and about the same distance south of Mineral Park. There is a good supply of wood, and all the veins carry water. The formation is a granite, the ledges being regular and continuous. The ore is a sulphuret of silver. A ten-stamp mill has been put up in the district, and many of the mines show a large amount of development. The camp has produced over \$60,000, with very crude and imperfect appliances for ore reduction, and with careful and intelligent management promises to become a steady shipper of bullion. The Hibernia, Hope, Silver Queen, Arnold and Bunker Hill are the principal mines.

Mohave county, north of the Colorado river, contains some large copper deposits, but owing to their remote situation and the cost of transportation, but little work has yet been done. The Grand Central copper claim is one of the largest of these ledges, being over twenty-five feet wide, with ore that assays twenty per cent. It has been

opened by a shaft eighty feet in depth. This is also a fine grazing region and well timbered; two saw-mills are in constant operation, supplying the towns and settlements of southern Utah with lumber.

Pima county is the oldest mining region of the United States, and before a pound of ore was worked in any other State or Territory of the Union, silver bullion was produced here. At what time the first discoveries were made is a matter of conjecture, but it is known that the Jesuit Fathers opened mines in this region as early as the latter part of the seventeenth century. When the bells of Independence Hall tolled out the immortal Declaration, mining was prosecuted with vigor in this remote corner of the continent, and in the Baboquivari, the Santa Rita, Arivaca and Patagonia, silver bricks were being manufactured, and many mines worked. On the borders of Pima county were found the famous *planchas de plata*, the largest lumps of the pure metal ever discovered. The causes which brought to an ending this prosperous industry in Pima have already been alluded to, and it was not until after the American occupation that it began to revive. In 1856 American capital was enlisted in the development of the rich silver veins in the Santa Rita and Arivaca districts, and the venture was meeting with marked success, when the breaking out of the civil war brought the enterprise to a standstill.

For more than ten years thereafter but little mining was attempted in Pima, and it was not until after the hostile Indians were placed on reservations, in 1874, that operations were again resumed on a scale of any magnitude. The opening of the Southern Pacific railroad gave a marked impetus to mining in this county and throughout southern Arizona. A large amount of capital sought investment, and many valuable claims were opened up. Ignorance and dishonesty in the management of mining properties have done much to retard the advancement of the county, and injured its reputation abroad. But despite these drawbacks, the industry is in a healthy condition, and is steadily advancing. Gold, silver and copper are found in almost every hill and mountain-range. Outside of the Papago country there is abundance of wood and water, and even there a sufficient supply of the latter can always be had by sinking. Granite and porphyry are the prevailing formations, but lime, slate and eruptive rocks occur in

many places. The ores are of high grade, and the ledges generally compact and well-defined.

Quijotoa, "basket mountain," is the name of one of the many detached ranges which cross the western division of Pima county, the home of the Papago tribe. The lofty Quijotoa ridge rises 1,500 feet above the level of the surrounding plains, and 3,800 feet above tide-water. On the north, a low and irregular range of hills joins this lofty landmark, and after maintaining its course for some distance is lost in the level plain. To the south, and connected by a low divide, the south Quijotoa peak elevates its dizzy crest almost to an equal height with its famous brother to the north. Standing in the Santa Rosa plain, on the east, and looking at the "Basket Mountain," it presents the appearance of a towering rocky palisade, buttressed at the base by the falling rock and debris which the work of ages has accumulated. From the plain to the point where rocky walls are encountered it is nearly 1,000 feet, the steep declivity being covered with brush and cactus. Here the frowning and precipitous Quijotoa peak lifts its weather-beaten crest over 500 feet, and on its summit are located the famous mines which have already attained a world-wide reputation. Early in 1883 Alex. McKay, George Teitsworth, Albert Weldon and James A. Rourke were encamped at the foot of this mountain engaged in prospecting some claims they had lately discovered. McKay often gazed at the rocky cliff above them, and at last determined to reach the top. On the sixth of May, 1883, "after four hours of climbing, creeping and scrambling," he stood upon the summit. The view which met his gaze was a grand one. As far as the eye could reach was a brilliant panorama of mountain and plain, lost in the purple haze which marked the horizon. But however much the adventurous prospector might admire the beauties of nature, his immediate surroundings claimed his attention and proved "metal more attractive." He found the entire summit one mass of quartz croppings. Every piece that he broke showed rich silver ore. He explored the mountain from end to end, and guessed it to be over a mile in length and from 150 to 500 feet in width. Filling his pockets with specimens, he began the descent, and reached the camp late in the afternoon. "What luck?" asked Rourke. McKay drew from his pockets the rich ore, which was eagerly examined. "There's a bigger thing

than the Comstock on the top of that mountain," he said, "and if this crowd hasn't got a home stake at last, I'm badly fooled." That night there was not a happier party of prospectors in all Arizona.

A week later the Peer, Peerless and Crocker claims were staked off and recorded, and the discoverers began the work of development. Samples of the ore taken to Tucson assayed as high as \$4,400 in silver. Five tons shipped to the Benson smelter yielded \$2,500. In October W. S. Lyle, of San Francisco, examined the mines, and took a bond on them for \$450,000. December 7th the sale was effected, and the properties passed into the hands of Messrs. Flood, Mackay, and other capitalists of that city. The new owners appointed W. H. Smith superintendent, and since then the work of development has been prosecuted without intermission. Last June the writer visited the camp, and was kindly piloted over the bonanza mountain by Superintendent Smith. At a point called the Otter Slide, on the eastern side of the mountain, we climbed a ladder fastened to the side of the rocky wall, and soon stood upon the southern end of the Crocker claim. Some distance south of this point the Quijotoa ridge terminates in a lofty ridge, named Ben Nevis, as a compliment to the discoverer of this treasure vault who first saw the light in the "land o' cakes."

The croppings on the Crocker are strong and well defined, being in places thirty feet wide. The matrix is a white quartz, and every piece of rock broken showed rich sulphuret and chloride ore. Following the ridge north—covered everywhere with rich float—we reached the Peerless ground. This claim makes a magnificent showing. The grand outcrop attains a width of from 20 to 80 feet. Along the claim openings have been made at different points by the original locators, showing rich ore in every shaft and cut. Broken at any point this immense outcrop shows high grade chloride and sulphuret ore. The amount of ore here in sight is simply enormous, and is in itself sufficient to justify the erection of reduction-works. About midway north on the Peerless another vein joins the main ledge. This smaller vein follows closely the western face of the cliff, is clearly defined, and shows very rich chloride ore. At the northern end of the Peerless claim, owing to a break in the face of the mountain, the main ledge cannot be followed further, but the west vein, already spoken of, holds its reg-

ular course to the northern end of the mountain. The Peer location adjoins the Peerless and takes in the northern end of the peak. Here the mountain is pierced by a cove of deep indentation, about 300 feet long, 50 feet wide and 200 feet in depth. The Peer vein runs along the western side of this opening, which is known as the Horse's Mouth, and at the bottom of which a short drift has been run cutting the vein and exposing a fine body of ore. Along these claims, at different points on the summit of the mountain, open cuts, shallow shafts and cross cuts have been made, every opening showing good ore, the crest of the entire mountain being one mass of silver-bearing quartz.

To thoroughly open this great treasure-vault, the company have driven four tunnels into the rocky recesses of the mountain. The Crocker and Peerless tunnel No. 1 are on the east side. The former will strike the vein at a depth of 200 feet below the croppings, and the latter at a depth of 450 feet. On the west side, Peerless tunnel No. 2 will cut the vein at a depth of 200 feet, while the tunnel on the Peer will tap that vein 400 feet below the crest of Quijotoa mountain. Peerless tunnel No. 1 will be connected with the surface by a winze, as will also the Peer tunnel. From the Crocker tunnel a lateral drift will connect with the winze on the Peerless, and from the Peerless tunnel No. 2, on the west side, drifts of a like character will connect with the winzes north and south, and from that of the Peer will be carried to daylight in the Horse's Mouth. All these drifts will follow the vein. This is an outline of the work which is now being carried forward at the Quijotoa camp. Its completion requires time and labor, and demands a heavy outlay, but when finished this grand treasure-house will be opened in a systematic manner and be in a condition to yield up its long-hidden treasure.

The Crocker tunnel on the east side, struck the vein at a distance of 208 feet from the face of the cliff. The ledge was cut across to the hanging wall, and found to be over 60 feet in width. Very rich ore has been taken from this tunnel, and although the writer was not allowed to visit it, he is informed that 20 feet of the vein is ore that will pay to mill. The walls are smooth and well defined, the ledge having a strike to the west of about 68° . The Peerless tunnel from the east is now in nearly 300 feet and will shortly strike the ore body. Drifting north on the ledge from the Crocker and Peerless tunnels is now being pushed as rapidly

as possible, and the superintendent reports good ore in the face of each. The finding of the ledge at this depth below the outcrop has dispelled any doubts about the permanency of the Quijotoa mines, and the opening of rich ore bodies in this immense vein assures the future prosperity of the camp.

When the development-works now under way are completed and the mines fully opened, it is stated the company will erect reduction-works in the Santa Rosa valley some four miles away. The company have sunk a well at this point, which has reached a depth of over 400 feet and is said to yield an abundance of water. There is a good supply of fuel in the neighborhood, and the ore can be transported from the mines by tramway at very low rates. In fact, the facilities for ore reduction are good; the railroad is only about 65 miles distant, at Casa Grande and Maricopa, and the rich valleys of the Salt and the Gila can furnish flour, grain, fruits and vegetables at reasonable prices.

The properties are owned by five incorporations, known as the Peer, Peerless, Crocker, Weldon and Combination mining companies, organized under the laws of California. Each has a capital stock of \$10,000,000, divided into 100,000 shares, at a par value of \$100 each. The directors for the Peer, Peerless, Weldon and Combination Companies, are James L. Flood, president; — Waterman, secretary; William S. Lyle, is president of the Crocker incorporation, and George R. Wells, secretary. The Peerless incorporation includes besides, the Peerless, the Shield, Good Cheer and Intervenor. These claims are at the foot of the rocky cliff on the east side. In the Peer incorporation are the Peer, the Wide West, on the west side of Quijotoa mountain, and the Ibex, Little Cholla and Horn, on the east. The Weldon properties include the Wadsworth, Cholla, Wedge and Cliff, while the combination company own the mine of that name and the Josh Billings, all on the west side. On the Wadsworth, Josh Billings and Cholla considerable work has been done, and all three claims have produced good ore.

The North Peer Mining Company own the claim of that name, which adjoins the Peer on the northern end of the mountain. A tunnel has been started at the foot of the rocky cliff to cut the vein, and it is expected it will be reached within 100 feet. This tunnel will pierce the mountain much lower than those on the Bonanza claims, and the owners ex-

pect to strike the North Peer 700 feet below the croppings. Besides the North Peer, the company own the Sheep's Nest, North End and Remnaut locations, all at the north-end of the mountain. Ore assaying from \$50 to \$350 has been taken from the North Peer, the vein showing a width of thirty feet. Geo. Hearst is president of the company, and U. Johnson the superintendent. The company have a valuable property, and are developing it in a systematic and careful manner. The ore body is no doubt a continuation of that in the Peer, Peerless and Crocker, the croppings being of the same, and showing ore of a like character. These are the principal mines of the Bonanza camp, but scores of others have been located in the vicinity. Around the base of the mountain every foot of ground is covered by a location, and some of these claims stretch out into the level plains beyond. The country has been prospected for miles in every direction, and some very promising properties have been brought to light. Space will admit the mention of only a few of the most prominent here. The Casa Grande Chief is on the west side of the mountain. The ledge is strong and clearly defined, and it is claimed mill assays have gone as high as \$150 per ton. The Brittle Silver is five miles north of the mountain, and has produced very rich ore. The Emerald is on the west side, and has been opened to a considerable extent. It carries copper and silver.

At what is known as Covered Wells, eight miles north of Quijotoa, a number of small but exceedingly rich veins have been discovered. The Silver Bullion was one of the richest of these veinlets. It yielded \$12,000 from a 15-foot shaft. The Bonanza is a large vein, being over 20 feet in width. There is a shaft on the claim 50 feet deep. The ore is free milling, and is said to average \$70 per ton. This is certainly one of the finest properties in the Papago country. In the gulches and arroyos of the low range north of the Quijotoa peak, placer gold is found in different points, and numerous shallow openings are met with. It is said this region was mined extensively more than a century ago by Mexicans, and a large amount of gold taken out. Scarcity of water is the great drawback, but wells are being sunk, and some parties have introduced "dry-washers," with what success has not been learned.

The Papago Chief is some three miles north of the Quijotoas, and has produced ore worth \$1,000 per ton. The

ledge is large, and the ore free milling. This property is being fully developed. North of the Covered Wells, and near the line of Pinal county, two very fine-looking properties are being opened up. They are named the Spicer and the Maher. The ore in both is remarkably rich. Regular ore shipments are being made, and work goes on steadily on both claims. South-west of the Quijotoa mountain about 20 miles, and near the Boboquivari peak, is a group of mines owned by G. W. Sharp of Florence, some of which are showing extremely well. Of this group, the Silver Queen is the only claim upon which any work has been done. There are three parallel veins in the location having a width of from two to five feet. A 30-foot shaft has been sunk, and a fine body of ore exposed assaying from \$50 to \$1,000 per ton. The ore is chloride and malleable silver, and the veins are encased in well-defined walls of primitive rock.

Empire District.—This district is seven miles south of Pantano station, on the Southern Pacific railroad, and twenty-five miles east of Tucson. The ores are found in a formation of limestone, and are large and rich. The Total Wreck is the leading mine of the camp, and has been one of the foremost bullion producers of the Territory. The ore body will average six feet wide, and has been opened to a depth of 360 feet by an incline shaft, which follows the foot-wall. Levels have been run every fifty feet, and a tunnel from the surface taps the shaft at a depth of 200 feet. The mine is worked through this tunnel. A great deal of stoping has been done, and the mine is thoroughly opened by winzes, cross-cuts, etc. The ore is a chloride, carrying considerable carbonate of lead, manganese and iron, the average mill test being about \$60 per ton. One hundred yards from the hoisting works a fine twenty-stamp mill has been erected. It is furnished with all the latest improvements, and has a capacity equal to three and a half tons per stamp in twenty-four hours. Water is brought to the mill from a spring about four miles away. At this point a pump has been put in place which raises the water 500 feet to a reservoir on the summit of a hill, three miles distant. From this reservoir, which overlooks the mill, the water is conveyed in pipes. During a run of five months the mill produced \$450,000. The Forty-nine claim is about three miles west of the Total Wreck, and on the same lime-belt. It is opened by an incline shaft, 116 feet in

depth. The vein will average eight feet in width. It is of the same character as the Total Wreck.

Arivaca District is about sixty-five miles south of Tucson, and is one of the oldest mining camps in the Territory, having been established long before the settlement of the country by the Americans. It has a delightful situation among the rolling, grassy hills bordering the valley of La Aribac, has a fine climate, and abundance of wood and water. Two or three mills have been erected in the district, but for some cause they are not running at present. The veins are strong and regular, and the ores of good, high grade. There has been a good deal of mismanagement in this camp, and to this cause more than to anything else must be attributed the present condition of affairs.

The famous Cerro Colorado is about ten miles north of Arivaca. It was one of the first mines worked by the Americans in Arizona, and has produced over \$2,000,000. At the breaking out of the Civil War the Apaches destroyed the buildings and hoisting works, and compelled the abandonment of the property. Large quantities of ore have been stolen from this mine by the Mexicans, and it is said the town of Saric, in Sonora, was built up on the proceeds of the plunder. There is a large number of patented mines in the district, upon which considerable development has been done. Among the most prominent are the Arizona Consolidated, with a 200-foot shaft; the Arkansas, with a shaft 150 feet and a four-foot vein of chlorides and sulphurets of silver. The Black Wonder is near the Cerro Colorado, and is a strong vein showing high-grade ore.

The Albatross is one of the most promising mines in Pima county. Several shafts have been sunk on the property, the deepest being 120 feet, showing an ore body from five to twelve feet in width at the bottom. There is an adit level on the vein which connects with the shaft at a distance of 195 feet. There are between 300 and 400 tons of high-grade ore on the dumps. The ore is a chloride carrying gold, the average being \$88 in silver and \$34 in gold. In the Baboquivera range, west of Arivaca, there is a number of fine prospects, assaying from \$50 to \$100 per ton, silver.

Oro Blanco.—This district is seven miles south-east of Arivaca, and contains many good mines. The ores carry silver and gold, and there is abundance of wood and water

for reduction purposes. The Esperanza is one of the leading mines of the camp. It is a strong vein carrying high-grade ore, and is now being thoroughly developed. The ore is being reduced at the Orion mill, and is paying handsomely. The San Jose is opened by 400 feet of shafts, drifts and tunnels. The ledge is nearly 100 feet wide, the ore occurring in seams. Some of this ore has assayed as high as \$5,000 in silver per ton. Over \$10,000 has already been taken out, and the work of development is being pushed steadily. The Yellow Jacket has been opened to a depth of 120 feet, showing good ore all the way. A cross-cut on the eighty-five foot level shows the vein to be twenty-five feet wide. The mine has produced over \$25,000. The Old Stiff has produced 100 tons of ore, which yielded at the rate of \$100 per ton at the Arivaca mill. As yet but little work has been done on this property. The Montana is an immense vein, 100 feet between walls, and is opened by several hundred feet of drifts, shafts, etc. The St. Patrick has over 100 tons of ore on the dump, estimated to be worth \$100 per ton. The Warsaw is a vein from three to four feet wide. The ore has worked \$80 per ton, and the mine has produced over \$30,000. The Nil Desperandum shows a strong vein of free gold, that has yielded \$40 per ton. The Ostrich, Wateree, Herman, Idaho and California are all fine prospects.

Harshaw District.—This district is about seventy miles south-east of Tucson, in the Patagonia mountains, and was one of the most active camps in the county two years ago. The Hermosa mill was then running and the mine being worked. It is estimated this property has produced over \$700,000. The mill is idle at present, but some work is being done in the mine. The ledges of this district are large, and the ores generally easily reduced. With plenty of wood and water and large bodies of milling ores, Harshaw must again become a prosperous camp. Washington Camp is nine miles south of Harshaw, and has a delightful situation in a heavily-timbered region overlooking the valley of the Santa Cruz. The ledges are large, but the ores are low grade, carrying a heavy percentage of lead. There is abundance of water at the Santa Cruz, four miles away.

The Old Mowry mine is in this neighborhood, and was worked extensively before the breaking out of the war, employing, it is said, at one time over 400 men. The Apaches destroyed the buildings and reduction-works, and all that

remains of a once prosperous camp is the tall brick chimney, which yet stands a monument to the energy and enterprise of Lieut. Mowry. A great deal of development has been done here, and several attempts made to work the ores, but owing mainly to bad management these ventures have not proved a success. But the opening of the Arizona and New Mexican railroad has considerably lessened the cost of material, and no doubt many of the mines now idle will start up. The leading mines are the Davis, opened by several shafts, Belmont, San Antonio, Holland, Blue Jay, Grasshopper, and scores of others.

Cababi District embraces a large area of the Papaguera. It has produced some exceptionally rich ore, large quantities of which were packed on mules to the reduction-works in northern Mexico before the American occupation. The Pichaco mine was worked many years ago by Mexicans, and afterwards by Americans. It is said the mine has produced nearly \$500,000. This ore carries silver and copper, native silver occurring in considerable quantities. The mine has been opened by several shafts, and is now owned by a company who intend to put up hoisting-works at an early day. The Kun Kau is an old gold mine near the Pichaco. There are at present over 100 tons on the dump, worth \$100 silver, and \$25 gold. El Cantivo, Santa Tomas, Copeska and Cabriza are in this district, and are all promising properties.

The Mountain Chief is also an old mine worked years ago by Mexicans. It has been opened to a depth of 120 feet, showing a two-foot vein assaying as high as \$250 per ton.

The Fernandez has been lately purchased by a St. Louis company, who are pushing work on the property.

The Hercules is on the west slope of the Comobabi, the northern portion of the Cababi range. It is one of the finest-looking properties in western Pima. The vein is enclosed in a porphyry formation, and has yielded ore worth \$8,000 per ton. This claim is being steadily worked, the shipments to the Benson smelter averaging \$250 per ton.

The ruins of many old smelters and the remains of *arrastras* are found in the Cababi district, showing that this was once a prosperous mining camp.

Myers District.—This camp is in the heart of the Papago country, 120 miles west of Tucson, and on the line of the proposed road to Port Lobos. Some very high-grade ore has been found, but outside of the Gunsight little

work has been done. A shaft has been sunk on this mine to a depth of 380 feet, when water was encountered. The ore body is large, but the grade is not high. The Eastern, Silver Girt, Crescent, Glance, Southern Belle and Keystone are very flattering prospects, but show very little development.

Silver Bell District has many fine copper properties, upon some of which a great deal of work has been done. The Young America Copper Company have a twenty-ton smelter, which is kept steadily at work and has already turned out a large quantity of bullion. The Blue Coat, Old Boot, Navajo, Aztec and Young America have been patented. The Abbie Waterman in this district is a large body of carbonate ore. The owners are now making arrangements to ship this ore to the Benson smelter.

Old Hat District.—This camp is in the northern end of the Santa Catalina range, thirty-five miles from Tucson. It has an abundant wood and water supply and a charming situation. On the Ada, a five-stamp mill has been erected. The Bonanza is a large vein opened by two tunnels; it carries gold and silver. The Braganza has produced ore worth \$300 per ton. The Old Hat, Bandit, American Flag, Palmetto, Pioneer, Lookout, Black Bear and many more are located in this neighborhood.

The Helvetia camp is on the eastern slope of the Santa Ritas. It is well supplied with wood and water, and contains some rich placer claims. It has also some large copper deposits, which are being worked successfully. On the Omega claim a smelter has been erected, and, although in operation but a short time, has produced a considerable amount of bullion. The ores are high grade and easily reduced. The Blue Jay mine is on a spur of the Santa Rita mountains, twenty-five miles south-east of Tucson. The claim is owned by an eastern company, is opened by over 800 feet of shafts, drifts and tunnels. The ore is a carbonate and occurs in blue lime. The main vein, 200 feet below the surface, shows three feet of ore, assays from which have gone as high as \$100 per ton.

Tyndall District.—The mines of this district are situated south of the high peaks of the Santa Rita mountains, sixty miles south of Tucson. The mines are favorably located near the Santa Cruz river, and there is plenty of wood close at hand. The camp has suffered much from bad management and unscrupulous speculation. The bonanza mines,

known as the Dayton, Mills and Tizwin, have shafts from 50 to 100 feet in depth, and carry gold, silver and copper. The California claim is a very promising property, and shows some magnificent ore. The Congress of Beauty, Thunderer, Delta, Bradford, Sandwich, Magnolia, North Star, and a large number of other promising properties, are in this district.

The Aztec district may be considered a continuation of the Tyndall. The ore bodies are large and regular, but not so high-grade. Among the claims deserving mention are the Missouri, General Craig, Montezuma, Empress of India, Old Salero Mine, Rosario, Toltec, Coronado, Santa Rita and Yuma. Some thirty-five miles west of Tucson, in the Sierritas range, is the Saragossa mine, which is developing into a very fine property. The ore is sulphurets and chlorides carrying silver and copper. The claim is being thoroughly opened, and there are over 300 tons on the dump, worth \$100 per ton.

Yuma County.—The history of mining in Yuma county begins with the discovery of the placers at Gila, twenty-five miles east of the Colorado, by Col. Snively, in 1858. The diggings were found to be rich, but a scarcity of water has prevented their profitable working. The first mining north of the Gila by Americans began at La Paz in this county, in 1862, and has been carried on with varying success ever since. From this placer ground and from the dry diggings along the Colorado it is estimated that over \$2,000,000 has been taken. With the decline of the placers, valuable deposits of silver ores have been found in the ranges bordering the Colorado. Many of these discoveries are proving to be among the most valuable in the Territory. Gold, silver, copper, lead and all the minerals found in other parts of Arizona exist in Yuma county; and on the gravelly *mesas* along the Colorado, beautiful specimens of opal, blood-stone and agates are found. In the variety, richness and extent of her mineral deposits, Yuma will compare favorably with her sister counties, and like them, all that she requires is capital to develop them.

Castle Dome District is situated twenty miles north of Yuma and sixteen miles east of the Colorado, surrounding the lofty natural "Dome" after which the range has been named. These mines were discovered by the eminent geologist Prof. Blake, in 1863, but owing to Indian hostilities, work was not begun until 1869. Since then they have been

sending out bullion almost continuously, and have proved to be among the most valuable mines in the Territory. Although the grade is low, their proximity to the Colorado and the cheap rates of freight to San Francisco have made them yield a handsome profit. These mines have produced over \$2,000,000.

Silver District.—This is the leading mining camp of Yuma county, and was discovered about sixteen years ago. The early discoverers abandoned their claims after doing a little work, and they remained undisturbed until about five years since. At that time, George Sills, Neils Johnson, George W. Norton and Gus Crawford relocated many abandoned claims and organized the district. Since then many valuable discoveries have been made, several important sales consummated, and a great deal of work done. The camp is five miles east of the Colorado river, and about forty miles above the town of Yuma. The formation in which the veins are found is mostly granite and porphyry. The surface of the country is covered in many places with volcanic debris, and a conical-shaped peak in the northern end of the district has evidently been at one time an active volcano. The croppings on nearly every ledge in the camp show the action of the fiery flood, while the hills and rugged mountains bear evidences of the same eruptive agencies.

The ores are principally carbonates and chlorides. There is also considerable argentiferous galena. The ore is found in combination with spar and quartz, with large quantities of iron. The veins are wide and well defined, and maintain a regular course—north-east by south-west—across the country. Outside of Tombstone there is no other district in the Territory that can show such immense ore bodies, and few that are so regular and continuous. There are four well-defined ore channels in the district, separated by rocky ridges, and known as the Red Cloud, the Princess, the Nine Mile and the New York ore channels, running parallel, and lying in the order named from the river.

The Red Cloud is the principal mine in the ore channel of the same name. It shows an immense outcrop, and has been sunk upon to a depth of 150 feet. From the croppings over \$30,000 in black metallic silver was taken by the discoverers. This fine property passed into the hands of an eastern company, who put up a smelter to reduce the ores. The venture proved a failure, as the ores cannot be treated by that process. The mine was wretchedly handled,

and is now lying idle, a monument to ignorant and incompetent management. But it cannot long remain so, for it has intrinsic merit and will yet become a steady bullion producer.

The Black Rock is south of the Red Cloud, and is another immense dyke, showing a hill ore over 150 feet wide. It has been opened by several shafts, one of which is over 450 feet in depth. The property is owned by an eastern company, who paid \$135,000 for it. They put up a furnace on the Colorado, and made an effort to smelt, only discovering, after having gone to heavy expense, that the ores are milling and not smelting. The property is now idle, but there is no reason why it should continue so. There is abundance of ore, which with proper treatment can be made to pay. When the mine is conducted by men who thoroughly understand their business, it will become a profitable proposition. The Iron Cap, Remnant, Silver Glance, Pacific, Nellie Kenyon, and many other locations are on this ore channel. Several of them have been opened by shafts from 50 to 200 feet in depth. The ore bodies are large, though not of a high grade. With proper concentrating works they could all be made to pay handsomely; and, in fact, there is no better opening for such works in any district in the Territory.

The Princess ore channel is about a mile eastward of the Red Cloud. The Princess is a fine-looking claim, which has been sunk upon to a depth of 100 feet. The Caledonia is down 100 feet, and carries large quantities of rich galena. The Yuma Chief, Hamburg, and many other encouraging prospects are on this channel.

The Nine Mile channel is about one mile and a half east of the last-named ore belt. It embraces the Klara Group and the Great Western, Silver Brick, Camel's Teat, Rooster, Mandeville, Empire, Klara, No Name, Lost Mine, and many more. These claims are all on one immense ledge, which holds a straight course across the broken country for miles. The Klara is over thirty feet in width, and assays forty ounces to the ton in silver. But little development has been done on this great silver belt. Every claim thus far sunk upon has improved with depth.

Still east of the last-named group is the New York ore channel. The principal mine in this group is the Clip. It is opened by several cuts and by a tunnel, from the end of which drifts have been run on the vein. The ledge is

from four to six feet wide, and is principally a chloride of silver. A ten-stamp mill has been put up on the banks of the Colorado, ten miles away, and the ore hauled thither for treatment. Under careful management the mill has been a success from the start and has paid handsomely. Work is carried forward steadily and there is no decrease in the size or richness of the ore body. The success achieved by the Clip Company shows what can be done with intelligent and economical management. Although the exact figures are not at hand, the output of the Clip Mill for 1883 was over \$160,000. There are a score of other mines in Silver district which only require proper handling to make them steady producers of bullion.

Hacucar District.—This camp is in the north-eastern corner of Yuma county, and about sixty miles east of the Colorado. The veins are copper, the ore being of a high grade. Water is not plentiful, but there is a good supply of wood. Work is being carried on in the district on the following mines: Emperor, Regent, King, Queen and Prince. As far as developed these properties are looking well, and some exceedingly rich ore is being taken out. These claims are showing remarkably well; they are large, well defined and easy of access. Negotiations for a sale are now pending, and a prosperous camp is sure to spring up here.

Bill Williams Fork.—This is the oldest copper district in northern Arizona, and has shipped over 6,000 tons of copper ore to San Francisco, which has yielded from twenty to sixty per cent. The Planet, the principal mine, was discovered in 1863, and has been worked at intervals ever since. The Centennial and Challenge are also fine properties. The Copper King is twelve miles south of the Planet; the vein is a strong one being 30 feet in width. The ore, it is said will average 16 per cent. The owners are now at work on this fine property.

Centennial District.—This district is in the eastern portion of Yuma county, and about sixty miles over a good natural road from Agua Calient station on the Southern Pacific railroad. The ledges are principally gold-bearing, but they carry silver and copper. The rolling hills in which the mines are found are covered with grass, palo verde and mesquite wood, and an abundance of water can be had by sinking. The veins are large and well defined, in a formation of granite and porphyry. The Oro Mining Company expended over \$40,000 in putting up a mill and

opening mines, but their treatment of the ore could not save the gold. The Snow-bird is a large vein carrying quartz that goes \$20 per ton. The Yuma ledge is six feet wide and averages \$16 in gold. There are many other fine prospects in this camp.

Maricopa County has been looked on as an agricultural and not a mining region. While true to some extent, it yet contains some of the richest mines in the Territory, and almost every mountain range bordering the great Salt river valley is seamed with precious metals. There is no county in Arizona which offers superior advantages for the prosecution of mining enterprises. The rich valley of the Salt produces in abundance everything in the way of provisions, which can be had at reasonable prices, and the roads leading to the railroad are among the best in the country.

The Vulture mine is situated in the north-eastern portion of the county. It is the largest and richest gold mine yet opened in Arizona, and has a reputation all over the coast. The mine was discovered in 1863, by Henry Wickenburg, and operated almost continuously up to 1873, when the work was suspended. During these long years of Apache domination, the mine shipped over \$3,000,000 in gold, and its stamped bars of the royal metal were current all over central and northern Arizona. It was the only mine in the Territory that kept up the reputation of the country abroad and sent out its regular shipments of bullion. But bad management finally caused a stoppage, and for years it remained idle. Five years ago the property passed into the hands of the Arizona Central Mining Company, and since that time has been worked continuously and profitably.

The new company brought water in iron pipes from the Hassayampa, sixteen miles distant, and have erected an eighty-stamp mill at the mine. By this arrangement, large quantities of ore which would not pay when the reduction-works were at Wickenburg now yield a handsome profit. The ledge crops out on a low hill, and has been thoroughly opened by shafts and open cuts. A deep pit excavated on the surface shows the ore body to be nearly 100 feet wide. The vein is inclosed between a hanging-wall of porphyry and a foot-wall of talcose slate. The ore is hoisted on cars from an incline shaft, and dumped before the batteries. With the present appliances it is calculated the ore can be extracted and milled for \$2.50 per ton. As no information

can be had from the superintendent, the present yield cannot be given, although it is supposed the ore averages from \$4 to \$6 per ton. The mill reduces about 200 tons every twenty-four hours. The Vulture has produced some wonderfully rich gold ore, and no doubt will continue to yield for many a year to come.

Cave Creek.—Thirty miles north from Phoenix, in the foot-hills of the Verde mountains, there is a group of mines which give promise at no distant day of becoming valuable properties. The country rock is slate and granite, the ledges are of good size and have every appearance of permanency. They carry gold and silver.

The Red Rover gives promise of becoming a most valuable property. It is opened by tunnels and shafts to a depth of over 200 feet, showing in the deepest workings a vein over three feet wide, worth fully \$100 per ton silver. The ore is a chloride carrying horn and metallic silver, some of it running as high as \$5,000 per ton. Several shipments made to San Francisco have yielded over \$500 per ton. The ledge shows well-defined walls. There is abundance of wood and water in the vicinity. Negotiations are now pending for the sale of this valuable property to San Francisco parties.

The Old Rowe mine shows a ten-foot vein of gold quartz. There is considerable surface work done, and \$20,000 have been taken out by the *arrastra* process.

The Ithaca Consolidated Co. owns the Mexican, Hicks, Boss, Spring, Bonita and Monarch. The Mexican shows four feet of gold quartz, assaying from \$10 to \$200 per ton.

The Carbonate Chief has a shaft 75 feet, showing a vein over 10 feet in width at the bottom. The ore is a galena, running from \$30 to \$100 in silver and \$15 gold per ton.

The Rackensack shows a two-foot vein of exceedingly rich quartz and has yielded over \$10,000 by the *arrastra* process. The Golden Star has had a mill erected on it and has produced over \$20,000. The Lion is also a fine prospect, showing a three-foot vein quartz from which over \$10,000 has been taken. The Hunter's Rest, Chico, Maricopa, Catherine, and many other very promising claims are to be seen in Cave Creek district.

Winnifred District is about fifteen miles north of Phoenix. The ledges are a gold-bearing quartz, and some of them have produced very rich ore. A five-stamp mill was erected on the Grand Canal to reduce the ores from the

Union mine, but by some disagreement among the owners the enterprise was abandoned. The rock worked yielded over twenty-five dollars per ton, and there is over three feet of it. The Scarlet, Gila, Monster, Red Dog and San Diego, all show good ore. North-east of Cave creek, on the head of New river, a tributary of the Agua Fria, a group of ledges have been lately discovered which show remarkably rich ore and promise to become valuable. What is known as the Holmes claim is the most prominent. It has been opened by two shafts, each 100 feet, and shows a strong vein as far as explored. The ore carries silver and gold, some of it assaying into the thousands. Those claims are supposed to be in Yavapai, near the boundary of Maricopa.

Although no important discoveries of gold, silver or copper have yet been made in Apache county, it has what is equally as valuable, vast measures of coal. Next to Pennsylvania, there is probably no such immense deposit on the continent. This coal region embraces the northern division of Apache and that portion of Yavapai north of the Little Colorado. This coal belt also extends into New Mexico on the east and Utah on the north. It is estimated that the area covered by these great beds is equal to half the area of the coal-measures of the United States. Mr. C. P. Stanton, a competent geologist who visited the fields, writes as follows:

“Close to Fort Defiance a vein exists nine feet thick, and it seems to possess all the qualities of excellent bituminous coal and to rank next to anthracite for domestic purposes. * * * I see no reason why it should not be pre-eminently useful for generating steam and for smelting ores. * * * This description will apply to all the coal in the great Arizona coal basin. * * * The next great bed of coal encountered is situated about twenty miles north-west from the Moqui villages, and close to the northern verge of the Painted desert. * * * It is twenty-three feet thick, and boldly crops out for a distance of three miles. This coal is close, compact, and close-burning; melts and swells in the fire, and runs together, forming a very hot fire, and leaves little residuum. It resembles in external appearance the Pennsylvania bituminous coal. * * * The trend of the coal beds is north and south, and overlying this great deposit is drab clay, passing up into arenaceous grits, composed of an aggregation of oyster shells, with numerous other fossils

which must have existed in this great, brackish inland sea about the dawn of the tertiary period, probably in the eocene age." The Atlantic & Pacific railroad passes a few miles south of this deposit in New Mexico, and the company are finding it an excellent fuel for their locomotives. But the main belt is nearly fifty miles north of their line. The coal in this vast basin is practically inexhaustible; and there is here the motive power to supply the mills and furnaces of the United States for ages to come.

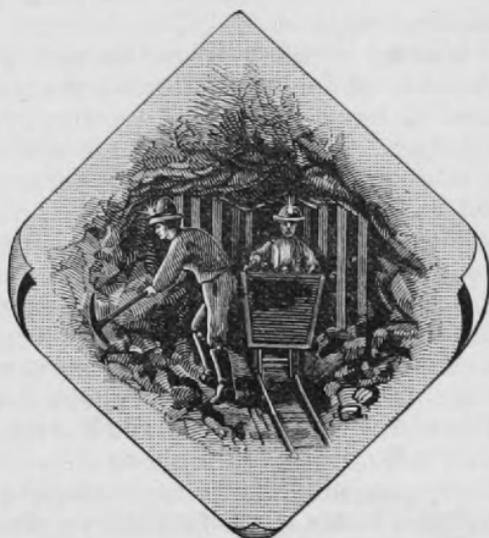
On Deer creek, a tributary of the Gila, in Pinal county, bituminous coal of an excellent quality has been discovered. The extent of the deposit is about four miles long by two miles wide. The veins are from three to eight feet thick. The coal makes excellent coke, and for domestic purposes is said to be unequalled. The late survey of the San Carlos reservation brings these coal beds within its limits. The work of development has been stopped, and the discoverers, who have expended labor and money on their claims, have been forcibly dispossessed by United States troops, and this valuable property given over to a horde of worthless savages. These coal-measures will yet become a necessity for the reduction of ores, and it is not likely they will long be allowed to remain misappropriated by a band of Indians.

Large deposits of salt are found in different parts of the Territory. Along the Salt river cañon, in Gila county, there are a number of bluffs from which salt oozes through the rocks and crystallizes. A small creek whose waters are heavily impregnated with salt flows into the river near those bluffs. It has its source in a spring about three miles north of the stream. The river above this point is clear and sweet, but after passing through this salt deposit its waters become impregnated with the saline matter and have a brackish taste. This salt is of an excellent quality for all domestic purposes, and will no doubt yet be utilized for dairying and stock-raising. There are also large salt deposits in the neighborhood of Fort Verde, Yavapai county. This salt contains quantities of soda and magnesia, and is used largely by stock-growers.

Besides the mineral deposits here described, there are many other rare and beautiful varieties, which to treat in detail would require a volume. Mica is found in every county in the Territory, and some very clear and beautiful sheets are frequently encountered. In the Tonto Basin,

near Salt river, there are large deposits of asbestos; the fibers are long, white and of a delicate texture. No attention is now paid to the article, but cheap transportation will yet make it valuable. Iron exists in all parts of the Territory, and some very fine deposits of hematite are found in Gila county. Beds of fine, clear alabaster have been discovered in the Graham mountain, and marble of a fine quality is encountered in the Santa Catalina range. Antimony assaying eighty per cent. has been located in the Chiricahuas, and tellurium has been found in the Sierra Prieta.

Turn where we will throughout the length and breadth of this mineral domain fresh surprises await us. A soap mine is the latest discovery. It is located in the Patagonia mountains; is a soft, greasy stone, said to make an excellent substitute for the manufactured article in removing dirt and grease from cotton and linen fabrics. Although tin has not yet been discovered, many a sanguine prospector believes it exists and he will be the lucky one to find it. Petroleum has been struck near the Apache county coal-fields, and boring for oil yet promises to become a profitable industry in Arizona.



CHAPTER IX.

SCHOOLS AND CHURCHES.

FOR the immigrant with a young and growing family there is no question of more importance than that of public education. Before he severs the ties to which years, and perhaps generations, have bound him, and seeks a new home in a new land, he ought to be assured that his children will have the benefits of the public-school system, and the facilities for acquiring an education—the birthright of every American. And it is an indisputable fact that to those states and territories where the public school flourishes the tide of immigration sets with a strong and steadily increasing volume.

The unpretending country school is one of the leading factors in the civilization and development of the Great West. Around it have grown up society, order, law and general prosperity. Where once it is established, there progress has built a citadel which marks her supremacy over ignorance and barbarism. The community that rears the modest temple to learning is ever in the advance on that road which leads to the highest mental and material development. The foundations for its future prosperity and happiness are laid upon the rock of Intelligence, and the structure raised shall last until time shall be no more.

Wherever the American pioneer has gained a foothold on the distant frontier, free public schools have taken root and flourished; and from these humble fountains of knowledge, many of the foremost men of the republic have quaffed the draughts that have made them famous in after life. The Western States and Territories are not behind their eastern neighbors in their devotion to free education; and although they cannot boast of their splendid facilities for

obtaining the highest culture, yet they afford every child, poor or rich, an opportunity to acquire a good English training.

In nothing does the liberal, progressive and enlightened spirit of the people of Arizona manifest itself so strongly as in their public schools. Believing in the axiom that in free schools rests the safety of republican institutions, they have laid broad and deep the foundations for public instruction, and take a pardonable pride in the success which has attended their efforts. The early settlers who planted the standard of civilization in this remote region were a good type of the intelligence, enterprise and daring of the western pioneer. They had the honesty, the courage, the unflagging energy, the innate love of justice and fair play, the native good sense and intelligence, and all the rude but sterling virtues native and to the frontier manner born. Although most of them were attracted to the promised land of the south-west by the reports of its wondrous mineral wealth and expected only to remain long enough to unearth some hidden bonanza which would bring them riches and rest for the remainder of their days, yet they were not unmindful of the duties they owed to those who should come after. The seed which they planted has borne good fruit. The school-master is at home in the land; in every remote settlement, farming valley and mining camp the modest country school-house raises its head, a noble monument to its founders, and the pride and glory of the Great Republic.

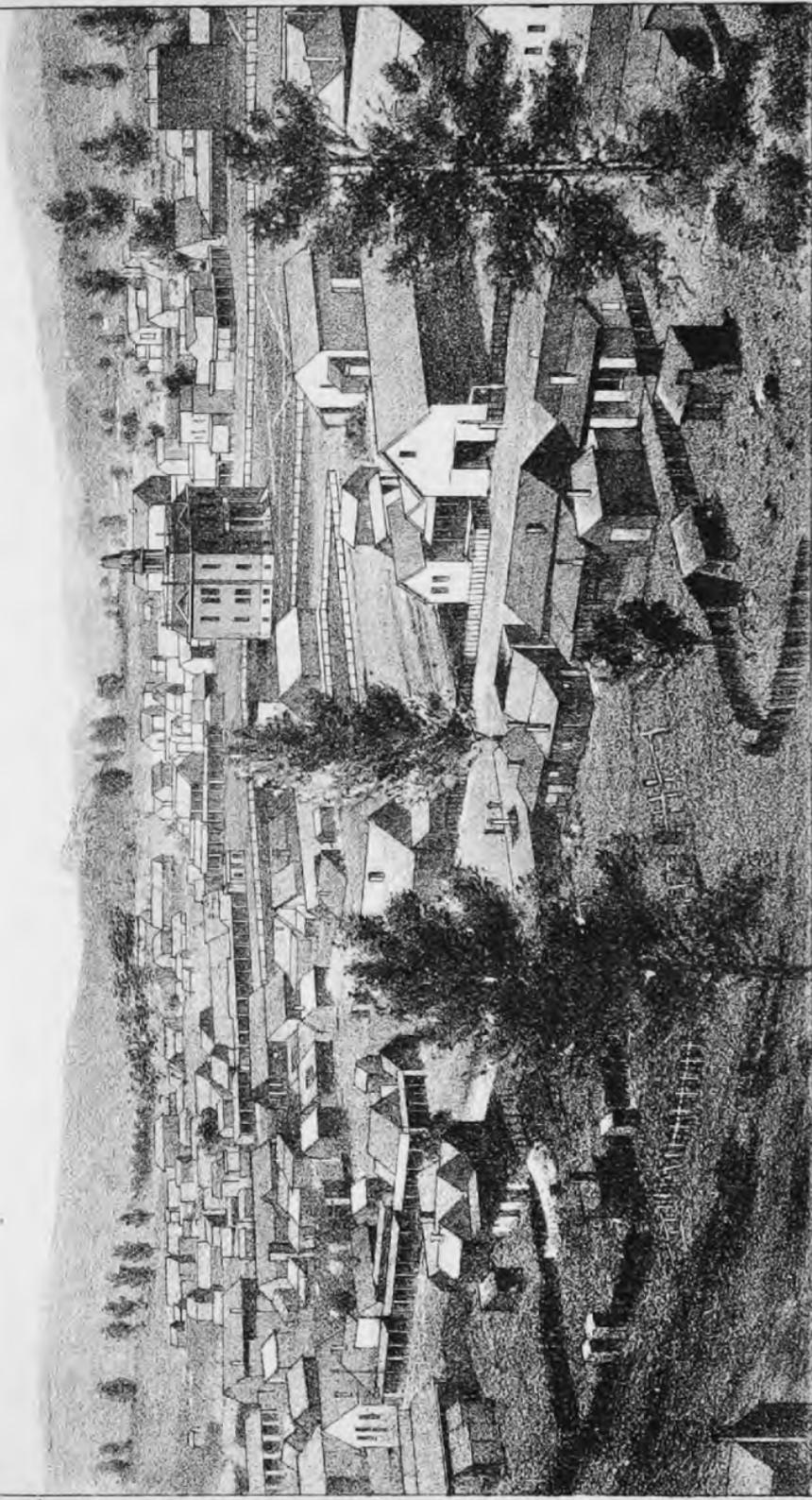
It is said, and with truth, that the western pioneer first builds a school-house and afterwards a church. This will hold good in Arizona, and long before churches were considered at all necessary, schools were established in different parts of the Territory, supported by private contributions. To the mission fathers must be given the credit of introducing schools in what is now Arizona Territory. While being taught the truths of Christianity the neophytes were also instructed in the rudimentary branches of secular knowledge. But the sacred and profane branches were so mingled that it was difficult to say where the one began and the other ended. As may be imagined, the instruction was mainly of a religious nature, but its effects were good and the fruit it bore lasting. After the abandonment of the missions and up to the time of the Gadsden purchase there was not a school or educational establishment of any

kind within the Territory. During these long years a mental and material darkness brooded over the land, and ignorance and savagery held joint sway.

The first regular educational establishment was opened by the sisters of St. Joseph, in Tucson. For years this was the only school in the Territory, and from many isolated towns and settlements parents sent their children to the Academy of St. Joseph. Although the institution was under the control of the Catholic Church, and the instruction given partook somewhat of a religious character, yet no discrimination was shown by the good sisters. The children of poor people of all denominations who were unable to pay for tuition were received and taught gratis. So apparent were the benefits conferred on the people by this school—which is yet in a flourishing condition—that the legislature at the session of 1877 voted it \$300 out of the Territorial treasury.

It was not until the year 1868 that public schools were established. At that time the population was less than 10,000, and was scattered over a vast extent of territory. Owing to these causes and the lack of funds their growth at first was slow, but as population increased new school districts were established and revenues augmented. Congress, by an act dated February 18, 1881, has set apart seventy-two sections of the public domain in Arizona for university purposes. This land has been located in the San Francisco mountain country, is heavily timbered, and should yet be a considerable source of revenue to the schools of the Territory. The government has also granted one section of agricultural land in each township for the maintenance of public schools. The public schools of Arizona are maintained by a direct tax, levied on all property.

According to the new school law framed by the Legislature of 1883, a Territorial tax of fifteen cents upon each one hundred dollars of taxable property is collected annually for school purposes. A county tax of not more than eighty cents on each one hundred dollars of valuation is also imposed for the same purpose. The schools are under the control of a Superintendent of Public Instruction, at a salary of two thousand dollars a year, and the Governor and Territorial Treasurer, who form a Board of Education. The Superintendent is required to visit the schools of each county at least once a year, and he receives



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\$500 annually for traveling expenses, and a like amount for printing, stationery, etc. He also apportions the school moneys among the several counties, according to the number of children of school age in each, and is the executive head of the public school system of the Territory.

The Probate Judge of each county is *ex-officio* Superintendent, and exercises a general supervision over the schools in his county, making his reports to the Superintendent of Public Instruction. Each school district is under the control of a Board of Trustees, consisting of three members, elected by the qualified electors of the district, including women, who have the right to vote for these officers. The Trustees provide school-houses, employ teachers, prescribe rules, and do all other things required for successfully conducting the schools under their charge. A Census Marshal is appointed for each district, who makes a proper enumeration each year of the number of children between the ages of six and twenty-one, in his district, and on which census the apportionment of the public moneys to each county, is based. The school year begins on the first day of September and ends on the last day of August, and is open for all children between the ages of six and twenty-one years. The course of study embraces the following branches: Reading, writing, orthography, arithmetic, geography, grammar, history, physiology, drawing, chemistry, elements of book-keeping and such other studies as the Territorial Board of Education may prescribe. No books, tracts or papers of a sectarian character are allowed to be used or introduced in any public school of the Territory, and any school under the control of any religious denomination or teaching any sectarian doctrine is not entitled to receive any portion of the moneys set apart for public instruction.

The law of compulsory attendance is in force in Arizona, but owing to the condition of the country and the long distances between settlements its provisions are a dead letter. According to the report of the Superintendent of Instruction, the total receipts from all sources for school purposes in Arizona for the year 1882, amounted to \$101,967.35, and the expenditures for the same period \$98,267.93, showing a balance on hand of \$3,699.42. The same report gives the total number of children of school age in the Territory at 10,283; and the whole number of

teachers employed at 126. The number of school districts in the several counties is as follows:

Yavapai county.....	29
Pima ".....	10
Cochise ".....	11
Apache ".....	15
Maricopa ".....	10
Graham ".....	6
Pinal ".....	7
Gila ".....	3
Yuma ".....	3
Mohave ".....	3
Total.....	97

The total valuation of school property in the Territory for the same year was \$116,750.50. As population increases, new districts are being constantly organized, and there is scarcely a camp or settlement in any portion of the country without a school for at least three months in the year. Tucson has lately erected the largest and handsomest school building in the Territory. It is an imposing brick structure two stories high, and fitted with all the improved appliances of the modern school-room. It is an ornament to the city and a credit to the enterprise and public spirit of its inhabitants. Prescott and Phoenix have also large and commodious public school-houses. They are built of brick, and are among the most noticeable buildings in either city. Tombstone, Globe, Florence, Yuma, Clifton, Flagstaff, and other leading towns are well provided with educational facilities. Competent teachers are employed, at an average salary of \$75 per month, principals in the larger schools being paid much more. A Territorial university is projected, and no doubt will soon be an accomplished fact. Considering the many obstacles to be overcome and the scattered condition of the population, it must be acknowledged that Arizona makes a good showing for free education. Realizing that nothing helps so much to attract the most desirable class of settlers as public schools, the legislature have acted with wisdom and liberality in making ample provision for their support. There is no Territory with a better school law; and even many of the older States might copy some of its provisions with benefit to their people. Though far distant from the great centers of culture and refinement, the citizens on this south-western frontier will compare favorably in intelli-

gence with any like number in the United States. Arizonans are a reading people; and beneath the rough exterior of the humble prospector will be often found the gentleman of finished education and bright attainments. The immigrant with a family to educate who thinks of settling in Arizona will find here as perfect school facilities as exist in the west. In every town, village, farming settlement and mining camp the people are keenly alive to the blessings of the public-school system, and are liberal in its support. It has taken a firm root in the soil, and will grow and prosper as the country advances in wealth and population. Although but yet in its infancy, it has done much good, and gives promise of incalculable benefits in the future. A country that maintains and fosters it is on the high road where culture and progress walk hand in hand with prosperity.

Although Arizonans have not been considered a church-going people, yet the number of churches in the Territory and the liberal manner in which they are supported would go to disprove this idea. The cheap wit which has been indulged in on the wickedness and depravity of the old residents is hardly borne out by the sight of handsome houses of worship in all the principal towns. If churches and schools are the criterion of a people's intellectual condition, then surely does Arizona compare favorably with older and more pretentious communities. The tasteful edifices which are springing up in every town show that the people have brought with them to this remote region an attachment for that Christian civilization in which they were born and nurtured. Arizonans are a liberal people, and care very little what a man's religious opinions may be providing he does not intrude them upon his neighbors.

As has been stated in another place, the oldest house of worship in the Territory is the church of San Xavier del Bac, nine miles south of Tucson; it is also the most interesting; and around its spacious aisles and lofty galleries cluster many associations linked with the history of Arizona. Religious services are held in the old pile regularly every Sunday, the congregation being made up principally of Papagos. These Indians still cling to the faith first taught them by the Jesuit and Franciscan fathers, and their religious duties are observed with a strictness and devout attention in marked contrast with the indifference of their pale-face neighbors. All known religious beliefs can

be found in the Territory. Christian and heathen, Jew and infidel, Mormon and materialist, idolator and atheist, live side by side in peace and harmony. A man may worship the sun or believe the moon is made of green cheese if he so lists. In this respect people here hold religious opinions as broad as their own sunny plains. If a man fulfills the duties of a good citizen, his neighbors do not trouble themselves about his religious views. But although liberal in the extreme, they are not disposed to tolerate any belief whose teachings and practice tend to affect the welfare of society. Beyond this there is perfect freedom; and a man's theological views are only limited by the bounds of his imagination. As in all else, Arizona can show something outside the beaten track of established creeds. Her Moqui population are said to be sun-worshippers; the Pimas are firm believers in witchcraft; the Chinese element bow the knee to their Joss, while the Apache divides his homage between the Great Spirit and the devil. Before the American occupation, the Catholic faith was the prevailing belief in the Territory. It was the religion first established in the country by the Jesuit fathers; and all the Mexican portion of the population yet worship at the same shrine. It is only within the last ten years that the sects of the reformed faith have established churches in Arizona; now they are found in all the leading towns in the Territory. Catholics, Methodists, Presbyterians, Baptists, Congregationalists and Mormons have erected places of worship, many of them large and imposing structures with considerable pretensions to architectural beauty. The whole number of churches owned by the different sects is as follows:

Catholics	8
Methodists	6
Presbyterians	3
Baptists	4
Congregationalists.....	2
Episcopalians.....	2

The Mormons have places of worship at their settlements on the Little Colorado, on the Salt, and on the Gila rivers. The Catholics have the largest and finest churches—including that of San Xavier del Bac, already described. Arizona forms a diocese, under the charge of an Archbishop resident at Tucson. The Right Reverend J. B. Salpointe is the present Bishop.

Among the Protestant denominations the Methodists have the largest membership. Rev. G. H. Adams is Superintendent of the Mission of Arizona, and has his headquarters at Prescott. The property of this church is valued at \$40,000. The number of Sunday-schools maintained by the Methodists in Arizona amounts to twelve. The Baptist church has also a large and steadily growing membership. They have places of worship in Prescott, Tucson, Globe and Phoenix. The value of their church property is estimated at \$15,000.

The Congregationalists have two houses of worship, one in Prescott and one in Tucson. The Methodist Church (South) have churches at Phoenix and Prescott, with a property valuation of \$6,000. The Presbyterians have church buildings in Prescott, Tucson, Tombstone and Phoenix.

Most of the churches have flourishing Sunday-schools and charitable societies which do much good in a quiet unostentatious manner. They all have a humanizing effect in the community, and even those whose religious convictions are of the most vague and undefinable sort must acknowledge the benefits which they confer. A country where churches and schools flourish, always attracts the best and most desirable class of immigration. Men with families will naturally seek a home where those civilizing influences exist. They know that such a country offers the best safeguards against lawlessness and the best security for a peaceful and a happy life.

From what we have written about churches and schools the reader will readily infer that Arizona is not that land of lawlessness the sensational head-lines in eastern newspapers would lead him to believe it is. The truth is, life and property are more secure than in the great centers of civilization. While the nightly wayfarer in the large cities is in constant danger of being waylaid, garroted, robbed and perhaps murdered, a man can travel through the streets of an Arizona town without fear of danger, any hour of the day or night. In the newest mining camp, as in the older towns, law and order prevail, and the rough elements which flock to every new mining region are compelled to observe a decorous and mild-mannered attitude. With the exception of the late Indian raid, which was confined to one corner of the Territory, Arizona has enjoyed perfect peace and the best of order for the past eight years. The strong arm of the law has asserted itself everywhere; bad men, from

whatever quarter they came, were made to understand that their lawless deeds would not be tolerated here. In the "live" mining camps, where "toughs" most do congregate, and where affrays are looked for as a matter of course, the best of order has been maintained. Even the doings of the "cowboy" have been tame and trifling; and despite the efforts of correspondents to cast a halo of romance about his commonplace pilfering, and hold him up as a daring mosstrooper of the Sonora border, he remains but a common cattle thief, whose exploits have been greatly exaggerated.

Public reading-rooms, libraries, social and benevolent organizations are firmly established in all leading towns. The amenities of social life are observed as fully as in lands nearer the rising sun, and the new-comer will soon find himself at home among a population warm-hearted, generous and thoroughly western. He will find a people broad in their views, jealous of their individual rights, and ready at all times to maintain them. He will find those two great levers of public opinion, the press and the pulpit, earnest and active for the people's welfare and happiness. He will find a thoroughly progressive and intelligent community will give him a hearty welcome.

There is less crime in proportion to the population in Arizona than in any western State or Territory. This may be new to eastern ears, but it is a fact susceptible of proof. For those who have forfeited their liberty by outraging the laws of society, a secure retreat has been erected at Yuma. This prison is maintained by the Territory, and is conducted by a board of prison commissioners appointed by the Government. For those helpless unfortunates afflicted with the loss of reason, a comfortable asylum is provided in California, where they receive the most careful and kind attention. In these, and in all other duties incumbent upon civilized society, Arizonans are abreast of the age and fully alive to all requirements.

The settlers of Arizona are of a class that will not tolerate outrages on law, order or decency. They believe in equal and exact justice to all men, and they most always get it. Surrounded by churches, schools and newspapers, the people are among the most intelligent, progressive and liberal-minded of any like number in the Union. In the leading towns will be found a society whose culture and refinement will be an agreeable surprise to the stranger who

comes to Arizona to make a home. All the comforts and luxuries of our modern civilization will be found here as in older and more populous communities; and law, order and enlightened public opinion control the Territory from the Utah line to the Sonora border.



CHAPTER X.

FLOCKS AND HERDS.

WITHIN the past five years the stock-growing interests of the western States and Territories have assumed vast proportions. An important amount of money has been invested in the business; and the returns are larger and more certain than from any other branch of industry. The great plains of the west afford facilities for the raising and fattening of cattle unequaled on the globe. The building of railroads has given a grand impetus to the cattle-trade. Companies are being organized both in the United States and Europe, with a heavy capitalization, and vast areas are being covered with horns and hoofs. Many of the most illustrious names in the peerage of Britain own great stretches of land and thousands of head of stock in many portions of the west; and beneath the *sombrero* of the cowboy on the plains of Texas and Colorado can be found men who trace their pedigree to that host of free-lances who won the flocks and herds of England at the battle of Hastings.

The number of mouths to be fed is steadily increasing, while the area of wild-grass lands is diminishing. The large cities of either hemisphere, those vast hives of human luxury and human misery, are growing in population year by year, and the product of the farm and the cattle-range meets with a larger demand. Before the introduction of American beef into England, so high was the price of the home product that the working classes could not afford to indulge in the luxury of a roast or a chop oftener than three times a week. And even now many toilers on the Continent scarcely know what the taste of meat is, except

on holidays and feast-days. With such a condition of things abroad and a growing market at home, it is not to be wondered that the cattle-raising industry has attractions for those who have the means to engage in it.

The pastoral life is natural to man, and in all ages and among all peoples it has had a fascination which no other occupation possesses. It is one which does not require much manual labor, which yields large returns, and which offers an existence free from the cares, vexations, and perplexities that attend nearly every other calling.

Of late years the western continent has become the grand grazing ground of the world. The vast plains of North and South America have been covered with millions of horned cattle and sheep. The toiling masses in the busy hive of European industry now depend on the New World for their supply of cheap, wholesome meat; and the shipping of beef from the United States to England and continental countries has already assumed vast proportions, and is rapidly increasing. So long as man remains a carnivorous animal, so long will a pastoral life be not only a pleasant but a profitable one. The millions who turn the wheels of human industry must be fed, and to the western world must they hereafter look for their beef, pork, and mutton. Europe has long since ceased to supply half of the demand.

The crowding mass of humanity, in their fierce struggle for bread, have long since occupied nearly all the grazing grounds, and the raising and fattening of cattle in private inclosures is an expensive business. So to the great West must Britain hereafter look for the roast beef of old England. And not only Europe, but the millions along the Atlantic sea-board and in the great Mississippi valley. There, as in the older continent, the farmer has crowded out the stock-grower, and the ranges which were once covered by immense herds are now fertile fields, dotted with pleasant homes. Year by year the stockman is being forced back, and the farmer sets his stakes, rears his humble home, and turns into a fruitful field the virgin soil.

While other western States and Territories boast of their grazing resources, their rich grasses, salubrious climate, and pure water, Arizona possesses more natural advantages or stock-growing, and offers more inducements to those who wish to engage in it, than any portion of the United States. Her ranges are of vast extent. Of the 114,000

square miles which constitute her area it is safe to say that 60,000, or more than one half, are excellent grazing lands. From the borders of Utah to the boundary of Sonora, and from the line of New Mexico almost to the Colorado, Arizona is one vast grazing ground. Except a strip of country along the Great river, and a portion of that region north of the Little Colorado, there is no part of the Territory without a growth of grass. Valley, plain, mountain, and *mesa* are alike carpeted with the rich, sweet, and succulent grasses peculiar to this Territory. Black and white gramma, bunch and mesquite grasses are the principal varieties. On the Colorado plateau they attain a strong and vigorous growth. After the summer rains—which usually begin in July and end in August—plain and hillside is a rolling sea of living green. The grass shoots up with wonderful luxuriance, and myriads of wild flowers lend a charm to the landscape.

Cattle roam where they list, and revel in the green and boundless pastures which surround them on every side. The fattening qualities of the Arizona grasses almost pass beyond belief. When green the gramma is exceedingly sweet, juicy, and nutritious, and when dry seems to lose none of these qualities. The curing process is a trick of nature's handiwork, and is as perfect as if done by the labor of man. No cultivated hay retains the rich and juicy qualities of gramma dried and cured by the sun. Cattle like it as well in winter as in summer, and keep fat on it one season as well as another.

This grass is found growing from one end of Arizona to the other, and is the principal food for cattle in the Territory. The quality of beef made from it is unequalled for tenderness and flavor. No such meat is raised anywhere in the United States, and travelers are enthusiastic when discussing a juicy steak or a tender roast grown on the native grasses of Arizona. No better article, even though stall-fed, is found in the eastern markets, and John Bull has a treat in store when he smacks his lips over a round of Arizona beef. On this grass stock feed the season round, roaming over hill, valley, and plain, and keeping in prime condition every month of the year. Here the climate is most favorable for the stock-raiser's calling. No blinding snow-storms, no Texas northers, no intense cold robs him of half his profits, and sometimes in a night destroys his entire herd. Here he does not incur the heavy expense

of building corrals and barns to shelter his stock from the snows and biting winds of the winter months. Here he is not compelled to put up large quantities of feed to keep his herd during that period. Here he runs scarcely one of the many risks that attend the stockman's calling in less favored lands. Here the climate is almost perpetual spring, and even in the driest season the feed never fails, and the owner can sit under the shade of his comfortable *hacienda* and see his herds thrive and increase winter and summer.

Arizona has been well called the stock-grower's paradise, and there is no region in the United States that better deserves the name. There is no country where the labor and expense is so light, or where the profits are so high; there is no country where the percentage of loss is so small, or where the percentage of increase is greater, and there is none where a fortune can be more quickly realized.

The water supply is ample. Thus far the cattle-man has depended upon streams and living springs. In the immense dry valleys, covered with rich grasses, which occur in all parts of the Territory, scarcely an effort has been made to obtain water by sinking. In the few localities where wells have been dug an abundant supply has been secured. The finding of flowing water in the Sulphur Spring valley, in May, 1883, is of the first importance to the stock-growing industry of Arizona, and makes its future possibilities only limited by the boundaries of the Territory. Eight wells in this valley are now producing from 25,000 to 50,000 gallons each of pure water every twenty-four hours. The deepest is not over 83 feet, while the first struck the living current 38 feet below the surface. The Sulphur Spring is not materially different in its situation and surroundings from scores of other fine grass-covered valleys throughout the Territory. The snow and rain-fall on the mountains which surround it is not as heavy as in other parts of the Territory, and the area it drains is not as large. The success which has attended the effort to find artesian water is sure to stimulate others to make the attempt in other portions of Arizona, where the surface indications give every assurance of an abundant supply below. There can hardly be a doubt that artesian water will yet be found in these valleys, and millions of acres reclaimed and made valuable grazing ground. When that is done—as it surely will be—Arizona will be the leading stock country on the continent. Those broad valleys and

immense plains will be covered with millions of cattle, and ten times the present number will be pastured within the Territory. The sinking of artesian wells will confer almost illimitable benefits on the stock industry, and will add millions of dollars to her material wealth. It will make valuable the countless acres now given over to solitude and desolation; it will make plain and *mesa* and mountain-side animate with the sights and sounds of active industry; it will make of Arizona a grand pastoral region, where sleek herds will cover ten thousand hills; it will bring population, industry, and prosperity where now are solitary desert wastes.

Besides artesian wells, windmills will also be utilized in many of the valleys where the depth to the water supply is not great. This system is already being pursued and with success, and no doubt will come into general favor in some localities. Large herds can be watered by this means, and the cost is not heavy. In many localities where the conditions are favorable, immense bodies of water can be caught and stored during the rainy season for the use of stock during the period of drought. In some places but little work will be required to erect dams and reservoirs and thus secure an abundant supply. In several of the valleys of the plateau farmers adopt this plan of procuring an abundance for irrigation. During the rainy season great volumes of water fall all over the Territory, and the dry creeks and gulches become foaming torrents. There is reason to believe that the old race who once flourished here utilized a large share of this bounteous rain-fall, and their modern successors should certainly be able to do as much.

Epidemic diseases among cattle in this Territory are scarcely known. Winter and summer, autumn and spring, the animals are in the best possible condition. The fatal maladies which affect stock in other countries are never heard of in Arizona. Under its clear skies and pure atmosphere, man and beast revel in robust and vigorous health. The frightful destruction which often decimates the stock-grower's herds in a less favored clime never occurs here. The pure water and the bracing air of valley, mountain, and plain are the remedies, and the only ones, which the cattle-owner requires to keep his bands sleek, fat, and healthy, year after year. The loss from disease, it is estimated, does not exceed more than one half of one per

cent, and from all sources not more than two and a half per cent.

Let cattle-men who have seen half their herd destroyed by one night's pitiless snow-storm ponder over these facts. Let men who are following the business in countries where their property is always at the mercy of the elements, compare their lot with those whose lines have been so pleasantly cast under an Arizona sky. This one advantage alone makes the Territory the favored pastoral region of North America.

Arizona has also one other great advantage for the stockman. While in other countries the area of grazing ground is becoming narrowed and its limits circumscribed by the steady advance of the farmer, here the immense plains, table-lands, and foot-hills will never be utilized for any other purpose than grazing. The agricultural industry will always be confined to the valleys bordering the streams, and the vast area included in the rolling plains and elevated hill-sides will always be devoted to cattle. Most of this land is valueless for agriculture, but its wealth of rich grasses makes of it a magnificent stock range. The cattle-owner who thinks of embarking in the business here need have no fear of being "crowded out" by the farmer. The domain of each is clearly marked by nature, and beyond the bounds which she has set the tiller of the soil may not go. A good range once secured, the owner can turn out his herds over the broad savannas and rolling foot-hills, and rest assured that the farmer will not in a few years drive him out and force him to seek fresh fields and new pastures.

Nor need he have any fear about "eating up" the range. After being grazed down to the roots, the sweet gramma grass shoots up next season with fresh vigor and luxuriance. Ranges over which cattle have roamed for years show no falling off in the quantity or quality of the feed. In fact, it is claimed by some that the ground is enriched by the cattle, and that the native grasses attain a stronger growth after being pastured for a few years.

It is estimated that 60,000 square miles, or more than one half of the entire area of the Territory, is grazing land. Reduced to acres, this vast area would amount to 38,400,000, almost equal to the whole of New England. Liberal estimates allow from five to ten acres of grass land to maintain an animal during the year. Taking the

lowest figure, which is a very conservative one, we have a total of 7,680,000 head which the grazing lands of Arizona are capable of maintaining. But even allowing ten acres to each head, and we have the vast total of 3,840,000. These figures are very reasonable, and with the present growth of the cattle industry it is very probable that the latter number will be grazing within the Territory inside of ten years. The rapid increase in herds already here, and the numbers which are being steadily driven hither, makes it nearly certain that this prophecy will be realized. Ranges in other States and Territories are difficult to find and command a high price. In Arizona there are many yet open to location, and others can be purchased at reasonable rates. But the unoccupied pastures will not long remain in their present condition, and the value of those already claimed is rapidly increasing. A large amount of capital is being invested, and the inquiry for desirable ranges is active. Many of the cattle syndicates organized in the east are looking towards Arizona as the country which offers the best inducements for profitable stock-growing, and are securing some of the choicest grass lands in the country. The prime consideration for the stockman here is the water supply. Once he has secured a right to a stream or spring, he need give himself no trouble about the range. The ownership to the first will give him entire control of the second, and he will virtually be "monarch of all he surveys," and will escape all entangling alliances with other cattle-kings.

The two trans-continental lines now passing through the Territory have done wonders in developing the industry, but when the network of branches and side lines, now under way and projected, are completed, cattle-raising will enter on the high road that leads to wonderful prosperity and enormous growth. The iron rail will afford that cheap and rapid transportation which is essential to profitable cattle-growing. They will open to the Arizona stockman the markets of the world. To the east and to the west, to the metropolis by the Golden Gate, as well as to the great cities by the Atlantic sea-board, Arizona beef can be shipped cheaply and expeditiously. And even the European markets can be reached. With railroad communication Arizona beef can be laid down in Liverpool or London as cheaply as the Texas or Montana product. And even cheaper, for it must be remembered that the cost of production is

less in Arizona than in any other portion of the United States.

The day is not far distant when the fat and succulent cargoes will be shipped across the ocean, and when the English workman will build up his thews and sinews on the prime article grown on the plains and *mesas* of Arizona. In fact the market is steadily enlarging, while the area of grass land is being steadily curtailed. San Francisco alone is as fine a market as the Arizona cattle-man could wish for. Her demand is always growing, and the localities she formerly depended upon for her supply are gradually falling off in their production. In Oregon, in Washington, and other Territories, the farmer is taking up the land once devoted to stock, lessening the supply and increasing the price. To Arizona must the Queen city of the Pacific hereafter look for beef and mutton. The home market is also steadily growing, and as mines are developed, farms taken up, and population increases, the domestic consumption will always be an item of considerable importance.

The profits and increase in the stock business in Arizona are something phenomenal. There is no industry or calling where the returns are so large on the capital invested, where the chances for success are greater, or the risk of failure less. Poor men who started with fifty or a hundred head, eight or ten years ago, are now "fixed" for life. There is not an instance of failure in the history of stock-growing in the Territory. Every man who engaged in it has grown rich, or is fast becoming so. Prices have more than doubled within the past three years, with yet an upward tendency. A man who is so fortunate as to own a herd of cattle and a good range is the most independent in Arizona.

Asleep or awake, at home or abroad, his droves multiply and his wealth increases. While other callings require constant attention and unremitting care, the stockman can lie down contentedly, assured that no serious accident can interfere with his steady accumulations. While the slumbers of the miner are disturbed by visions of a "porphyry horse," a heavy flow of water, or his mine with the "bottom falling out;" while the merchant is haunted by thoughts of dull trade, low prices, and bad debts; while the artisan is troubled by the nightmare of hard times, scarcity of work, and low wages, the cattle-raiser can enjoy the slumbers of the blest, attended by pleasant visions of

growing herds and full coffers. The yearly increase in the cattle business in Arizona is from eighty to ninety per cent; in most cases nearer the latter than the former figure. The following table will give an idea of the increase in stock in this Territory. It is furnished by a cattle-grower of long experience, and can be relied upon as strictly correct. Starting with 100 head, the increase for five years will be as follows:

First year.....	194 head
Second ".....	314 "
Third ".....	495 "
Fourth ".....	782 "
Fifth ".....	1,302 "

These figures will show the enormous profits of stock-raising in Arizona. There is no business which the man of limited means can engage in that leads so speedily to fortune. This increase seems incredible, but it is a fact that is being demonstrated every year. When it is remembered that the losses from all sources will not exceed three per cent. it can not be wondered that cattle-men grow rich so rapidly.

The prices for cattle are high, good beef cattle being worth from seven to eight cents per pound, neat. This price has prevailed for the past two years, and there is no reason to believe it will get any lower. The following are the rulling prices at present:

Beef cattle (three-year-olds).....	\$35@40
Three-year-olds (heifers).....	25@35
Two-year-olds (steers and heifers).....	25@30
Yearlings (steers and heifers).....	15@20

Stock cattle are worth \$30 per head. The grade of cattle in the Territory is being steadily improved. At first a very inferior stock of Mexican and long-horned Texan steers and cows was bred, but the introduction of fine Durham bulls and droves of superior American cattle has almost driven out the poor scrubby stock of the early days. And the good work is still going on. Every stock-grower takes a pride in improving his herd, and in a few years the grade of Arizona cattle will compare with any portion of the Union. For the purpose of giving the reader a clear idea of the grazing capabilities of the Territory, and assisting the cattle-grower who thinks of driving his herds



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hitherto, a description of the ranges in the several counties is here given.

Yavapai county, which embraces the larger portion of the great Colorado plateau, and contains more than one fourth of the entire area of the Territory, has within its borders some of the finest grazing grounds in Arizona. The elevated plains, table-lands, foot-hills, and mountain-sides, from the thirty-fourth parallel to the Little Colorado, are all covered with a heavy growth of black and white gramma, mesquite, pine, and buffalo-grass. The heavy snow-falls of winter and the copious summer showers cover this whole region with rich, nutritious feed, on which stock keep in prime condition at all seasons. While the snow-fall in the elevated mountain ranges sometimes reaches a depth of from four to five feet, it disappears from the *mesas*, foot-hills and valleys within a very short time. The finest beef in the Territory, it is claimed, grows on the Colorado plateau. The grass is richer, more juicy and nutritious than in other parts of the country where the moisture is not so great.

The ranges of Yavapai extend all over the county. In nearly every valley and mountain glen, on the rolling plains and table-lands, and even on the sides and summits of the mountain ranges, excellent feed for stock is found. In fact, the county may be considered one vast stock range, its capabilities only being limited by its water supply. Where living water can be had, there a range can always be found; and in nearly every locality the possession of the water gives the owner undisputed control of a pasture extending in every direction as far as the eye can reach.

The principal ranges now occupied in this county are along the water-courses and around permanent springs. No effort has been made to sink artesian wells. Many of the large grassy valleys on the plateau are surrounded by mountain ranges, and drain the annual rain and snow-falls which descend upon them. These valleys are vast reservoirs, holding in their underground channels the immense bodies of water which for ages have rushed down from the surrounding hills. The chances for finding artesian water in many of them are most encouraging, but hitherto no attempt has been made to solve the problem. So long as plenty of unoccupied grazing ground and living water is open for the stockman he will not go to the expense of seeking for an artesian supply. But as the

number of cattle increases, and grass lands along the water-courses become overcrowded, the effort to utilize those vast stretches of grass-covered plains will no doubt be made, and no doubt successfully.

The Tonto basin, the Verde valley and the foot-hills adjacent, the region of country around the base of Bill Williams mountain, and the valleys and grass-covered hills of the San Francisco, the wide grassy plain known as Chino valley, the rolling hills skirting the Agua Fria, the extensive plains along Date creek, the rich slopes of the Mogollon and the Juniper, and the scores of little valleys and mountain glens all over the county, are at present the stock-ranges of Yavapai. In many of the valleys, windmills have been erected, and owners of small bands supply their stock with water by this means. The building of the railroad along the thirty-fifth parallel has been of great benefit to the stock interests of Yavapai county. It has opened markets both east and west, and largely increased the home consumption. Stock throughout the county is rapidly increasing, and large droves are constantly changing hands at from \$30 to \$35 per head. This includes three and two-year olds, yearlings and calves.

The number of cattle in the county has more than doubled within the last two years, and droves are constantly coming in from Texas, Colorado, California and New Mexico. Nearly all the desirable ranges in Yavapai that contain living water have been taken up, but there are magnificent pastures in Big Chino, Date Creek, Agua Fria, Lonesome Valley and other points, where there is every probability of getting an abundant water supply by sinking. Stock growing in Yavapai, next to mining, promises to become the leading industry of the county: and many of its elevated valleys, where farming is now carried on to a limited extent, will no doubt eventually be devoted to cattle. It will be a surer and more profitable business than that of depending on the uncertain rainfall for a crop. The shipping of fat beeves from Yavapai county to San Francisco has already begun, and promises in a few years to grow into a large and lucrative trade.

Mohave county, which joins Yavapai on the west and extends to the Colorado river, has some magnificent grazing ranges, the larger portion of which must remain unoccupied until flowing water can be found. The Hualapai,

the Sacramento, and many other extensive valleys, east of the Colorado, are covered with a thick growth of rich grasses, capable of sustaining hundreds of thousands of cattle. These valleys drain large areas of mountain country, and no doubt contain large bodies of water beneath the surface. At present they are utterly valueless, but if water can be found they will be among the very best cattle ranges in Arizona. Along the Big Sandy and Bill Williams Fork there is a fine grassy country, and many portions of the Colorado valley are well adapted for stock-growing. On the western slopes of the Cottonwood mountain there are many fine ranges, and also in the rolling grass-covered hills north-east from Hackberry.

The cattle at present in the county are pastured along the Sandy, Williams Fork, the valley of the Colorado, Truxton, Beals, and the many other fine springs which are found throughout the county. Wherever living water is found the ranges adjacent are second to none in the Territory. The growth of black and white gramma in Mohave is among the most prolific in Arizona; and its fattening qualities are shown by the tender and fine-flavored beef found in every town and mining camp of the county.

The Hualapai and the Sacramento valleys are two of the largest in the Territory. Over their entire extent there is a strong and rich growth of grass. They are the reservoirs for lofty mountains on either side, and must contain inexhaustible bodies of water. The stock-raiser who is looking towards Arizona would do well to inspect these valleys. Let him find artesian water in either of them, and he has one of the finest ranges in the west.

Mohave, like Yavapai, is a grazing county from one end to the other, and with a regular water supply her grassy plains, valleys and foot-hills could support almost countless herds. The Atlantic & Pacific railroad, which crosses the county from east to west, gives her all the advantages of a market which it has conferred on her sister county.

Yuma county has some excellent stock ranges along her eastern border and in portions of the great Colorado valley, but here, as in Mohave, a scarcity of water prevents them from being utilized. Her vast grassy plains bordering on Maricopa and Yavapai are at present solitary wastes. In some valleys wells have been sunk and good water found, but the clumsy and tedious plan of hoisting with a bucket

can only supply a small number of cattle. No effort has yet been made to get flowing water in this region, but the rich and extensive country that would thus be made valuable is certainly worth the effort. The valley and adjoining plains of the lower Gila is a fine cattle country, and a large number are now being pastured there. In Yuma as in Mohave county, the artesian well alone can make her grassy hills and plains valuable for stock purposes; without it, they must ever remain the solitary wastes they are at present. That water can be found here, as in portions of the Territory, there is no good reason to doubt. The finest grass lands in the county are now unoccupied, and are valueless until flowing water is secured. When that desired consummation shall be brought about, there will be room in Yuma county for ten times her present number of cattle.

The grazing lands of Gila county at present occupied are situated along the Gila and Salt rivers and in the lower end of the Tonto Basin. Tonto, Wild Rye and the other tributaries of the Salt which flow through the Basin, are excellent stock-ranges. The slopes of the Sierra Ancha and the Mazatzal are covered with rich grasses, noted for their fattening qualities. Bordering the Gila river in its course through this county, are some of the most desirable pastures to be found in the Territory. There is an abundance of fine water, and the hillsides, valleys and tablelands are covered with a magnificent carpet of succulent grasses. This is one of the very best ranges in Arizona, and there is room for ten times the number at present occupying it. All that rolling, hilly country extending from the northern slope of the Pinal mountains to Salt river, is a fine stock country. The narrow valleys, low hills and *mesas* are covered at all times by a heavy growth of gramma and other grasses, and cattle fed upon them are ready for the market at all seasons of the year.

Gila offers many advantages to the stock-raiser, and in fact the entire county is one vast range clothed from end to end with some of the richest grasses to be found in the Territory. At present but little of the field is occupied, and vast tracts capable of sustaining large herds, where water could be secured at very little cost, are open to occupation. The climate for stock is one of the best in the Territory, and the beef grown here has a well-deserved reputation all over Arizona. Some of the finest grazing

lands of the county are embraced within the limits of the San Carlos Indian reservation, and are at present closed to stockmen. Although Gila is a small county, it contains a larger number of cattle in proportion to its size than any political division of the Territory, and the number is steadily increasing. Wherever living water can be had, there a bunch of cattle can be found. Ranges with a good water supply find a ready sale and at good prices. The live-stock industry of Gila is in a prosperous condition, and those who are so fortunate as to be engaged in it are growing rich at a rapid rate.

The pastoral lands of Graham county are found along the Gila, near the New Mexican line, the Arivapai cañon, the foot-hills and valleys surrounding the Graham mountains, the lower Sulphur Spring valley, Eagle, Bonita, and other tributaries of the Gila river, from the north, and the immense grassy plains of the lower San Simon valley. This great plain has an underground river flowing through its entire length. The stream forces its way through the bank and falls into the Gila near Safford. No effort has yet been made to utilize it for stock purposes, and hundreds of thousands of acres of fine grass land are given over to the wild deer and the coyote. The lower end of the Sulphur Spring valley contains some of the best ranges in the Territory, and here, and on the slopes of the Graham and Galiuro mountains which bound it on the east and west, large herds have been pastured for years. Here is situated the Sierra Bonita ranch, the property of H. C. Hooker, Esq. It is the largest and the best-appointed establishment devoted to stock-growing in the Territory. The following description of this fine property, which is abridged from an article in the *Tucson Citizen*, will give people abroad an idea of a representative Arizona cattle ranch:

“The Sierra Bonita ranch, in the valley of the Aravapai, was ten years ago an unclaimed waste, browsed only by the Apache ponies and forest game. To-day it is a princely estate—one of the best furnished and most magnificent ranges in the west. Eight thousand head of blooded cattle and 500 of the best bred horses in the Territory thrive and fatten on its grasses, and as yet its area of 900 square miles, every inch of which is productive, is not half taxed; nor will it be till 30,000 cattle roam its plains. Upon the home or ‘Central ranch’ are built the owner’s residence, the stables and corrals. The former, eighty-five feet

square, is built of adobe, on the old hacienda plan, with a large interior court, in the center of which stand the windmill and tank that supply the premises with water. The rooms front three sides of the plaza or court, with a door leading into each. On the unbuilt side is a high adobe wall, with a pair of heavy folding doors giving egress to another court or yard of similar size to the one occupied by the house, and in which are kept the carriages, family horses, and fine blooded stock. Like the former, admittance is gained only through a great pair of doors some ten feet high, and which at night are securely locked. Further to the west is still another stable and corral of like build and size as the last, and known as the breaking and breeding stable. Adjoining that on the north is the vaquero stable and yard. On the one side are stalls for about twenty horses, and behind them are the sheds for the proper keeping of the necessary saddles, bridles, spurs, riatas, etc. On the north, but separate from the main building, is still another stable, used mainly for the keeping of sick or diseased horses. * * * Directly in front of the house, facing south, but separated from it by about fifty feet, is the mayordomo's and men's quarters, the blacksmith and repairing shops, while again to the west are the sheds for the storing of the various agricultural implements, such as mowing-machines, rakes, gang-plows, wagons, etc. In the rear of that is the cattle corral, 300 feet square, with the usual high walls and heavy doors—the whole looking like some old, low-built feudal castle, impregnable alike to thieving whites or marauding reds. In the various stables and corrals are stallings for ninety horses, between fifty and sixty of which are vaquero stock, the balance being working and driving horses.” * * *

Speaking of the cattle on the ranch, the writer remarks as follows:

“With the bare exception of a few Oregon cows, there is not an animal in the whole band that exceeds seven years of age. Young and thrifty, clean-limbed, straight-backed, long, round body, small, slim horn, smooth and glossy skin, with an abundance of meat well packed to the bone, constitute their general make-up. At the age of two years they are marketable for beef at \$35 per head, and outweigh at that age the Spanish cattle of double their years by one hundred pounds net. To the age of five years

their weight and values keep proportionate pace. Their flesh is of a superior quality to the unimproved, it being more tender and of superior flavor. The one cent per pound more it commands in the market is the best argument for such a statement; and that they are doubly profitable, may be gathered from the fact that they will at four years of age weigh more net than common stock of the same age will in the gross, the food of each being the same. Stock men are conscious of these facts, and the steady demand for young cattle for stock purposes tends largely to keep his own herd small.

"The annual increase is fully 90 per cent. Among the cattle-men of the East an increase of such proportions would be considered something remarkable. In this country it is accounted for because of the two rainy or revivifying seasons; nature in each case taking a fresh start, and each one apparently as prolific as the other. The warm rains of springtime clothe the earth in green and gold, and after the summer rains nature again repeats, and all life takes a fresh start. In breeding, the sexes come pretty even, with, perhaps, a little balance in favor of the heifers. At the age of two years the latter bring their first calves. In the herd there are over 200 dairy cows, A No. 1 stock, good milkers and butterers. They find ready sale at \$50 to \$100 each. From them the choice bulls—of which there are about 100—are bred. Those of his own raising are fully as good, with fair chances of being even better, than the higher-priced imported stock.

"* * * The ranch in its entirety embraces some thirty odd miles square, with outlets at either end of the valley, which, generally speaking, lies north and south. On the east rises the Graham, or Sierra Bonita (pretty mountain) range; midway against its western base stands Fort Grant, from which the ranch takes its name; on the east are the equally prominent Galiura mountains. * * * About four miles square is inclosed in a barbed wire fence, some sixty acres of the inclosure being used as a cornfield, the balance for pasturage."

Mr. Hooker is devoting much attention to the breeding of fine horses, and his Hambletonian, Belmont, Gold-dust, and Percheron-Normans command a ready sale all over the Territory. During the past year over \$80,000 worth of cattle and horses were sold from this ranch, and the number of calves for the present year will exceed 2,500.

This fine establishment is an illustration of what intelligence, energy, and industry can accomplish in the stock business in Arizona. Beginning with a limited capital ten years ago, Mr. Hooker has now a property for which he has repeatedly refused \$250,000. The writer takes this example, among many, to show people abroad the grand opportunities here presented for engaging in this industry.

The Arivapai cañon, which pierces the Galiuro range and extends from the San Pedro to the Gila, is also an excellent stock country. It is nearly forty miles in length, has abundance of pure water, and a splendid growth of gramma, mesquite and bunch-grass. The rolling hills and *mesas* which border it on either side are among the most desirable ranges in Arizona. The climate is delightful, and the quality of beef grown has long been noted for its fineness. A great many cattle are pastured here, but there is room for many more.

The upper Gila is also a fine cattle-growing region. From the boundary of New Mexico to the mouth of the San Francisco, the narrow valley of the stream is bordered with rolling hills and plains, always covered with excellent feed. The climate is superb, and the abundant water supply in the river can be approached by stock at any point. The narrow-gauge railroad from Clifton to Lordsburg passes through this region, thus offering every facility for the shipment of the product to market. Stockmen looking for a range cannot find a more suitable one than along this portion of the Gila. There is room for many thousands of cattle along the valley.

On the eastern and northern foot-hills of the Graham mountain are some beautiful stock-ranges. At the foot of this massive elevation many clear, cold springs burst forth and flow out some distance before they are lost in the dry plain. These springs form charming meadows, green and inviting all the year. On these *cieneegas*, and on the adjacent hills and plains, cattle keep sleek and fat summer and winter. When tired of roaming over the plains and foot-hills, they seek the moist, springy meadows, and crop the rich green grass which grows thereon. On Eagle creek is one of the finest ranges in the county. The grass is remarkably luxuriant, often reaching to the knee as the horseman gallops over its green expanse. There is always an abundant water supply, and it is estimated that 10,000 head can be pastured on this one creek and its tributary.

Much of the best grazing land in Graham is included within the San Carlos reservation, and closed to the white man.

In this brief sketch of the grass lands of the county many matters of detail have been omitted, but enough has been said to show that it is one of the foremost grazing regions of the Territory. Its plains, valleys, hills, and tablelands are capable of supporting ten times the number that now feed upon them.

Pinal county can show some of the very best stock-ranges in Arizona. The grasses are unexcelled, and the water is more plentiful than in several other counties. During the past year a large number of cattle have been driven to this region, and many more are coming in. The short distance to the Southern Pacific railroad is another advantage in favor of the stock-grower, giving him facilities for shipping his product not enjoyed by cattle-men in other parts of Arizona. With all these favorable conditions, it is not surprising that stockmen in search of good ranges find their way to Pinal. The low rate of taxation, and the healthy financial condition of the county, is another inducement which the cattle-raiser can appreciate. With the present inflow of stock, this desirable field will soon be filled up. Taking into account the advantages of water, climate, and the local considerations we have mentioned, there is no part of the Territory superior to Pinal. The grazing lands of Pinal county are along the Gila and San Pedro rivers, on the northern slopes of the Santa Catalina range, and on the foot-hills of the Tortilla and the Tortillita mountains. On both sides of the Gila, from Florence to the line of the San Carlos reservation, there is one of the best stock countries in the Territory. The rolling foot-hills, valleys and plains are covered with a thick growth of gramma, bunch-grass, and a species known as *chemise*, which cattle are exceedingly fond of. There are some fine ranges unoccupied in this region, and yet room for large herds. On the tributaries which flow into the river from the north and the south, there are some very desirable locations, with a luxuriant growth of grass everywhere, and living water in many places. On the extensive plains which stretch from the Superstition mountains to the Gila, and from that stream south to the railroad, the grass is rich and abundant, but the scarcity of water has thus far prevented cattle-men from utilizing it.

Along the lower San Pedro the feed is plentiful, and

the water supply abundant. A large number of cattle are pastured in this region, which is one of the most favored spots for stock-raising in Arizona. Except on some of the rugged mountain ranges, there is not an acre within the limits of Pinal county that is not covered with excellent feed. Valley and plain and table-land all bear a vigorous and luxuriant growth, and the climate is among the most delightful in the Territory.

Maricopa county possesses some fine grass lands on the lower Verde, New river, Cave creek, Camp creek, the Has-sayampa, and the lower Agua Fria. The ranges along these water-courses are covered with the very best varieties of gramma and bunch-grass, and the beef fattened on them is equal in tenderness and flavor to any in the Territory. In that portion of Tonto basin within the limits of Maricopa county there are some very desirable pastures, many of them being at present occupied by large herds. This mountain region is noted for the rich quality of its grasses, and is becoming a favorite spot with cattle-men. The valley of the Salt river will eventually be the scene of a profitable grazing industry. A number of settlers are already devoting their farms to the business, and find it more profitable than the raising of grain. The immense fields of alfalfa, which can be grown here with so little labor and expense, will yet be covered with thousands of cattle. On this rich and succulent plant, which blooms in verdure every month of the year, beef equal to the primest stall-fed of the east will be grown. Although the business may be considered an experiment as yet, enough has been done to prove that it can be carried on successfully and profitably.

It is estimated that a half-acre of alfalfa is sufficient to keep an animal all the year. By dividing the pasture with light fences the herd can always have an abundance of new feed. When they have cropped the green and juicy plant in one inclosure they can be driven to another, and by the time they have gone the round of the ranche the first field is again covered by a luxuriant growth. Such a stock-farm has many advantages over the natural ranges of the country. No herding or "rounding-up" is required; there is no loss from "strayed or stolen;" the percentage of increase is greater; the water supply is always sure and abundant. The stock is securely inclosed, and the owner, from his cool coign of vantage under his broad veranda, can look over his wide pastures and see his fat herds revel-

ling amid the blossoming fields, or resting peacefully beneath the shade of the spreading cottonwood. Alfalfa is equal to the best clover, and the beef now fattened from it in the valley cannot be excelled in the United States.

The grazing lands of Cochise county are among the most extensive in the Territory, and its grassy plains, valleys and hillsides are capable of supporting large droves. The climate is almost a perpetual spring, and diseases among cattle are hardly known. The natural water supply is good, and the opportunity for increasing it by artificial aids is unsurpassed in Arizona. Two railroads passing through the county offer every facility for shipping the product to market, while the domestic consumption is large and steadily increasing. Although the business during the past two years has been harassed by border troubles, it has grown rapidly, and bids fair, within a short time, to assume vast proportions. A large number of stock from Texas and California have been driven into the county, but one fifth of the extensive ranges are not yet occupied. There is no reason why Cochise should not be able to sustain ten times her present number, and in all likelihood a few years will see over half a million head grazing on her grassy plains and valleys. Cattle-raisers who are thinking of driving their herds to Arizona will find no better opportunities for securing a range than in Cochise.

The principal pastures now utilized in this county are the Sulphur Springs and San Simon valleys, the upper San Pedro, and the slopes, foot-hills and valleys of the Huachuca, Chiricahua and Dragoon mountains. The farming possibilities of the Sulphur Spring valley have been alluded to in another place. Its grazing resources surpass those of any stretch of country of like extent in the Territory. A vast grass-covered plain nearly one hundred miles in length, and over fifteen miles in width, and extending from the northern spurs of the Sierra Madra, in Sonora, nearly to the Gila river, it is one of the most magnificent stock-ranges in the west. Throughout its entire length water is found within a few feet of the surface, and fine springs are met with every few miles. These springs form beautiful green meadows, where cattle love to stray during the heat of the noonday sun. A luxuriant growth of nutritious grass covers nearly the whole of this vast domain, and after the summer rains, when its level expanse is carpeted with green and decked with myriads of wild flowers, it looks like

a vast ocean of verdure, with the sunbeams glinting from its sparkling surface. The valley will no doubt be yet cultivated extensively, but there will be always room for thousands of cattle. The finding of artesian water, which has been before alluded to, will make of this valley one of the grandest cattle ranges on the continent. The vast tracts now unoccupied will soon be covered with herds. Since the discovery of flowing water, a large number of cattle have been driven in, mainly from Texas, and desirable locations are eagerly sought for. With its abundance of water, its fine grasses, excellent climate, and proximity to railroads, the Sulphur Spring Valley stands unrivaled among western cattle ranges. Some fine ranches have already been established here, and there is room for many more.

The San Simon, fifteen miles east of the Sulphur spring, and separated from it by the massive chain of the Chiricahuas, is another magnificent grazing region. It also begins in the northern foot-hills, of the Mother of Mountains, and extends to the Gila river, a distance of over sixty miles. A rich and heavy growth of grass, similar to that in the Sulphur Spring, covers nearly its entire extent. The Rio del Sur finds its way to the Gila, a few feet below the surface; and wherever wells are sunk from ten to twenty feet, an abundant supply is secured. A portion of this great valley will yet be devoted to agriculture, but the larger part will always remain a stock range. Although several large droves are now roaming over its rich pastures, the greater portion remains unoccupied, a great plain whose oppressive solitude is scarcely disturbed by a living creature.

On the foot-hills of the Chiricahuas, both on the San Simon and Sulphur Spring side, are many excellent ranges, where an abundance of green grass, refreshing shade, and pure water is found at nearly all seasons. Cattle love to roam these shady glens and feed on the sweet grass that grows among the oaks and pines. Several herds are pastured here winter and summer. The upper San Pedro, from the boundary line to the town of Charleston, is a rich grazing region, as are also the rolling hills and table-lands adjacent. A large number of cattle are pastured here. In the narrow valleys and hills of the Huachuca mountains, there are some very excellent stock-ranges. Water is abundant in springs and streams, and the grass is sweet and luxuriant. The country which slopes from the Huachuca to the San Pedro is an excellent cattle region.

The grass is rich and plentiful, and the distance to water at the river, or to the springs along the foot-hills, is not great. In short, Cochise is especially favored by nature for stock-raising, and few more desirable spots can be found on the Pacific coast. The county is rapidly filling up, and the choice ranges will soon be all occupied.

Pima county has large tracts of excellent grazing lands along the Santa Cruz, the Arivaca, the Cienega, and in the rolling, grassy country south-east and south-west from Tucson. Large bands of cattle have been pastured on these plains and table-lands for years, and there is yet no apparent diminution in the quantity of feed. Here, as in nearly every other part of the Territory, the principal grasses are black and white gramma, the growth being heavy and thrifty. Stock-raising in Pima has been prosecuted, under many disadvantages, since the time of the Mission fathers. Up to the year 1874, when the hostile Indians were placed on a reservation, through the efforts of General George Crook, the pastoral calling could not be called a profitable one. The red marauder was ever on the alert to swoop down from his mountain fortress and drive off every hoof which grazed in the valley below. Within an hour the accumulations of years were swept away, and the prosperous ranchero reduced to beggary. It was for years the boast of these freebooters that the Americans supplied them with beef, and the Mexicans with horses.

As may be supposed, the stock business in those days was not a very successful one. The herds had to be heavily guarded day and night, and time and again the hardy settler saw his stock in full career for the mountains, with a band of yelling savages behind them. But, despite these many drawbacks, the remarkable adaptability of this region for stock-growing caused the number to steadily increase, and to-day some of the largest herds in the Territory are found in Pima county. As in other portions of Arizona, cattle-owners depend for water on springs and running streams. No effort has been made to obtain a supply by sinking, although it is believed such an attempt would be crowned with success. All that vast region south and west of Tucson contains some of the finest grazing ground in the Territory, but, owing to the scarcity of water, not a single hoof strays over its grassy hills and dales, where there is room for thousands.

Some of the largest droves in Pima are pastured on the

Cienega. This stream has its rise near the divide that extends from the Santa Rita to the Patagonia mountains, and flows north to the Santa Cruz. It is not a continuous stream, as it sinks in many places, to again reappear for a short distance. It forms many large pools and springs during its course, which furnish an abundant supply of water. The country along its entire length is composed of level plains and rolling hills, covered with fine grasses. It is one of the very best stock ranges in the Territory. The climate is exceptionally fine, and the water supply all that could be wished. The traveler over the Southern Pacific railroad passes through a portion of this range a few miles east of Tucson, and its green meadows and clear-running stream are an agreeable relief from dusty plain and jagged mountain. The Arivaca valley is another magnificent grazing ground.

From the Arizona mountains west to the Baboquivari range, a distance of more than forty miles, the whole country is covered with fine gramma and other rich grasses. There is always an abundance of water in the stream that flows through the valley, and north and east the range extends as far as cattle care to feed. The valley is claimed under a grant, and so the vast grassy region which surrounds it on every side is tributary to the little stream which murmurs through the "vale of flowers." The capabilities of this great stock region have never been thoroughly tested. It is a spot to delight the heart of the stockman, and no doubt the old padres, who built a mission here, saw that the land was good, and rich in every gift from the hands of the Creator. Several thousand head are now grazed in the Arivaca range, but there is feed for ten times the number.

On the upper Santa Cruz, and on the foot-hills of the Santa Rita, Patagonia and the Atascoso mountains, there is abundance of feed and a fair supply of water. Here, as elsewhere, the grass grows in wonderful luxuriance, and after the summer rains it reaches to the horse's girth in many localities. In fact this portion of Pima county has no equal in the Territory for its vigorous and abundant growth of rich gramma. The region has long been a favorite range for stockmen, and large herds have been pastured here for many years. Around the base of the Santa Catarinas the plains and rolling hills afford excellent feed, water being found in many of the cañons and gorges that

make down from the mountain side. The cattle industry in Pima is assuming a prominence hardly second to that of mining, and a large amount of capital is being invested in it. The grass lands of the county are among the very best in Arizona; and its mild and salubrious climate keeps cattle fat and healthy every month in the year. Some of the largest stock ranches in the Territory are found here, and the shipping of cattle to foreign markets has already assumed respectable proportions. The wide grass-covered plains and valleys in the western part of the county are still open to occupation. They are among the finest in the whole county, and give every assurance that a water supply can be had by sinking. To look upon these broad valleys after the summer rains, when the grass is green and wild flowers of every hue cover their surface, is a sight to delight the eye of the cattle-grower. The success which the Bonanza Company have met with in boring for water in the Santa Rosa valley will doubtless encourage others to make the attempt in this region. There is no more inviting field in the entire Territory for those with the requisite capital.

Apache is one of the leading stock-raising counties of the Territory. It has an abundant water supply, and the feed on its elevated table-lands and mountain valleys is sweet, nutritious, and noted for its fattening qualities. The winter snow-falls and the summer rains, which are very general in this county, bring forth a vigorous growth of green grass. Sheep also do remarkably well, and the wool clip is increasing steadily every year. The principal ranges are along the Little Colorado and its numerous tributaries. On the White, Blue and Black rivers, on Silver, Nutrioso and numerous other smaller creeks, there is prime feed and clear, cold water. In the elevated valleys and on the low hills of the Sierra Blanca and the Mogollon mountains there is room for thousands of cattle. During a few weeks in the winter months, when the snow-fall happens to be heavy, cattle are driven down to the foot-hills and plains.

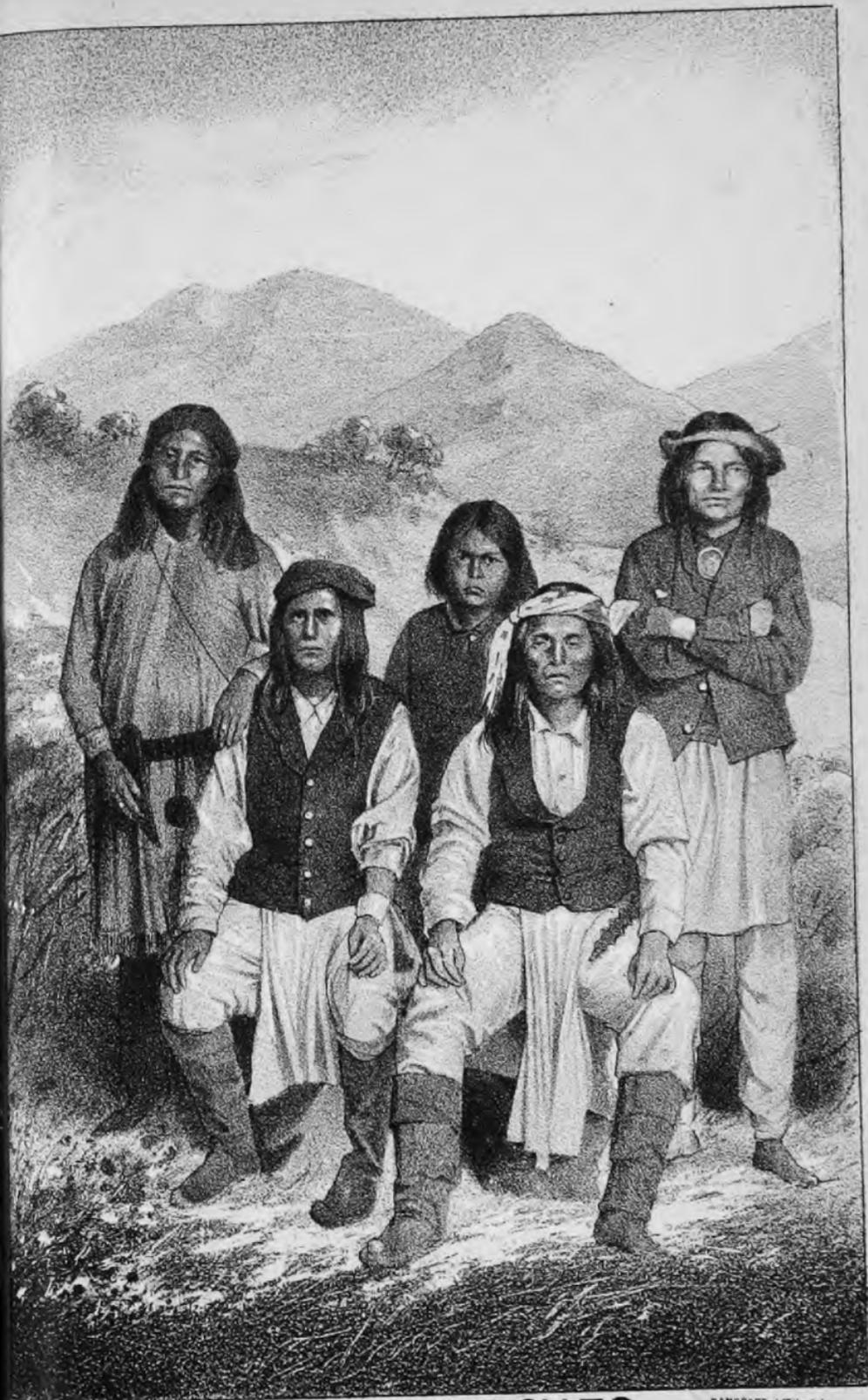
The elevated valleys and glens throughout this mountain region make some of the most desirable ranges to be found anywhere within the Territory. The grass is green and fresh nearly all the year, and abundance of shade and pure water are most favorable to the production of fine beef. The country south and east from Fort Apache has grand stretches of grass-covered lands capable of sustaining large

droves. That portion of the county included within the San Carlos reservation is nearly all good grazing land, capable of fattening many thousands of cattle, if the Indians were removed from it. On the Rio Puerco and its tributaries there are some excellent ranges. The grasses have a strong and healthy growth, noted for their fattening qualities. The climate of Apache county is not materially different from that of Yavapai, being a portion of the Colorado plateau, and stock thrive equally as well in the former as in the latter. The grade of stock is being steadily improved by the introduction of pure-blood Durham and Hereford bulls. Here, as everywhere else in Arizona, cattle owners are growing rich. Many of them who began in a small way eight or ten years ago can now count their increase by the thousands. A fine climate, abundance of water, rich grasses, and a profitable market leave nothing to be desired. Apache is not generally considered a mining region, but its beef and wool, its grain and fruits, and its inexhaustible coal-measures will yet place it second to none among the populous and prosperous counties of the Territory.

The number of cattle in the county is rapidly increasing. The Atlantic & Pacific railroad, which crosses it from east to west, has given an outlet to foreign markets, and the industry has received a marked impetus thereby.

Many large herds have been driven in from New Mexico, and the ranges are rapidly filling up. But there are yet many locations unoccupied, and many that can be had for a reasonable figure. To the stock-raiser who thinks of moving to Arizona Apache offers many advantages not possessed by other localities. The industry is yet but in an inceptive state, but the time is not far off when her pine-shaded mountains, valleys, and glens will be alive with cows and steers.

From this brief sketch of the cattle-growing industry of Arizona it will be seen that it has already assumed large proportions. When it is considered that the last seven years have witnessed the beginning and the growth of the stock-raising business in this Territory, its present condition is a matter of just pride to all its people. It shows, moreover, how well adapted is this region to the growing and fattening of live-stock; and the rapid increase in such property during the last three years clearly indicates that stockmen all over the west fully appreciate the many



GROUP OF APACHES.

BANCROFT-LITH-S.P.

advantages here offered. The building of railroads and the opening of permanent and profitable markets has been the prime factor in bringing about this prosperous condition of things. The settlement of the Indian troubles has been another. The Apache war-whoop is silenced forever, and over the thousand grassy hills where he once held savage sway, the herds of the "cattle king" roam in peaceful security.

As near as can be ascertained from careful inquiry, the number of cattle in the several counties of the Territory, at the present time, is as follows:

Yavapai county.....	75,000
Pima ".....	75,000
Cochise ".....	70,000
Apache ".....	43,000
Graham ".....	20,000
Pinal ".....	25,000
Gila ".....	15,000
Maricopa ".....	3,000
Mchave ".....	10,000
Yuma ".....	5,000

Making a grand total of..... 346,000

These figures show an increase of more than 300 per cent. within three years. No other industry in Arizona has made such rapid strides, and none has yielded such large returns on the capital invested. Averaging every animal at \$25 per head, which is a low estimate, we have a total of \$7,200,000 as the value of the horned cattle now in Arizona.

This is not a bad showing for a country that five years ago did not have 40,000 head within her borders. With the present rapid growth the stock industry will soon rival mining in the amount of capital invested, the profits derived, and in its extent and importance generally. Stringent laws for the protection of stock-raising have been passed by the Territorial legislature, and severe penalties are imposed on cattle thieves. In many of the counties associations composed of stock-growers have been formed for mutual protection, the exchange of views and the dissemination of intelligence affecting the business.

The stock-growing industry is on a firm basis. It has already gained a good start, and has every natural advan-

tage in its favor. To those who desire to engage in it, we say, come to Arizona. Fortune beckons you on, and certain success awaits you. You may seek in every State and Territory of the west, and seek in vain, for the opportunities and the advantages which this Territory offers. You can nowhere find a climate so well adapted to the business, or a country where stock are so exempt from disease. Nowhere is the increase so great, and the expense so light. Nowhere can be found better grass or purer water. Fine ranges can be purchased cheaply—many at a mere nominal figure. Nature intended Arizona for a great stock country. She has endowed it with every gift that brings success and prosperity to such a calling. Beneath its sunny skies the pastoral life has that attraction which it lacks in other regions less blessed than this. A land where spring and summer hold joint reign; where winter's icy winds and drifting snows are scarcely ever known; a land where the roses bloom in December, and hill and plain are covered with rich green feed every month in the year.

Such a country is Arizona, destined yet to be one of the great stock-growing regions of the world. Her broad valleys invite the herdsman to drive hither his "wealth on foot," and her perfect climate insures a healthy growth, a rapid increase, and a speedy fortune. Throughout the entire west there is no more safe or profitable business than the raising of live-stock in Arizona. No better proof of this need be required than the numerous instances of men in every county who began at the bed-rock and are now independent. The writer does not wish to set down aught in exaggeration. Facts speak more convincingly than words, and to them he points for uncontrovertible proof of the assertions here made. The man with a fair start who elects to engage in the stock business in this favored region will, in a few years, find himself "rich beyond the dreams of avarice."

The breeding of fine horses is being carried on successfully at many points in the Territory. In Yavapai county several breeding farms have been established, and the results have been most gratifying. The climate, water, grass and ranges are all favorable. Thorough-bred stallions, from the most famous stock, have been introduced, and trotters, running horses and fine roadsters are being raised from blooded mares. The pure bracing air and fine

grasses of the Colorado plateau are well adapted to the breeding of fine stock. Diseases among them are unknown, and thorough-bred stock can always command fancy prices. At the Sierra Bonita ranch in Graham county the business is being gone into extensively, the largest breeding farm in the Territory being situated here. The colts raised on this farm are being introduced in many parts of the country, and are noted for their beauty, docility, bottom and speed. For roadsters and the saddle, they are in every way superior to the best grades from California or the east. They are thoroughly acclimated, and their endurance and staying qualities make them much more valuable for service in the Territory.

The breeding of horses in Arizona is yet merely tentative, but enough has been done to prove that it can be carried on with success and profit. That it will yet be extensively engaged in, and that Arizona-bred stock will command remunerative prices abroad as well as at home, is beyond a doubt.

According to the most reliable data which could be obtained, the number of horses, mules and hogs in the several counties of the Territory is as follows:

	Horses.	Mules.	Hogs.
Yavapai county.....	6,000	2,000	1,000
Maricopa ".....	5,000	1,500	7,000
Cochise ".....	4,000	3,000	500
Graham ".....	4,000	1,000	500
Pinal ".....	2,000	1,000	600
Gila ".....	1,000	800	300
Yuma ".....	800	300	200
Mohave ".....	1,000	500	200
Pima ".....	6,000	2,000	1,100
Apache ".....	3,000	1,500	.....
Total.....	31,800	13,600	11,400

Wool-growing, next to cattle-raising, is the most important live-stock industry in Arizona. It has been prosecuted successfully for many years, and is steadily growing in importance. The climate in certain portions of the Territory is peculiarly adapted to the business. As with cattle, no fierce snow storms, no freezing winds or destructive "northers" sweep away entire flocks in a single night. Here the shepherd can let his bands roam over hill and dale, winter and summer alike. No region on the continent

is better adapted for wool-growing than the elevated plateau of Yavapai and Apache counties. The short, sweet grass, which grows on the foot-hills and valleys, and of which they are particularly fond, keeps green nearly the whole year. While the wool-grower in northern regions sees thousands of his flock destroyed by snows and icy winds, and is compelled to provide food and shelter for his shivering flocks, here in Arizona they roam at will over hill, mountain and dale from January to December.

With his dog and gun the shepherd follows his bands over the grassy plains and hillsides, and at evening they are "bunched" by the side of a stream or spring. The herder kindles a fire, and soon has ready his tempting evening meal. After enjoying it, as only those can who have had their appetite sharpened by a tramp over the hills, blankets are spread on the greensward, pipes are lit, and after a recital of the day's events and a mapping-out of the route for the morrow, the tired shepherd enjoys the refreshing slumber which a clear conscience and a good digestion always bring. Myriads of brilliant stars flash in the blue canopy above him; the air is soft with the faint breeze of a summer night; around his camp the tired flock form a white semicircle against the green background of wooded hill and grassy plain. It is a beautiful picture of quiet repose, and aptly illustrates the shepherd's life in Arizona.

In Yavapai and Apache counties the sheep are pastured during the spring, summer, and autumn in the glens and foot-hills of the San Francisco, Mogollon, and Sierra Blanca ranges, and on their outlying spurs and parallel ridges. The short, sweet pine-grass of the mountain country is eagerly sought after by the sheep, and they grow fat very rapidly upon it. Late in the fall the flocks are driven to the valleys and *mesas* of the warmer regions farther south. In the spring they are taken to the shearing grounds, and then to their mountain pastures for the remainder of the year.

Besides the grass we have alluded to, the *alfileria*, or wild clover, has been introduced by sheep driven from California, and is rapidly spreading over the country. It is a species of feed sheep are especially fond of, and on which they keep in prime condition at all seasons.

Diseases among sheep in Arizona are rarely ever heard of, and the wool-grower is saved the expense and constant

annoyance of "doctoring" his flock, as is the case in other countries. The pure air and clear, cold water of the mountain region has a remarkably healthy effect, and in the winter months as well as in summer, they keep in excellent condition.

The fearful droughts so fatal to sheep in California and the regions east of the Rocky mountains, are never known in Arizona. Here, year after year, there is abundance of feed; green grass always covers the plains and hillsides, the water supply is always abundant, and although Arizona is considered a dry country, deaths among stock on account of a scarcity of feed or water are hardly ever known. In other lands which are looked upon as especially favored for cattle and wool-growing, thousands of festering carcasses often cover the plains, perished for want of food or drink. In this Territory such a spectacle is never witnessed, and sheep-owners from neighboring States and Territories have often saved a portion of their flocks by driving them to the cool, shady mountain regions and sparkling springs of northern Arizona.

As in cattle, the increase in sheep is something wonderful. The average, year after year, is fully sixty-five per cent., and not unfrequently it goes as high as one hundred. The genial nature of the climate well suits the young lambkin, and the percentage of loss among them is very light. In a few days after making their appearance they are frisking over the plain, and cropping the sweet, tender herbage. The owner has little trouble with his lambs. They require scarcely any attention, being left entirely to the mother's care; this, and a balmy air, and genial Arizona sun, soon puts strength and vigor in the limbs of the youngsters; and very few are lost.

The grade of sheep in the Territory is being steadily improved by the introduction of many fine Merino, South-Down, and Cotswold rams. The stock first brought to the country were from New Mexico, and were a poor lot, reduced to mere runts by interbreeding. But a better grade has been driven from California, and by careful crossing the Arizona sheep will compare favorably with any in the Rocky mountain region. They are fine wool-growers and make delicious mutton. The yield per head averages about eight pounds per year. Sheep are shorn twice a year; in the spring and fall.

The price of wool on the shearing ground is about

eighteen cents, and delivered in the markets of New York or Boston, from twenty to twenty-five cents. Since the building of the Atlantic & Pacific railroad freight on wool has been greatly reduced, and the Arizona product can be marketed cheaply and expeditiously. Eastern buyers lavish many encomiums on the long silky fiber of the Arizona crop and its remarkable exemption from the dirt which is so objectionable a feature of wool grown in the western country.

Sheep in Arizona are worth from \$3 to \$4 per head, and year by year, as the grade is being improved, the price grows higher. The number is rapidly increasing, and the sheep industry in the north and north-eastern portions of the Territory is assuming large dimensions. Regions which are too rough and precipitous for cattle are the favorite grazing grounds of sheep. They require much less water, and large areas which would be valueless for stock are the choice feeding grounds of the wool-producer. While there is always something like jealousy existing between the wool-grower and the cattle-man, there is no cause for contention. This grand domain is wide enough for all, and the boundaries which divide the grazing grounds of the cattle-grower from the owner of fleecy flocks, are as clearly defined as those which separate them both from the agriculturist. Besides, the industry is always likely to be confined to certain limits, and can in no way interfere with the cattle business.

The quality of Arizona mutton has a well-deserved reputation for juicy tenderness and exquisite flavor. Fed on the wild grasses the year round, it is equal to the best fattened in inclosures for the eastern market. Travelers have declared that the famous mutton grown on the English downs is but little superior to the Arizona product. Sheep keep fat all the year, and at all seasons a juicy chop or tender roast can be found in market. There are still many fine ranges in Yavapai, Apache, and Graham counties open to location, but they will not long remain so. Large bands are being driven from California every year, and the choice ranges are being taken up. The area of grazing ground in the Golden State is being steadily curtailed, and the wool-grower is compelled to seek fresh fields for his flocks. Arizona presents the most inviting pastures, and hither he is fast driving his wealth in mutton and fleeces.

The number of sheep in the several counties at the present time is estimated as follows:

Yavapai county.....	50,000
Apache ".....	600,000
Graham ".....	10,000
Pima ".....	5,000
Cochise ".....	5,000
Pinal ".....	3,500
Gila ".....	3,000
Maricopa ".....	1,500
Mohave ".....	2,000

Making a total of..... 680,000 head.

Averaging the yearly clip of each sheep at eight pounds, and we have a total of 5,440,000 pounds. Putting this at twenty-two cents per pound in the eastern market, and the yearly value of the Arizona wool crop shows the respectable sum of \$1,196,800. Placing the valuation of each sheep at \$3.50 and the total would represent \$2,380,000. This is a handsome showing for an industry of so recent a growth, and which had to struggle against the disadvantage of high freights until within the past year. If we include the crop of the Navajo Indians, the wool product of the Territory will be largely increased.

And it is only in its infancy. The largest profits realized are an inducement not easily withstood, and the remarkable success which has attended those who have engaged in it will naturally attract others. Nearly every man who has gone into the business has already become, or is fast getting, rich. The failures in nearly every instance are due to ignorance and mismanagement. With some practical knowledge and a good start, a man with average energy and a fair share of industry will find himself independent in a few years. There are yet fine ranges unoccupied in many portions of the Territory, capable of sustaining thousands of sheep, while very desirable locations can be secured at reasonable figures. In eastern Yavapai and Apache counties the sheep pastures are not excelled by any in the south-west, while the facilities for shipping the crop are everything that could be desired. In Graham, Gila, and Pinal are also many choice ranges where fortunes can be accumulated within a few years.

For those wool-growers who are compelled to battle with the rigors of a northern clime, who year after year see a

large part of their flocks destroyed by the elements, who are put to a heavy expense in their struggle against adverse surroundings, we say, come to Arizona. Here is a land where nature is always in a genial mood, where the grass is green and the sun shines nearly every day in the year, where the profits are high, the labor light, and the risks reduced to a minimum. If, like Jason of old, you are searching for a Golden Fleece, Arizona is the modern Colchis where you will find it. No fierce dragons guard it, and no perils are encountered in reaching it. Industry, energy, good management and good sense are the aids which will assist you in gaining it. Thus equipped you will find yourself in a few short years the possessor of countless flocks, the owner of a respectable bank account, and can boast "the glorious privilege of being independent."



CHAPTER XI.

THE INDIAN TRIBES.

“Nature’s savage sons, fierce and wild.”



ARIZONA has long been considered the home of the most savage and blood-thirsty tribe of Indians on the North American continent. The tales of their sickening tortures, fiendish massacres, and deeds of devilry and daring which have been sent broadcast over the land have given the Territory a most unenviable reputation abroad. Looking through the lurid atmosphere which the reports of death and devastation have thrown about Arizona, people at a distance have long regarded the region as the dark and bloody ground of the west; a country where every man went armed to the teeth; where every bush and rock sheltered a savage foe, and where life and property were entirely at the mercy of a murderous horde.

And it must be confessed that this opinion was once well grounded. The neglected graves which mark every road and mountain trail speak mutely but eloquently of the fierce struggle waged here for years. The pioneers who rest in bloody shroud on plain and mountain side attest the nature of the contest, and the list of those who fell victims to savage treachery tell how fierce was the battle between civilization and barbarism, and how stubbornly the red-man resisted the advance of the pale-face. From the time of the American occupation up to the year 1874, it is estimated that not less than 1,000 men, women and children were ruthlessly slaughtered by the Apache. The few whites in the country, isolated from the centers of population and surrounded on all sides by the ever-watchful foe, were always in a state of siege and were never without their arms.

But they were of the stuff which no dangers could daunt or no obstacles could deter. Surrounded by a wall of fire they bravely pressed on, and blazed the path over which progress and civilization have since moved hand in hand. The story of their deeds of daring, their privations, their pluck and their indomitable perseverance, would make the most thrilling chapter in the history of the border. No writer of Indian romance ever imagined such a struggle whose thrilling facts outstep the wildest dreams of fiction. The lonely ambush, the hand-to-hand encounter, the midnight attack, the shrieks of helpless women and children, the flames of burning dwellings, the sickening tortures and the terrible sufferings of unfortunate captives would make a volume horribly fascinating in its record of murder, rapine and robbery.

But the red-man had to yield to his destiny. Here, as everywhere else, the light of civilization blinds and consumes him. The survival of the fittest holds here as elsewhere, and the dominant race has asserted itself. But of all the aboriginal tribes in North America the Apache has most stubbornly resisted the march of progress. He has successively opposed the advance of Spaniard, Mexican and American, and has only submitted after being thoroughly beaten and subdued. Our first glimpse shows him a veritable Ishmaelite, with his hand against all his neighbors; a born murderer and marauder who delighted in blood and pillage. This was the character he bore with the Pimas and other peaceful tribes when the Spaniards entered the country 350 years ago. He was then, as now, a wild man, making his home in the rugged and most inaccessible mountain regions and often swooping down on the fields and flocks of his industrious neighbors. The early mission colonies were subject to his constant raids, and nearly all of them were at last destroyed by this wild freebooter.

It has been thought by many that the ancient race which once flourished here were wiped out by this horde of savage banditti. And it is not an unreasonable supposition when we consider how persistently they have resisted the advance of a more perfect and vigorous civilization. But his power for evil is past, and in a few short years there will be nothing left of the fiercest race of savages that ever roamed in North America save a name linked with a thousand deeds of savage ferocity, and unadorned by a single virtue save, perhaps, that of savage courage.

The Apache tribe in Arizona number about 5,000. Since the year 1874 these Indians have lived on the San Carlos reservation. This reservation is situated north of the Gila river, in the eastern part of the Territory. It embraces portions of Gila, Graham, and Apache counties, is watered by the San Carlos, Cibicu, Eagle creek, Rio Bonita and other tributaries of the Gila, and contains 4,440 square miles. It contains some of the finest farming lands in the Territory and some of the most extensive grazing ranges. It is also known to be rich in minerals of gold, silver and copper; has some extensive forests of fine timber, and is in all respects one of the fairest portions of Arizona. The streams are alive with fish, the forests are full of game, the soil is of the richest, and the climate superb. It is estimated there are at least 300,000 acres of land within this reservation that could easily be brought under cultivation. Of this immense tract not over 1,000 acres have been reclaimed by the aboriginal agriculturists. After all the expense which the government has incurred in purchasing tools and agricultural machinery, a beggarly 1,000 acres is all that can be shown with nearly ten years of trial.

A large school-house has been built and fitted up with dormitories, bath-rooms, and other civilized conveniences. Some thirty scholars receive board and tuition at this institution. The effort to teach the young Apache idea how to shoot in the peaceful paths of learning has not proved much of a success, and the study of orthography is far less interesting than the knowledge of how to make away with some neighboring cattle-grower's stray stock. The reservation at San Carlos is in charge of an agent, with the modest salary of \$1,500 per year. As assistants he has one clerk, one storekeeper, one physician, one chief of scouts, one blacksmith, one carpenter, three butchers, three teamsters and two interpreters. The agent has sole control over the Indians, and is responsible only to the Interior Department for his conduct.

The Apache nation is divided into a number of sub-tribes, of which the following are the most prominent: Coyoterés, White Mountain, Chiricahuas, Pinalis, Tontos; Aguas Calientes, Apache-Yumas, Apache-Mohaves. These subtribes are again divided into bands. Each tribe is governed by a chief, and each band by a captain. As far back as we have any knowledge of them, this system of tribal government prevailed. At no time was there one head chief

acknowledged by the whole nation, although the chiefs of subtribes, like Cochise, Mangus Colorado, and Francisco, exerted a strong influence over all the nation, and often led to war contingents from many bands. In their civil polity the Apaches are republicans of the most advanced type. The chief is elected by the popular voice, and when his course becomes obnoxious to the majority he is requested to resign, and another is chosen in his place. The chieftainship is hereditary in one family only so long as the succeeding heirs have the ability to perform its duties satisfactorily. Where an incompetent succeeds his father he is often displaced to make room for some obscure captain whose deeds as an accomplished thief and successful raider commend him to the suffrages of his tribesmen.

As may be imagined from this, the authority of the chief is merely in name. The Apache is jealous of all restraint and will brook no interference with the exercise of his individual license, and there is probably no tribe of Indians on whose shoulders the cares of government sit so lightly. The Apaches are polygamists, and keep as many wives as their fancy may dictate or as they can induce to live with them. No marriage ceremony is indulged in. The bridegroom, having made his choice, visits the abode of his inamorata, and after making a present to her father according to his financial standing carries her off from the parental *wickiup*.

The women are the hewers of wood and the drawers of water, the Apache braves, like all other Indians, disdain all manual labor. Their morals have not been improved by contact with the whites, but in their wild state they observed a code almost Draconian in its severity. Infidelity on the part of the wife, among the Coyoterese, was punished by cutting off the nose, but this has been done away with since their intercourse with the pale-faces, as its strict observance threatened the mutilation of the entire female portion of the tribe.

The Apaches, like all other American Indians, believe in a Great Spirit and another existence in the "happy hunting-grounds." They are very superstitious, believe in witchcraft and spiritualism, and have almost implicit confidence in their medicine-men. They are cremationists and burn their dead. Their habits are filthy; they are lazy, indolent and thievish. The latter accomplishment they have reduced to a fine art, and the tales of their exploits would put

to the blush the most expert cattle-riever that ever swung a lariat on the border.

Physically the Apaches are below the medium height, but sinewy and well put together. Their complexion is a dirty black, and the expression of their features tells of their villainous and blood-thirsty natures. They are capable of standing much fatigue and hardship and can make long journeys over the barren plains and mountains without food or drink. They are thieves by nature and murderers by instinct. In their wild state they had no fixed habitation, and roamed through the mountains improvising a rude shelter for a few days where game or *mescal* was abundant. Yet this handful of savages have virtually maintained a reign of terror in Arizona and northern Mexico until within the last few years. They are adepts at savage warfare and are masters of every stratagem to entrap the unwary traveler. Never giving battle on the open plain, they always lay hidden behind some rock or bush and surprised their victim when he least expected an attack. Of all Indians the Apache seems less disposed to adopt the habits and mode of life of the white man. He is a savage, pure and simple, and can no more be tamed than a tiger or a wild-cat.

Of all the Apache race the Chiricahuas are the most war-like. Their country in southern Arizona extended from the Boboquivari Peak east to the line of New Mexico, and south of the old overland stage line. Under the leadership of their famous chief Cochise, they marked every mile of the old overland road with the grave of some victim, and carried their forays all over the northern States of Mexico, even spreading dismay to the very gates of Durango. It is believed that this band of savages have murdered more persons—American and Mexican—than any tribe of the same number in North America. It is this band which has caused all the trouble in southern Arizona for the past two years. For such demons there can be only one treatment—extermination—and the authorities on both sides of the border have at last arrived at this conclusion. They have done more to retard the progress of the Territory than all else combined, and the brightest day in her history will be the one that sees the last of them pass over to the happy hunting-grounds. The terrible tales of Apache barbarity would be simply incredible were they not well authenticated. After killing their victim they nearly always

crushed the face and head with rocks and otherwise mutilated the body, and then shot it full of arrows. Those unfortunate captives who fell into their hands were horribly tortured. Sometimes they would be fastened to a tree and left a target for the arrows of the squaws. These hell-cats would amuse themselves by watching the agony of the prisoner and seeing him die by inches. The doomed wretch would be frequently hung by the heels to a limb while a slow fire was built under his head. When wagon-trains were captured the victims were often tied to the wheels and literally cremated while the red devils would dance and yell in fiendish glee around their shrieking captives. When an old Arizonan thinks of these things and remembers some friend or comrade who suffered a thousand deaths under the hands of the savages, it is no wonder that he believes extermination the only proper solution of the Apache problem. The Apaches are gradually decreasing; their power is forever broken; the contact with civilization is too much for them, and this savage autocrat who for centuries kept Pima, Moquis and Papago on the defensive will soon pass away.

The Pima and Maricopa tribes have a reservation set apart for them on the Gila river. It begins about nine miles below the town of Florence and extends down the stream to its junction with the Salt, a distance of nearly thirty-five miles, embracing some of the richest valley land in the Territory. By an executive order dated July 14, 1878, another tract of rich land on the north side of Salt river was set apart for their use. The Pimas number about 4,000; the Maricopas, about 500. Both tribes are semi-civilized, till the soil, own cattle and horses, live in permanent abodes, and are peaceful and industrious. They cultivate about 400 acres on the Salt and 800 acres on the Gila. Their wheat crop will average about 2,000,000 pounds a year. It is much superior to that of their white neighbors on the Salt, both in cleanliness and quality, makes a better article of flour and commands a higher price.

Besides wheat, corn, pumpkins, beans, sorghum and vegetables are raised in large quantities. They manufacture *ollas*, or earthen jars, for holding water, baskets and other articles of stone and willow-ware. They formerly made some very fine blankets and cotton fabrics. Their farming is of the most primitive style; the grain is cut with sickles, and threshed by being laid on a smooth earthen floor and a

band of ponies driven over it. They live in small villages, the inhabitants of each holding their lands in severalty. Their houses are built by placing a number of poles in a circle, arched at the top. These poles are then covered with grass and mud, a small opening being left for a door. When completed, they look like a gigantic beehive.

The Pimas were settled in their present abode when first visited by the Spaniards, three centuries and a half ago. Then, as now, they cultivated the soil, manufactured earthen vessels and fabrics of cotton and wool. They had no knowledge of their origin, and could tell their visitors nothing of their history. They have not changed in any way in the past 350 years, and are the same in manners, customs and habits to-day as they were when Cabeza de Vaca dropped in amongst them on his tramp from the everglades of Florida. They are governed by one head chief, the position being hereditary in one family. The tribe is subdivided into bands, each band being ruled by a captain, who is elected by the popular vote. Each village has a council hut, where the leading men frequently meet and discuss the "affairs of state." In case of trouble or disagreement among members of the tribe, a council of the old men is called and the matter settled by arbitration.

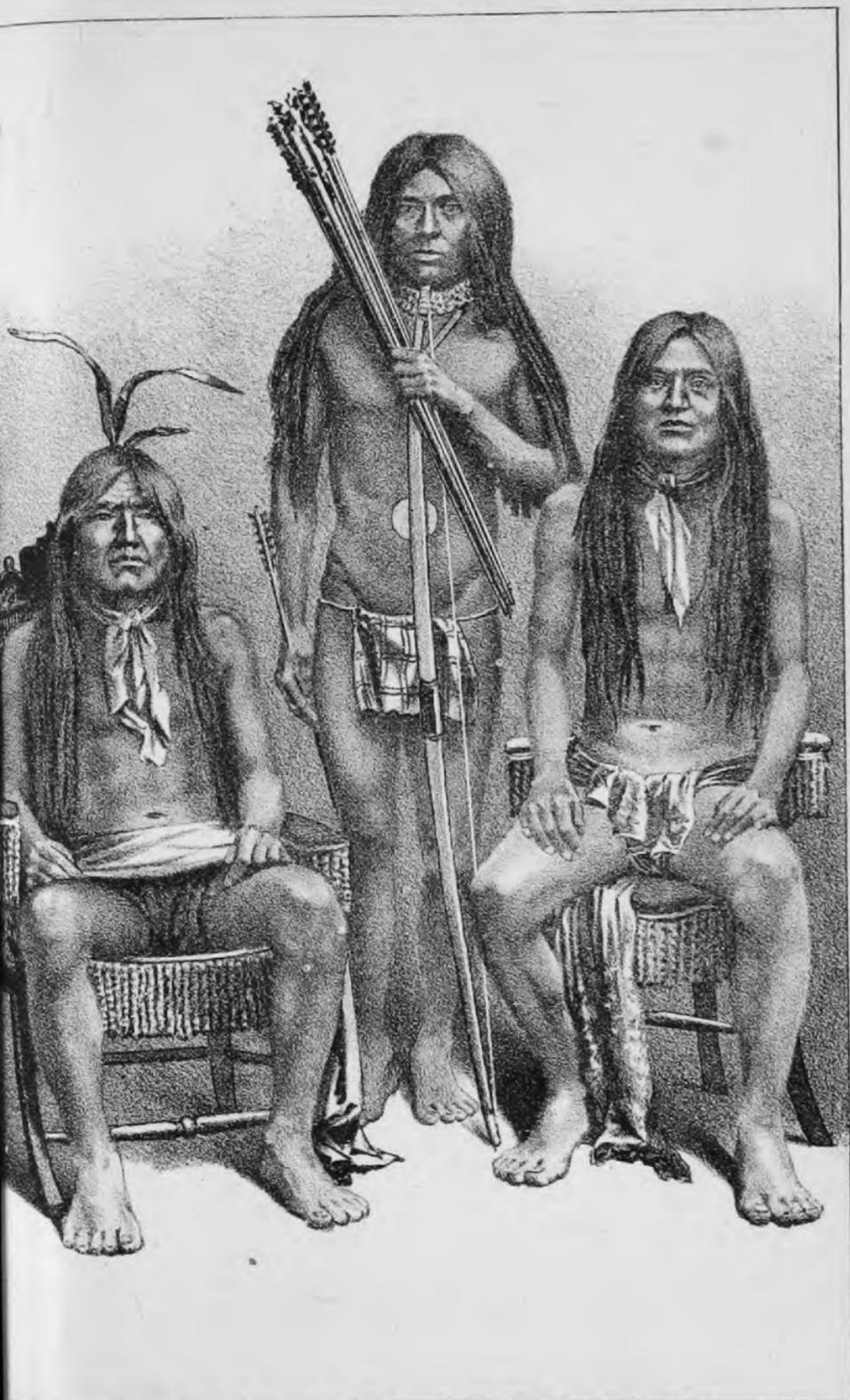
They observe the family tie, and are very peculiar about marrying near relatives. They believe in monogamy, but sometimes a plurality of wives is allowed, as when a brother's wife is left without support it is considered a correct thing for the surviving brother to take charge of her. The marriage ceremony is simple. A young man goes with a friend to the residence of his intended and asks the "old man" for the hand of his daughter, at the same time stating his own prospects for the future. The old party replies, and sometimes the future mother-in-law expresses her views. If the verdict is favorable he takes his bride by the hand, leads her to his *wickiup*, and from that time on they are considered man and wife. Divorces are common among the Pimas. When either party becomes dissatisfied, through infidelity or any other cause, he or she, as the case may be, packs traps and leaves the *rancheria*. The party to blame loses all the common property; the mother takes care of the children, if there are any.

In case of murder among them, the task of avenging the victim is left to his relatives. But crime is little known, and the best of order always prevails. They have great

faith in their medicine-men—so long as they are successful in effecting cures. Repeated failures, however, are apt to lead to unpleasant consequences. A case lately occurred where an unfortunate disciple of Galen, having sent three patients in succession to the happy hunting-grounds, was summarily dealt with by having his brains knocked out with a club. They have some dim notion of a Creator and a hereafter. They are also strong believers in witchcraft, and club to death those whom they believe guilty of it. They bury their dead. The Pimas have a tradition that the Casa Grande and the other towns that once existed on the Salt and the Gila rivers were destroyed by an enemy who came from the east. They were at one time a large and powerful nation, with villages extending down as far as the center of Sonora. The entire country, to the Gulf of California, was called by the Spanish explorers Pimeria Alta and Pimeria Abajo.

The Pimas have always been friends of the whites and the enemy of the Apaches. They gave succor and assistance to the early settlers, and their doors were always open to the unfortunate American hard pressed by the savage foe. They are a peculiar race, and for centuries have lived and labored and passed away in their quiet valley under the shadows of the Sierra de Estrella. Empires have been founded and overturned; wonderful discoveries have been made; the earth has undergone vast changes, but nothing has disturbed the peaceful serenity of the Pima's life. Shut out from the rush and roar of the busy world, he is to-day as he was ages ago.

The Maricopas are on the same reservation with the Pimas, but live separately. They were once a part of the Yuma tribe, but were driven out and joined the Pimas over eighty years ago. They have intermarried with their protectors and adopted their habits and many of their customs. Their language is different, and both tribes but imperfectly understand each other. In one particular they resemble the Apaches, they cremate their dead. Both the Pimas and Maricopas are expert warriors, and have nearly always worsted the Apache. In 1857, the Yumas, Mohaves and Apache-Mohaves came up the Gila and attacked the Maricopas near Maricopa Wells. The Pimas came to the assistance of the latter and a bloody battle ensued. The Yumas were surrounded, and being deserted by their allies were cut to pieces. Only two or three lived to carry the dis-



A GROUP OF YUMA INDIANS.

mal tale to the Colorado. When the battle ended, ninety Yumas braves lay stretched stark and stiff on the sandy plain. Since then the Yumas have never ventured far up the Gila river.

The Papagos were once a part of the Pima nation, but were converted to Christianity by the Spanish missionaries and took the name Papago (baptized) after being received into the church, of which they yet remain faithful members. Of all the Indian tribes of the Territory they are the most industrious, peaceful, virtuous, temperate and thrifty. Like all Indians who are inclined to peace and industry, they receive no aid from the Department; it is only the bad Indians who are pampered and coddled by our paternal government.

The Papagos are farmers and stock-raisers. They speak the same language as the Pimas, and the only thing that distinguishes them from the latter is the manner of cutting the hair; they also wear hats, and dress after the manner of the lower class of Mexicans. The tribe have a reservation on the Santa Cruz which includes the old Mission church of San Xavier. This is one of the finest tracts of farming land in the Territory. A large part of it has been brought under cultivation, and fine crops of wheat, barley, corn, pumpkins, melons, etc., are raised.

The tribe own a great many cattle and horses. They have also a settlement on the Gila, below the mouth of the Salt, where they cultivated about 400 acres. During the long and bloody contest with the Apache, the Papagos did good service, fighting side by side with the whites. In their combats with the common enemy they have always come off victorious. They are good laborers, and numbers of them are employed by the farmers of the Salt and Gila river valleys during the harvest season.

Papaguera, the land of the Papagos, extends west from Tucson to the head of the gulf. It is a wild and uninviting region; water is scarce, and vegetation not abundant. Isolated, barren mountains and dry plains are the striking features of the country. At certain points the Indians have dug wells and established villages around them. Little patches of corn and pumpkins are planted, and shallow reservoirs formed to catch the rain-fall, which sometimes pours down on these arid plains with tropic fury. A great many of the tribe still live in this, their old home. The Sisters of St. Joseph have established a school at the old church

of San Xavier, which is largely attended and is doing much good for the tribe.

The Colorado river reservation was established by Act of Congress, March 3, 1865. It is situated between Ehrenberg and La Paz, and embraces an area of about 600 square miles and a total Indian population of 1,010, composed of the following tribes: Chim-e-hue-vis, 208; Mohaves, 802. The Mohaves, who have lived along this portion of the Colorado ever since we have any knowledge of them, are a tall, muscular and rather handsome race. They were once in active hostility to the whites, but the crushing defeat which they sustained at the hands of Col. Hoffman, of the regular army, in 1859, completely broke their spirit, and ever since they have evinced no desire to go on the war-path. Morally, they have long been considered among the most degraded of all the Arizona Indian tribes. Prostitution is almost universal, and the marriage tie is scarcely regarded. Contact with the whites has brought disease and death, and the powerful tribe of Mohaves are but an insignificant band of tatterdemalions, whose days are already numbered.

The Chim-e-hue-vis on the reservation are much further advanced than the Mohaves. They dress in light cotton stuffs, and their women are especially noted for their good looks. Their country is on the California side of the Colorado, opposite Ehrenberg and La Paz. The government has expended a large sum in constructing irrigating canals on this reservation, with the hope of making the occupants self-sustaining, but it appears to have been money thrown away.

The Indians cultivate a few small patches and raise a little corn and wheat and a few melons, pumpkins, etc. An agent is in charge of them, besides a physician, clerk, farmer, carpenter, blacksmith, teacher, matron and cook. With such an imposing staff it would be expected that some tangible results would be obtained; but the effort to light the torch of civilization on the Colorado river reservation has proved a lamentable failure, and the people are compelled to support a lot of worthless vagabonds too lazy to earn their own livelihood. Formerly the Mohaves were in close intercourse with the Apaches. Through their intermarriages sprung the tribe of Apache-Mohaves, who inhabited the country between the Colorado and the mountain region of northern Arizona. This mongrel race inherited all the savage vices of the Apache, without his courage and

daring. The remnant of them are now on the San Carlos reservation.

The Yuma tribe live on the lower Colorado, ranging from Castle Dome down to the gulf. They number about 1,200, are a tall, well-proportioned race, with a strong liking for whisky and tobacco. The name "Yuma" signifies "son of the river," they having always made their home in the valley of the Colorado. They were once a strong and warlike tribe and gave the early settlers in this region much trouble. Missions were established among them by the Spanish fathers, but they did not take kindly to the new doctrines, and after two years of existence the mission buildings were destroyed and the inmates massacred. Colonel Heintzelman inflicted severe chastisement upon them in 1851, and ever since they have been docile and well disposed. They cultivate small patches on the Colorado bottoms and raise some corn and vegetables. Their morals are on a par with those of the Mohaves, and like them they are becoming fewer every year. The government has lately set apart a reservation for the Yumas embracing a strip of territory on the west bank of the Colorado and including old Fort Yuma. There is plenty of rich bottom-land in the vicinity amply sufficient to sustain the tribe. This tardy act of simple justice to these Indians has been long delayed. For years they have been good friends to the whites and only escaped starvation by the charity of the people of the town. They are not indisposed to work, and many of them are employed on the boats which ply on the Colorado. The old post around which linger so many interesting historical associations, and which was established to hold in check this once warlike tribe, is now occupied by the "Sons of the River." But their prowess is gone, and they are now but poor pensioners on the bounty of the government they once defied.

The Hualapai tribe are an offshoot of the Apache nation, and in appearance much resemble the latter. They live in the barren mountain regions of Mohave county, eking out a precarious existence on roots, lizards, rats, mesquite beans, *mescal* and the little wild game which the country affords. They also hang around the different mining camps doing odd jobs and picking up any crumb which may fall from the table of the miner or prospector. They were at one time on the Colorado reservation, but the enervating climate of the river-bottoms was fatal to Indians born and bred in the

pure, bracing air of the mountains, and they returned to their native hills.

The Hualapais are a brave and warlike race, and caused the early settlers of northern Arizona much trouble. They number about 800, with a head chief and many small bands ruled by captains. They did good service against the hostile Apaches, many of them enlisting as scouts and fighting bravely by the side of the troops. They are experts in the use of the rifle, and long intercourse with the whites has taught them all the vices of the pale-face. These Indians have been several times on the brink of starvation, and have to depend nearly altogether on the bounty of the settlers. Although they "have done the State some service" and earned the gratitude of the people by their services against the common enemy, they are neglected by the government and allowed to gain a subsistence as best they may. But it does not seem to be the policy of the Indian department to reward or encourage peaceful tribes. Flour, beef, coffee, sugar, clothing and other good things are only given to those "gentle savages" who can point with pride to the white scalps which adorn their *tepees* on the San Carlos.

Since the last edition of this work went to press the government has set apart a reservation for the Hualapais, embracing a large area of territory north of Peach Springs and lying along the Grand cañon of the Colorado. This should have been done years ago, but the red tape of the Indian Department is something like Dickens' circumlocution office, and "how not to do it" seems to be the motto of that branch of our civil service. There is no tribe in Arizona that deserves better of the whites than the Hualapais, and they are worthy of better treatment than they have yet received at the hands of the government.

The Ava-Supies are one of the most interesting tribes in the Territory or in the United States. They have their homes in the deep cañon of Cataract creek, a tributary of the Little Colorado, and which has its source in Bill Williams mountain. The narrow valley in which they live averages from 100 to 500 yards wide, with walls of sandstone rising perpendicularly on either side to a height of from 15,000 to 30,000 feet. The descent from the level of the plateau is by a steep trail which winds along the walls of the towering cliff. Through the center of the narrow valley runs a cold, clear stream. The soil is rich, and produces grain, fruits

and vegetables. Down in this lovely vale the climate is almost perpetual summer; and while the icy winds of winter sweep over the plateau above, this sequestered glen sees the flowers bloom and the grass green all the year round.

The tribe numbers about 300, men, women and children, and is made up of a heterogeneous mixture of many tribes, who, it is said, were driven out or fled from their former homes on account of some misdeed; however this may be, it is certain that the Ava-Supies are peaceable and industrious. The few whites who have been down to their village were kindly treated and found them intelligent and thrifty. They cultivate the soil and do a brisk trade with the Moquis, exchanging dried peaches and buckskins for cotton stuffs and other articles; thus, literally shut out from the world, the Supies live in their beautiful home, blessed with everything to supply their simple wants. They are ruled by a chief who is elected by the popular voice, but their customs and polity are but little known. They seldom emerge from their secure retreat, and neighboring tribes do not trouble them, knowing their prowess with the rifle and the bow.

The Moquis occupy several villages in the north-eastern portion of the Territory. They were the ancient "Cities of Cibola" of which Cabeza de Vaca and Padre de Niza told such wondrous tales and which Coronado found to be but a collection of wretched hovels. The Moquis of to-day occupy the same villages their ancestors did centuries ago, and there is no change in their customs or mode of life since they were first visited by the Spaniards. Their pueblos are situated on rocky *mesas* which rise from 300 to 600 feet above the level of the surrounding plain. On one of these isolated *mesas* are situated four of their villages; three other villages occupy as many bluffs. The houses are built of rough stones laid in mud and fashioned like terraces. These terraces are approached by ladders, the entrance to the dwellings being from the upper story. At night the ladders are drawn up and all access to the interior cut off. Like the Pimas, the Moquis are partly civilized, cultivate the soil and manufacture many articles of earthenware and coarse woollen fabrics. Although the soil at the base of the rocky bluffs on which they make their homes is sandy and barren-looking, it produces good crops of corn, melons, pumpkins and peaches. Heavy rains fall in this locality and no irrigation is required. They have large flocks of

sheep and goats, which at night are driven into stone corrals around the base and rocky sides of the *mesas* and carefully guarded. Their warlike neighbors, the Navajoes, who live to the north, have very loose notions respecting the rights of property and frequently sweep down on the unguarded flocks.

It is generally conceded that the Moquis are of the same race as the Zunis and other pueblo Indians of New Mexico. Travelers whose imaginations have more than made up for their paucity of facts have supposed they are a part of the Aztec race, and in their religious customs and forms of government have traced a resemblance with the people who inhabited the City of Mexico; but there is nothing to show that there ever was any affinity between the two peoples, and save a dim tradition respecting Montezuma which some visitors assert exists among them, there is nothing to prove that they had any knowledge of the powerful nation which fell before the conquering sword of Hernando Cortez. A communal government prevails among the Moquis. Each village holds the land in severalty, and each is ruled by a chief whose office is elective.

In religion they are said to be sun-worshippers; they also indulge in idolatrous ceremonies and incantations and are firm believers in witchcraft. The government has provided an agent for them and established a school which is said to be proving a success. For several years Mormon missionaries have been among them and have made many proselytes. The tribe numbers about 1,000.

The Navajo tribe have a reservation in the north-eastern corner of the Territory, embracing a portion of New Mexico, and containing an area of about 5,000 square miles. This reservation has some fine farming and grazing lands. The tribe also roam over all that region between the Moqui villages and the Rio San Juan, and west to the Colorado. There is some fine grazing land in this locality, and every summer large herds of horses and sheep are pastured on it. The Navajoes are the main branch of the Apache nation, and are the most intelligent, active, and enterprising of all the Indians in Arizona. They are a lithe, sinewy and rather handsome race, with keen eyes and a proud and independent carriage. For years they were on the war-path, and it was only after the expenditure of millions of dollars and the loss of many men that they were finally subdued. After being conquered they were removed to a res-

ervation on the Pecos river, but the climate proved unhealthy, and after many had died they were allowed to return to their old home. Since then they have made rapid progress in population and wealth and are to-day the richest tribe outside of the Indian nation. They number about 15,000, and are one of the few tribes that are increasing.

They own over 15,000 fine horses, nearly 500,000 head of sheep, some 5,000 head of cattle, besides mules, *burros*, goats, etc. "Navajo blankets" are famous all over the west, and as high as \$150 is not unfrequently paid for those of fine workmanship. Besides blankets they manufacture sashes, saddle-cloths, fancy bridles, lariats and other articles. Over \$30,000 per annum is derived from the sale of these articles. Every family has its loom, where the women are constantly employed.

Near their agency at Fort Defiance they have a large tract of land under cultivation, and raise fine crops of corn, wheat, barley, vegetables and fruits. Some members of this tribe are wealthy, one old chief having several hundred acres under cultivation, and quite an army of peons about his *hacienda*. Before their submission to the government they were nearly always at war with their Mexican neighbors, and for years terrorized the whole Rio Grande valley, often capturing important towns and carrying the women and children into slavery. From this source the tribe have received a large infusion of Mexican blood. The Navajoes are born warriors, adroit thieves, and the finest horsemen in the west. They have always been a thorn in the side of their peaceful Zuni and Moqui neighbors, who entertain a well-grounded fear of their prowess. Although the government supplies them with annuities, the tribe is self-sustaining and rapidly growing rich. The Navajo reservation extends into New Mexico, so that the whole tribe cannot be said to properly belong to Arizona. Of all the Indians in the Territory the Apache is the only one who continues to give any trouble. Although the tribe was subdued and placed on their present reservation in 1874, the events of two years ago have shown that there is no sure guaranty for permanent security so long as one of them remains within its border. It is true the outbreak was made by a small band and did not extend beyond a narrow strip along the Sonora border; it is true that life and property in the rest of the Territory were as safe as in New York city; it is true that the damage done was grossly

exaggerated; but all these circumstances do not overcome the fact that the outbreak has injured every material interest and seriously retarded the Territory's advancement.

The handful of renegade Chiricahuas who have been raiding in northern Mexico and a portion of southern Arizona for two years past have brought the Territory into bad prominence abroad once more; and her unenviable reputation as a hostile Indian country, which was gradually being forgotten, has come back with all its former force since the Cibicu fight. Capital, ever timid, has taken the alarm, and hesitates to invest in a country where there seems to be no protection for property; immigration halts on its onward course, doubtful about making a home where life is at the mercy of murderous savages. All branches of industry suffer from the deadly blight of savage outbreaks. It makes no difference that the rising was quickly put down, and that the devilish work of the red fiends was confined to a very small portion of the Territory; people abroad who read of it believe the whole country overrun with savages, and imagine the principal towns besieged and the people fleeing for their lives to places of safety! It is thus that Indian outbreaks affect the progress and prosperity of Arizona.

The number of Indians in Arizona is nearly as follows:

Apaches.....	4,500
Navajoes.....	15,000
Moquis.....	800
Ava-Supies.....	300
Yunas.....	1,200
Hualapais.....	800
Papagos.....	5,000
Pimas.....	4,000
Maricopas.....	500
Mohaves.....	1,000
Total.....	33,100

The reservation system has been tried and proved a failure. It has become a breeding-place for assassins, an asylum for murderers and marauders, a home for thieves and outlaws, a shelter for the most blood-thirsty villains that ever cumbered the earth. For years the government has expended money with a lavish hand in maintaining these wretches in idleness and ease. Abundance of food and clothing and the best medical care have been theirs. Liv-

ing in one of the finest farming regions in the Territory, and provided with the latest improved and costliest of farming machinery, no effort has been made to compel these lazy vagabonds to till the soil and make themselves self-sustaining.

The people are taxed to support a horde of banditti who learn nothing but the vices which spring from idleness and sloth. Into the hands of these untamed thugs the government has placed arms and ammunition. Whenever life on the reservation becomes too monotonous, they hie themselves forth, killing and destroying everything in their path. When hard-pressed they cross the border into Mexico and there indulge in the same deviltry. When they tire of this pastime and rations run short, they steal back to the San Carlos, there to rest and feast until they get ready for another raid. This is the way the reservation system has worked in Arizona; and is it any wonder the people have become exasperated and that many of them demand total extermination as the only solution of the Indian problem?

The people of Arizona demand a radical change. They believe the presence of so large a body of Apaches almost in the heart of the Territory is a constant menace to its peace and a steady drawback to its material advancement. They know that some of the finest grazing and farming and the richest mineral lands are closed to occupation and settlement on account of the presence of these worthless savages. They also know that a large portion of the public domain has been set apart for the exclusive use of Indians, and believe thither they should be sent. There is abundance of room in the Indian Territory, and there let the Apaches go. Let them be made to work and learn to become self-sustaining. This is the true solution of the Arizona Indian problem, and the one which will meet the approbation of every citizen who has the interests of the Territory at heart.

A few thousand savages, whose worthless lives all combined are not worth that of one honest white man, have too long retarded the advancement of one of the richest regions of the West, too long have obstructed the path of progress and cast a shadow on the Territory's prosperity. The Apache must go. The land he has so long cursed with his presence will rejoice when the last of his race shall have passed beyond her borders.

The total area of the several reservations in the Territory is as follows:

Navajo.....	4,452 square miles.
San Carlos.....	4,440 " "
Moqui.....	4,000 " "
Colorado.....	600 " "
Pima and Maricopa.....	275 " "
Papago.....	195 " "
Supie.....	60 " "
Total.....	17,822 square miles,

Or nearly one-seventh of the entire area of the Territory given over to savages. This does not include the Hualapai reservation, the figures of which are not at hand. The people find no particular objection to any but the Apache tribe. The other Indians are peaceful and well-disposed, and inclined to earn a livelihood by their own exertions. While it is true that the reservation set apart for the Pimas and Maricopas contains some of the finest farming lands in the Territory and is much larger than they will ever bring under cultivation, still their white neighbors do not complain at their petty pilfering and the trouble and annoyance which they often cause to settlers. But for the Apache they have no room. For long years they have suffered at his hands and seen some of their best and bravest offered as a sacrifice to his insatiable hate. His history is written in blood, his presence is a fire-brand liable at any time to burst into flame, an obstacle in the path of the country's development. He occupies one of the most desirable regions in the entire Territory, and prevents the coming of immigration and the investment of capital. Let him be removed and his power for mischief will be at an end.



CHAPTER XII.

FOR THE HOMELESS.

“Fair clime! where every season smiles.”

IT has been said that he who causes two blades of grass to spring up where only one grew before is greater than he who taketh a city. Among all nations the farmer's has been considered the most honorable calling, and the greatest and the best in every land have followed the trade of Adam and tilled the soil. The early Romans could conceive of no higher reward for valor or eminent public service than the gift of a piece of land; and the picture of Cincinnatus leaving his plow standing in the furrow while he responded to his country's call is one of the most pleasing in all antiquity.

Intelligent, prosperous and independent, the American farmer stands unquestionably at the head of his class throughout the world. Liberal laws give him the opportunity to acquire land at a merely nominal figure; the dense population of older lands gives him a market, certain and remunerative, while the wonderful richness of the soil rewards his labors with abundant harvests. No wonder that his lot is envied, and that the oppressed toilers of the old world cast longing eyes towards the western Republic, and come, as quickly as they can, to share in the heritage which a free and liberal government offers to all. But the swarm from the European hive has set in so thickly during the past twenty years that the public domain has been rapidly reduced, and the opportunities for securing government land in the western States are becoming fewer every year. The immense grants which have been bestowed on railroad corporations have removed from entry and settlement millions of acres, some of it among the choicest land on the continent.

The inquiry for homes is as great as ever, but the area of arable lands open to pre-emption is gradually diminishing. In Kansas, Colorado, Nebraska and other States which were considered the extreme west a few years ago, very little desirable public land is open to the settler. If he wishes to make a home in those States he is compelled to pay a round price, and as most immigrants are not troubled with heavy purses they turn their faces towards the setting sun in search of a country where speculators and monopolists do not entirely control the public domain. Many of them have heard of the wonderful mineral wealth of this Territory, but know little or nothing about its farming possibilities. In this chapter the writer will tell that homeless caravan which, like the wandering Jew, is ever moving on, something about the soil, productions and the opportunities for making a home in its fertile valleys.

It is not many years since popular belief considered Arizona's agricultural resources hardly equal to the task of producing the traditional "hill of beans." It was looked upon as a barren, sandy waste, as incapable of cultivation as the desert of Sahara, and valuable only for the minerals it was supposed to contain. The same opinion prevailed as to California, and even so high an authority as Daniel Webster asserted that a bushel of grain would never be raised within the limits of the Golden State. To-day the traveler through the valleys of Arizona will see as handsome farms as are to be found anywhere in the west. He will see a rich soil, and a climate so perfect that the husbandman could not suggest an improvement. He will find cereals, fruits and vegetables of as fine quality as are grown in any country on earth. He will find comfortable homes, and all the pleasant surroundings of garden and orchard which adorn and beautify the farmer's abode in other lands. He will see, literally, the desert made to blossom as the rose and produce bountifully everything which blooms and ripens under tropic or temperate suns.

The grand capabilities of Arizona as an agricultural region are only beginning to be understood. Experiments made within the last few years have shown that the soil is of wonderful richness and fertility. The dry, arid valleys, which were supposed to be incapable of production, will grow magnificent crops of cereals and fruits. Wherever water can be had its magic touch brings about a transformation as sudden as it is beautiful. The desert waste dons its

robes of green, smiles with verdure, and rejoices in productivity. Vegetation has a most rapid growth, and in the southern valleys two crops a year reward the labors of the husbandman. Nowhere throughout the great west does Nature so generously aid the tiller of the soil, and nowhere does she give so much and ask so little at his hands. Here are broad and beautiful valleys, whose level outlines an unbroken irregularity which delights the eye of the practical farmer. No laborious clearing is required, and no weary years of toil in digging out stumps and draining swamps. Ready for the plow and the seed is the rich, friable and loamy soil, and light the labor which it exacts in return for its bounteous yield.

Here no inhospitable snows, no freezing winds, and no fierce tornadoes make life a burden for half the year. Bright sunshine, balmy air, a temperature of remarkable evenness, and an atmosphere clear, pure and bracing are the gifts which nature lavishes on the farmer's home in Arizona. There are few portions of the west where less labor is expended on new lands. The great richness of the soil requires no aids in the production of a crop save irrigation. A shallow plowing, a dropping of the seed, from three to four irrigations, and the fields of waving grain are ready for the header and thresher. Year after year the same crop is planted, but there seems to be no falling off in the yield or deterioration in the quality. Perhaps no better evidence of the fertility of the soil in the valleys of Arizona can be found than in the Pima farms on the Gila. We know to a certainty that these people have cultivated the same lands for three hundred and fifty years, and doubtless for many centuries more. Yet the soil which has been called upon to produce a crop each year for so many centuries is rich, vigorous and productive to-day, yielding the finest wheat raised in the Territory, besides fruits and vegetables. There does not seem to be any "wear out" to the valley lands of Arizona. The soil possesses remarkable recuperative properties, and with careful irrigation seems to renew its strength and vigor each year.

The farming lauds of Arizona are confined mainly to the valleys of the principal rivers. At the present time the cultivated area is mostly along the Gila, the Salt, the Verde, the Santa Cruz and the San Pedro. Besides these rich valley lands there are millions of acres with a fine soil among the hills and on the plains and *mesas* of the Great plateau

which could be made to yield abundantly if there was water for irrigation. The valleys of the Gila and the Salt rivers contain the largest and most prolific body of land within the Territory.

As stated in another place, there is ample evidence that these valleys were once densely populated, and the traces of irrigating canals which are found far beyond the present limits of cultivation, would show that the area under cultivation in the old days was much greater than at present. Nearly all the land is as level as a floor, with a gradual slope from the mountains to the river, making it perfect for irrigation. The uniformity of surface and gentle slope show the handiwork of the ancient cultivator, and would indicate that the labor of centuries was required to bring it about. There can be no doubt that those people were masters in the art of irrigation and utilized every drop of the precious fluid. Although their system of farming was doubtless crude, they reclaimed an immense stretch of land and raised large crops.

Irrigation is the life of agriculture in the Territory. Without it scarcely anything can be raised; with it the soil is the most prolific in the west. Water, therefore, is the most precious element for the farmer in Arizona. Without it the soil is worthless. It follows from this that the amount of land that can be brought under cultivation depends on the water supply. The limit of production will always depend on this supply, but with care, economy and system in its management, there is enough to support a large agricultural population, who will always be able to meet the home demand. This chapter will give the reader some idea of the extent and character of the arable lands of the Territory, the present condition of the farming industry and its possibilities for the future.

When the obstacles which stood in the way of the early settler are considered, it will be acknowledged that commendable progress has been made; and a glance over the fair and fruitful fields in the valleys of the Salt and Gila will show the grand possibilities of Arizona as a farming country. For the purpose of conveying this information more clearly the farming resources of the different counties are given separately.

Maricopa is the leading agricultural county of the Territory, and the valley of the Salt river has been well named the "Garden of Arizona." Besides the fine valley on this

stream, the county also embraces a large stretch of rich lands in the valley of the lower Gila. It has been estimated that the total area of arable land in Maricopa will exceed 400,000 acres, nearly all of which can be brought under cultivation. The valley of the Salt river, surrounding the city of Phoenix, is about forty miles long and at one point is fully fifteen miles wide, embracing an area of over 200,000 acres with as rich a soil as can be found on the continent. Among the valleys of the Pacific slope it takes a foremost place. For fruits and grain it stands unequalled. When water is poured over the thirsty earth its productiveness is something wonderful. The removal of a light growth of grease-wood brush is the only labor required to make the land ready for the plow. The evenness of the surface and the ease with which it can be irrigated make the cost of cultivation light. There is no spot that offers better inducements to those seeking homes, or none where more beautiful or more attractive ones can be made. Fruit and flower and shrub and tree transform in a few short years the barren waste into a lovely garden. The river flows through this immense tract, and carries sufficient water, averaging one year with another, to irrigate every acre of it. The land in this magnificent valley is generally a sandy loam, light and porous and especially adapted to fruit. That nearer the river is inclined to a heavy, rich adobe. The first settlement by Americans was made in 1868. It was then a barren waste, covered with grease-wood, mesquite and cactus. The sun beat down on the arid plain, scorching and blistering the struggling vegetation. Outside of a narrow strip along the river, there was not a single spot of verdure to relieve the eye. A more perfect picture of nature in her wildest and most savage mood, it would be hard to find.

But what a change has been brought about! Let us climb the tower of the new court-house and from its summit take a view of this magnificent vale which nature has blessed with every gift and which only requires the labor of man to make equal, if not surpass, in beauty and productiveness the famed City of the Angels. Standing on this elevated perch, what a sight of surpassing beauty meets the gaze! It is early spring, and as far as the eye can reach in every direction it rests upon a sea of green. Immense fields of wheat and barley stretch away for miles; acres upon acres of alfalfa decked with its purplish blos-

soms sway gently beneath the passing breeze; the vineyards are in full leaf, and from the orchards, gorgeous in all the glory of blossom and bud, there comes floating on the breeze an odor of delicious fragrance as pleasant as a breeze from the vales of Araby the Blest. Comfortable homes dot the landscape on every side; surrounded by groves of refreshing shade trees and gardens beautiful with their abundance of floral wealth they look like lovely islets in the sea of verdure that surrounds them on every side. Lines of the graceful Lombardy poplar and the handsome Osage orange mark the boundaries of the different farms and agreeably diversify the landscape. Through these green fields and delightful groves canals and irrigating ditches run in all directions, and in shady arbor, orchard and garden the sunbeams play on the rippling waters. Beneath our feet lies the town so aptly named, and which has risen phoenix-like from the ashes of a civilization older than history. The little city sits embowered in a mass of foliage so thick that the houses are mostly hidden from view. To the east rises the Temple Butte, and some of the buildings at its base are plainly visible. To the south the fringe of green cottonwoods marks the course of the Salt river, and beyond, at the base of the Sierra de Estrella, the thin columns of smoke which rise in the clear morning air tell where the Pima has made his humble home centuries before the white man's foot pressed the soil of the western continent. Surrounding this Arcadia, and serving as a frame to set off the charming picture, the bare and rugged mountains rear their rocky fronts. Their rough outlines are wrapped in an atmosphere of wonderful beauty, and the blue and purple haze softens their jagged fronts and serrated ridges and invests them with a strange and weird fascination. Over all an April sun is shedding its golden light and gilding mountain, river and plain in exquisite colors of light and shade. It is a picture to delight the eye of poet or painter or to call forth the admiration of the practical farmer. It is a glorious promise of what this grand valley will be within a few years. The visitor who looks upon its beauties for the first time is simply astonished to find in Arizona a spot so beautiful, so productive and so full of brilliant possibilities. Remember that a little more than twelve years ago this entire region was a desert with a scanty growth of vegetation. But what a transformation has been wrought by the labors of a few sturdy pio-

neers! Where once was an uninviting wilderness is now one of the loveliest spots in the west. And the development of its varied resources has only just begun. Scarcely a fifth of its rich soil has yet been reclaimed, and thousands of acres now lying idle will soon be made as attractive and productive as those already under cultivation. Salt River valley has a prosperous future before it; and the day is not far distant when in beauty and fruitfulness it will be second to none in the Golden State.

It is estimated there are at present 35,000 acres of land under cultivation in this valley, some 1,500 acres being farmed by the Pimas on the Gila and along the valley of the Salt. This shows an increase in the acreage under cultivation within two years of nearly one hundred per cent. The yield of cereals for the year 1883 was as follows:

Wheat.....	14,000,000	pounds.
Barley.....	18,000,000	“
	<hr/>	
Making a total of.....	32,000,000	pounds.

For the present year the yield is placed at 35,000,000 pounds, two fifths being barley and three fifths wheat.

Wheat averages about twenty-five bushels to the acre, and barley about twenty-six, though instances are not rare where by careful cultivation a yield of forty bushels to the acre has been secured. The grain grown in the valley is large and plump, and is equal to any raised on the coast. Of cultivated grasses alfalfa, or Chilian clover, is cultivated extensively, and attains a wonderfully productive growth. Four crops are cut during the year, the yield being two tons to the acre at a cutting, or eight tons to the acre during the year. It makes excellent feed for horses, cattle and hogs, keeping the animals in prime condition all the year round. It is also cut and baled, making a rich and succulent feed.

The planting season in the Salt River valley is from the first of November to the first of March. The heavy black loam is plowed dry, while light sandy soils are first irrigated. Many farmers summer-fallow their land, which is considered an improvement, and will no doubt yet come into general use. Everything is raised by the aid of irrigation. Small grain is flooded on an average four times during the season. The amount of artificial irrigation depends much on the-rain fall and the character of the soil.

New land will require more water than that which has been under cultivation for some time. The harvesting of the grain begins by the first of June, and is completed by the middle of July. The latest improved machinery has been introduced, and here, as elsewhere, steam threshers and headers have destroyed all the poetry of the harvest-field. The price of wheat will average about \$1.60 per hundred pounds, and of barley about \$1.30 per hundred. The following would be a fair estimate of the expense of cultivating one hundred acres of wild land:

Clearing, sowing, cultivating and harvesting, per acre . . .	\$8
Sacking, freighting, storing, etc., say	3
	\$11
Total, per acre	\$11

Estimating the yield at 1,500 pounds to the acre, and the price at \$1.30 per hundred, we have a total of \$19.50, or a clear profit of \$8.50 to the acre. These are conservative figures, and the profit will go above instead of falling below them. The expense of cultivation is much lessened after the land has been reclaimed, and where no hired labor is required except at harvesting the cost will not be over \$8 per acre, leaving a clear profit of 11.50. Alfalfa is one of the most profitable crops raised in the valley, the yield being eight tons to the acre, which sells readily at \$6 per ton, baled. It is estimated there are now nearly 3,000 acres devoted to cultivation of this plant in Maricopa county.

The fattening of hogs is also a profitable business. They are kept on the alfalfa fields until the grain is harvested in the latter part of July, when they are turned into the stubble and allowed to glean the scattered grain which has been lost by the headers. A run on these fields puts them in prime condition for the butcher in the fall, the pork being solid, sweet, and finely flavored. Disease is unknown, and but little work is required in fattening them for market. They are very prolific, having two litters a year. Hogs on foot delivered at the railroad, twenty-eight miles away, bring eight cents per pound, and are worth eleven cents when dressed. The bacon cured in the valley commands a ready sale at sixteen cents per pound. It is of good quality, the hams being equal to the best California. The mesquite wood used in the curing gives to the meat a clear, brown color, and an agreeable flavor. The market is almost unlimited, no bacon being cured anywhere else in

the Territory. Over 2,000,000 pounds are annually imported, which will yet be produced at home. It has been demonstrated that the article can be raised and sold in the Salt River valley cheaper than it can be brought from California or the east. There is a fine opening for this branch of business in Arizona.

But little corn is grown in the valley, owing to the uncertainty of rains; yet the soil is well adapted for it in many places, and under favorable conditions as high as seventy bushels to the acre has been harvested. But wheat and barley will continue to be the staples grown for some years to come. The labor and cost of production are light, while the market is always an active and remunerative one.

Grain from the Salt-river country is shipped to all points in the Territory, and commands a ready sale. The barley is preferred to that of California, and makes better feed for stock. There are four flouring-mills in the valley, which produced last year nearly 600,000,000 pounds of flour. This found a ready market in the towns and mining camps of Arizona. The flour from Salt River wheat makes excellent bread, and many prefer it to the best California. A large quantity of that consumed in the Territory is brought from abroad, but with railroad facilities, which are not far off, the Salt and Gila river valleys will be able to produce enough to meet the home demand. A larger area is being sown in wheat each year, farmers finding it more profitable than barley. The government has decided that hereafter all flour for the military posts of the Territory shall be of home manufacture.

The Salt river and Gila valleys are peculiarly adapted to horticulture. The climate, soil, and situation are all favorable, and some of the finest fruit grown west of the Rocky mountains is raised in Arizona. The grape of all varieties, apple, peach, pear, nectarine, almond, fig, plum, pomegranate, quince, grow thriftily and yield large returns. The citrus fruits, such as the orange, lemon, lime, etc., will do well by careful cultivation and close attention. Even the olive, the most valuable tree known to man, thrives in the valley of the Gila, and in a garden at Florence are several trees that have attained a strong and vigorous growth. There are at present about 500 acres devoted to fruit-culture in the valley, the greater portion being planted in peaches. The number of trees is put at 50,000. The fruit is large, juicy, and of excellent flavor. The varieties grown

are mostly from California cuttings, and the mode of cultivation similar to that practiced in the southern portion of that State. Fruit-trees, after being planted, require to be irrigated at least once in every two weeks, but after they have begun to yield they do not require one fourth of the moisture. Peaches begin bearing the second year, and yield a good crop the third year after planting. The profits on peach-culture are large, and steadily increase as the tree attains age. The following is a fair statement of the cost and profits of peach-growing in Mariposa county:

350 trees @ 20 cents.....	\$70
Planting, labor, etc.....	50
Water.....	3
Total.....	<u>\$123</u>

The second year the cost of labor, water, etc., will be \$53, and the yield five pounds to the tree, which, at five cents per pound, would amount to \$87.50, leaving a balance of \$34.50, over the second year's expenditure. The yield the third year will be twenty-five pounds to the tree, which, at four cents per pound would amount to \$350 per acre. The increase for the next three years can be safely put down at fifty per cent. This is a reasonable estimate of the profits from the culture of the peach in the valley of the Salt. The market is at the very door, and the price seldom falls below three cents per pound. Pears, plums, apricots, quincès, and all other fruits are equally profitable, and the cost of cultivation not greater.

Within the past year, a large number of trees have been planted. Peach, pear, apricot, plum and fig seem to be the favorite varieties. Every farmer is growing up around his home an orchard or a vineyard. It has been demonstrated that the soil and climate leave nothing to be desired for fruit-culture; and it is the general impression that it will be the leading industry in a few years. With cheap and rapid transportation, the valley can find a ready market in the towns and settlements of the Territory. The fruit grown here is of the most delicious flavor. The pear, in juicy tenderness, is equal to any grown on the coast; the fig is large and luscious, while the apricot, the pomegranate and the plum yield generously and are highly prized.

Grape-culture is making rapid strides in this valley. It

is estimated there are now nearly 400,000 vines, and new vineyards are being constantly planted. The varieties grown are the Mission, the Muscat and the Black Hamburg. On the light, gravelly soils their growth is remarkably thrifty and prolific. The Muscat attains a large size and has a magnificent flavor. As a table grape it is unequalled. On the dry, gravelly plateau on which the Mormon colony of Mesa City stands, over 100,000 vines have been planted and all are growing wonderfully well. The light, porous, gravelly soil seems specially adapted to the vine, and this spot yet promises to become famous for the quality of its wine. It is a well-established fact that cuttings from vines in bearing, planted in this soil, have been known to produce inside of eighteen months. Some wine has already been made in the colony, equal to the best California. Climate, soil, situation and water are all that could be desired, and this portion of the valley promises to become one immense vineyard.

The profits of grape-culture are said to be greater than that from peaches, and farmers all over the county are turning their attention to it more earnestly every year. Vines planted from cuttings begin to yield the second year, and it is safe to estimate that the product of each plant for the third year will be twenty pounds. Averaging 500 vines to the acre, this would be 10,000 pounds; and at three cents a pound, \$300 per acre. The cost of cultivation is very little more than that of peaches. Grape-vines, however, require more attention, but the yield is larger and the profits greater.

The fruit culture of Arizona is yet in its infancy, but it is growing rapidly in the Salt River valley. There are few spots on the Pacific coast so favored by nature, and none where the horticulturist receives larger profits for his labor. The fruit grown here is ripe and ready for sale fully three weeks before the California product. This gives the Arizona fruit-raiser an immense advantage. He has a virtual monopoly of the market during this period, and his early crop commands fancy prices wherever it is offered. With a railroad tapping the Salt River valley its fruits will yet be shipped to the east, and offered for sale in the markets of California, nearly a month before the products of the Golden State are ready for the table. It has been demonstrated that the raisin-grape can be grown here successfully, and no doubt that branch of the fruit indus-

try will yet be gone into on an extensive scale. The canning of fruit, which has proved so profitable a business in California, will yet be carried on with success in Arizona.

In fact, the possibilities of horticulture in the valleys of the Gila and the Salt seem almost without limit. Year by year the area devoted to it is being enlarged, and as the country is settled up vineyards and orchards increase and multiply. The profits are much greater than from grain-growing, while the labor of cultivation is much lighter and pleasanter. It requires no stretch of the imagination to see the valley of the Salt one immense orchard and vineyard in a few short years; to see the large farms now in grain subdivided into smaller tracts, with happy homes surrounded by fruit and flower; to see mile after mile of the luscious grape pendent from vine, trellis and arbor, and orchards bending beneath the weight of their ripening treasures; to see the orange, the lemon, the olive and the fig growing side by side with the fruits of a more northern clime; to see this lovely vale one immense garden, the home of a happy and prosperous people.

This is not an overwrought picture of what this region is destined to become within a few years. All the adjuncts in the way of soil, climate and water are already here, and labor alone is required to bring about the change. Besides the fruits we have mentioned, strawberries, blackberries, gooseberries, currants and other small varieties grow thriftily and give a prolific yield.

Dairying and bee-keeping are two other sources of profitable industry in the valley. The alfalfa keeps green the whole year, and the milk and butter from cows fed on it is rich and of a prime flavor. The demand for butter is always steady, and the price seldom falls below fifty cents per pound. The Arabian millet is also being introduced, and is said to be an excellent butter producer. With abundance of cheap feed, the Salt river country should meet a large portion of the home demand which is now supplied from California. Bee-keeping, which has proved so profitable in southern California, was introduced into the valley a few years ago by Mr. Ivy H. Cox. The remarkable success which has attended his efforts proves the country to be well adapted to the business. The blossom of the alfalfa is an excellent honey-producer, as are also the mesquite and the sunflower. As there are almost unlimited quantities

of all three in the valley, the bees do not have to go far to get their food.

Disease among them is unknown, they require but little care, and the product is equal to the best made on the coast. It is white, clear, of a delicious flavor, and readily commands from 18 to 20 cents per pound. The business has passed its experimental period, and the time is not far distant when the larger portion of the Territory will be supplied with the honey grown in the valleys of central Arizona.

Among the other industries which promise profitable returns in this valley is the raising and fattening of cattle. The immense alfalfa fields afford the richest of pasture every month in the year, and it has been shown that stock can be kept in these inclosures at less cost than on the ranges. Besides, they are always in prime condition for the market and the meat is more juicy and tender than that fed on the wild grasses. There will be always abundance of water, and the owner need have no fears about loss by theft or stray. There is room in the valley for thousands of head; and the day is not far distant when San Francisco will receive a large share of her beef supply from the alfalfa fields of the Salt River valley.

The sugar-cane and the cotton-plant thrive in the rich valleys of the Salt and the Gila. Of the former it is estimated there are nearly 300 acres now devoted to the business. The stalks grow strong and thriftily, and will yield 1,000 pounds of sugar per acre. At present the product is turned into syrup, which is of a good quality, and finds a ready sale at \$1 per gallon. The stalks are fed to hogs and cattle, their fattening qualities being unsurpassed. No attempt has yet been made to turn the raw material into sugar, but there is every reason to believe such an enterprise would be remunerative. The water power of the river could be utilized and the product could find a ready market at home.

Whether sugar-mills will ever be established in Arizona the future can only determine, but it has been shown that her soil and climate are eminently adapted to the production of the cane.

The cultivation of cotton is receiving more attention. The legislature, at the session of 1883, passed an act offering a bonus of \$500 for the best crop of cotton raised on five acres. Mr. Hardwick, of Tempe, nine miles east of Phoenix,

carried off the prize. He produced 3,600 pounds. The cotton will compare favorably with any raised in the United States outside of the sea islands. It is a fine silky fiber, and shows beyond doubt that the soil and climate of the valleys along the Salt, Gila and Colorado, are especially adapted to its culture.

The growing of cotton can hardly be considered an experiment in Arizona. Long before the Europeans raised a single pound in the Carolinas or in the Mississippi valley, the Pimas manufactured fabrics from cotton grown in the valley of the Gila. Espejo, one of the early Spanish explorers, relates that at one of the Moqui towns the inhabitants presented him with "baskets of corn and mantles of cotton cloth," the latter no doubt obtained by trading with the Pimas. That cotton can be successfully and profitably grown in the valleys of southern Arizona is susceptible of proof, and that it will yet be extensively raised scarcely admits of a doubt. This region lies within the cotton belt, and there is no portion of the Union with a climate so well adapted to its growth. Those interested in the cultivation of the fiber would do well to examine the fertile valleys of Arizona.

In enumerating the products of the Salt River valley it will not do to overlook its vegetable yield. The fame of its pumpkins has extended all over the Territory, and the prolific growth of its squashes, turnips, onions, beets, cabbages, carrots, lettuce, asparagus and all other varieties is something phenomenal. But little labor is required to secure these crops. The quality is not excelled anywhere, while the yield is very large. Potatoes, which it was thought at one time could not be raised here, are of as fine a quality as if grown beneath the blue skies of the Green Isle. They are large, mealy and of excellent flavor. Sweet potatoes are most prolific. They are grown extensively and attain a large size. The finest melons grown in the Territory are raised here, and in size and flavor are all that could be desired.

After building a home, the first wish of the new-comer is to surround it with a cluster of trees to temper the rays of the summer sun. The cottonwood is now the principal tree. It has the most rapid growth and makes a fine shade. The first settlers being mostly poor men set out the tree nearest to hand and native to the soil. Nearly the entire cultivated portion of the valley is now adorned by this tree, and

a great many farmers have live fences of the same material. But as population increases and the farmer finds himself in easier circumstances, others are being introduced, among them the willow, locust, ash, walnut, mulberry, pepper-tree, Lombardy poplar, ailanthus and many other varieties.

It is believed that the eucalyptus, magnolia, palm, cypress and other semi-tropic trees can be successfully produced along the Salt and Gila. Many homes are being made beautiful and attractive by groves of such trees, and green, cool and inviting carpets of Bermuda and blue-grass give to them all that restful charm which should surround every homestead.

No matter how humble the home, flowers beautify and adorn it; no matter how poor the immigrant, the flowers and shrubbery around his abode will always proclaim his thrift and good taste. The rose of all varieties, the oleander with its beautiful white blossoms, the mignonette, the honeysuckle, the geranium, the heliotrope, the fuchsia and nearly every flower that sheds its fragrance through the temperate and tropic zones grows in these valleys. As permanent homes are being established, flower-culture is receiving more attention; and a stroll through the shady lanes and by-ways in the suburbs of Phoenix when the atmosphere is laden with their delightful fragrance is like a vision of that land

“Where the light wings of Zephyr, oppressed with perfume,
Wax faint o'er the gardens of Gül in her bloom.”

And now, reader, after having learned something about the capabilities and products of this favored region, if you think of emigrating you will naturally desire to know what are the opportunities for securing a piece of land and making a home here. As has been before stated, everything is grown by irrigation and the land is utterly valueless without water. At the present time eight canals convey the water from the river over the land.

The names of these canals and their respective capacities are as follows:

Grand canal, capacity.....	7,000	inches
Salt river “ “	3,000	“
Maricopa “ “	3,000	“
Farmers’ “ “	1,000	“

These are all on the north side of the river. On the south side there are the

Tempe canal, capacity	3,000	inches
Prescott " "	500	"
Wormser " "	500	"
Mesa " "	2,000	"
Jonesville " "	2,000	"

Making a total of 22,000 inches of water now appropriated. The Jonesville and the Mesa canals are owned by Mormon colonies which have settled in the upper portion of the valley. They claim more water than they are at present taking out and are enlarging their ditches and making preparations for a larger acreage. At present both colonies cultivate about 5,000 acres, devoted mainly to fruit and alfalfa. The area of land under the several canals is about 45,000 acres, of which about 35,000 are under cultivation, leaving 10,000 uncultivated. With care and economy in its use, the quantity of water now brought from the river is sufficient to cultivate all the land within the lines of the irrigating ditches.

The volume of water flowing in the Salt river in the driest season has been put at 60,000 inches, and it is claimed the stream will average, one year with another, 100,000 inches.

At one half inch to the acre, which is about the quantity now used to raise a crop of grain, there is water enough in the river to cultivate 120,000 acres of cereals. This is a much larger quantity than is required in other countries where irrigation has been practiced for years and for centuries. In portions of southern California, a tenth of a miners' inch of water is found amply sufficient to insure a fruit crop, while a quarter of an inch for grain is much above the average. Granting that the soil of Arizona requires a larger supply, the quantity now used to raise a crop is entirely in excess of what is actually required. It is safe to say that not more than one sixth of the land which could be made productive is now under cultivation here. The truth is, the farmers of Arizona have not yet realized how precious an article is the water upon which depends the prosperity, nay the very existence, of the community. When they learn to hoard it as carefully and use it as economically as in other lands, they will increase the productive capacity of their beautiful valley ten-fold.

The canals are owned by incorporated companies who are nearly always farmers who have invested their own money and labor in building them. There are so many shares in each canal, each share representing what is known as a "water-right." This right entitles the owner to sufficient water to irrigate 160 acres of land. In the sale of land under a ditch the water generally goes with it; and the value of land is always determined by its water facilities, as without them it is worthless.

At present a water-right in any of the canals can be had at from \$300 to \$500. This "right" once acquired, the owner of it is entitled to water so long as there is any in the canal. The occupant of a piece of land is further required to pay \$1.50 per inch for the water used in raising a crop. For a quarter-section in grain this would be eighty inches, or \$1.20 per year. This tax goes to keeping the canal in good repair, the pay of a *zanjero*, or overseer, and for such other incidental expense as may be incurred. At present there is great wastage, owing to a lack of anything like a regular system in the handling of the precious fluid. Among the different canals priority of location governs the right to appropriate the water from the river. The earliest claim takes precedence, and the others follow in their regular order. They are each entitled to the amount which the canal is capable of carrying; but there is no regulation by which they shall be compelled to prevent waste.

During the past year an enterprise has been under way in the Salt River valley which promises to accomplish more for the development of its latent resources than anything yet undertaken. The Arizona Canal Company is a corporation organized under the laws of the Territory. Its President is Clark Churchill, Attorney General of Arizona, and among its Directors are Governor Tritle and other leading citizens. The capital stock of the company is \$500,000, divided into 1,000 shares of \$500 each. The object is to construct a canal that will reclaim a large tract of land north of Phoenix, which heretofore, for lack of water, has remained valueless. Work was commenced on the fourth of May, 1883. Eighty per cent. of the excavation is already finished, and the entire work will be completed before the end of the present year. It will be the largest water-way opened in Arizona since its discovery by the whites, and no doubt will be equal to any dug by the prehistoric race. It taps the river a few miles below the

mouth of the Verde, where the stream is confined between rocky walls. By taking the water at this point a supply is assured at all times, as it cannot lose itself in the thirsty sands. The canal sweeps around the foot-hills of the mountains which wall in the valley on its northern side. It will be 40 miles in length, 36 feet wide on the bottom and 58 feet on top, and will have a depth of 6 feet of water with a grade of 2 feet to the mile, making a maximum flow of nearly 40,000 miners' inches. This great canal will reclaim 100,000 acres, with a rich soil and only requiring water to produce cereals, fruits and vegetables equal to any grown in the valley.

This magnificent domain, which is now but an unsightly waste, will soon be made to bloom and blossom, and in a few years hundreds of happy homes with orchards, gardens, vineyards and grain-fields will make this one of the most inviting spots in the west. The completion of this canal assures the rapid growth and permanent prosperity of Phoenix and the great valley of which it is the center. It will increase its productive capacity five-fold and guarantee an abundant water supply as long as the Salt river flows down from its mountain home. But besides reclaiming from the desert and adding to the domain of civilization such a large tract the canal will also furnish the finest water power in the Territory. This power is produced by a vertical fall of 15 feet of the entire volume of water in the canal, made in solid rock at a point about eight miles north-west of Phoenix. This fall gives a force equal to 1,300-horse power and will be of great value in a country where fuel is not overabundant.

It is proposed by the company to utilize this power to its full capacity. Flour will be manufactured here, sufficient to supply the Territory. Ice will also be produced, and at a cost not exceeding \$2.50 per ton. Packing and canning establishments for beef, pork and fruits will be erected, and mills and reduction-works will have here the power for the handling of the low-grade ores in the mountains adjacent. It is also the intention to supply Phoenix with water for public and private use, and the generation of electricity to light the city is one of the many uses to which this fine water power will yet be put. In fact, the many industries which will be called into being by the completion of this canal will open a new era in the material development of the country, and promises to

make Phoenix the manufacturing as well as the agricultural center of the Territory.

The entire outlay for this important work is put at \$500,000, making the cost of bringing water on the land reclaimed \$5 per acre. The company will have for sale 1,000 "water-rights." These water-rights constitute a conveyance from the company of the right in perpetuity to rent a given quantity of water for use in irrigation on a specified tract of land. The land to be reclaimed comes under the provisions of the Desert Land Act. This act gives each individual who is a citizen the privilege of entering 640 acres, at \$1.25 per acre. Upon entering the land he pays 25 cents per acre down, and has three years in which to bring water on the tract and raise a crop. In case of non-compliance with these conditions the land reverts to the public domain. The even sections in the Salt River valley are government lands, while the odd sections have been withdrawn from entry, pending the settlement of the claim of the Southern Pacific Railroad by Congress.

Wild lands under the new canal can be purchased from those who have made entries at from \$5 to \$8 per acre. The situation and the soil are equal to any in the valley, and the purchase of a water-right from the company guarantees the immigrant a never-failing supply. To the settler looking for a new home there is no better opening throughout the west. He can, at a mere nominal figure, secure a foothold in a valley which will yet become one of the garden-spots of the United States. He may search far and wide before he finds a country that offers so many advantages, and gives such certain assurances of rapid growth and future prosperity. Land is steadily increasing in value, and few years will elapse before it will command ten times the present price.

Nearly all the public lands in the valley under the present canals and those that are projected have been taken up. As has been stated, the Southern Pacific railroad claims every alternate section under a grant to the Texas Pacific. Most of this land is vacant, immigrants not wishing to take the risk of settling upon and improving it and then being compelled to pay an exorbitant price or be driven from the home which their toil and industry had built up. Improved land is worth from \$15 to \$30 per acre, according to the character of soil and location. This price includes a water-right sufficient for crop-raising.

A few years ago land went begging in this valley; to-day, choice tracts in vines and orchards, near the town of Phoenix, sell readily for \$100 per acre. As population increases, there is a corresponding rise in value; and it is not unreasonable to suppose that within a few years lands in the valleys of the Gila and Salt will command the fancy prices now paid in Los Angeles. South of the Mormon settlement at Mesa City, and extending across to the Gila river, is a splendid body of rich land which at one time was under cultivation. Large groves of mesquite grow on the tract, a sure indication of the strength and fertility of the soil. This portion of the valley is well situated for irrigation, and no doubt a canal on the south side of the river will yet transform it into an immense grain-field and orchard. Before closing this sketch of the Salt River valley and the farming lands of the Maricopa county, the Mormon settlements at Mesa City are deserving of mention. On a bench above the river-bottom, and about twenty miles east of Phoenix, these people have established a flourishing colony. Nothing could be more unattractive than the appearance of this arid plateau covered with grease-wood brush and cacti before water was brought upon it. The soil is a light, gravelly loam. And when the Utah immigrants first pitched their tents, old settlers predicted that the attempt to make it productive would prove a failure. But the new-comers went ahead, and by patient labor succeeded in bringing water upon the tract, and to-day the barren *mesa* is one of the most charming spots in the whole valley. Gardens, orchards, vineyards, grain and alfalfa fields, groves of handsome shade-trees, and tasteful homes have changed the desert into a lovely garden. It has been proved that the light soil is the best for the grape, and its cultivation is being prosecuted on an extensive scale. Fruits of all varieties also thrive well here, and the area devoted to their cultivation is being enlarged every year. Immense crops of alfalfa are raised, and the yield of grain and vegetables is fully equal to the product of the bottom-lands along the river. The success of the Mormon colony at Mesa City shows clearly the wonderful fertility of the soil along the Salt river. Water is the magic talisman that calls forth beauty and productiveness and changes the dreary desert into a rose-garden.

Besides the great valley of the Salt, Maricopa county has an extensive tract of good land on the lower Gila. At this

point the river makes a sharp turn and flows almost directly south-east for several miles, the curve being known as Gila Bend. It is estimated that in this vicinity and extending down the stream there are 150,000 acres of as rich bottom-lands as can be found in the Territory, capable, by the aid of water, of producing all the grains, grasses, fruits, and vegetables grown in Arizona. An effort is now being made to reclaim this vast area and make it productive. Four companies have been formed to construct canals and bring the waters of the Gila over the valley. The most prominent of these organizations is the Gila Bend Canal Company. The canal which this incorporation are now engaged in constructing taps the eastern bank of the stream, fifty miles south-west of Phoenix. For the past ten years the river at this point has been 240 feet wide and has maintained an average depth of two feet. The canal will be twelve feet wide at the bottom, and the amount of land it will inclose is put at 30,000 acres. Work is now being steadily prosecuted on this enterprise, and it is expected the water will be on the land in time for putting in a crop in 1884.

What is known as the Gila River Canal Company is on the other side of the river. This water-way will be about fifteen miles long, and is intended to reclaim 6,000 acres of rich bottom-lands. This company expect to finish their canal during the present year, and be in readiness for a crop next season. These lands, and also those of the Gila Bend company, are only fifteen miles north of the Southern Pacific railroad, at Gila Bend station. Most of the valley is being taken up under the "desert act," but by securing a water-right, the immigrant will have no difficulty in getting land at reasonable rates. In the Webb Company canal a water supply can be had at a cost of about \$3 per acre.

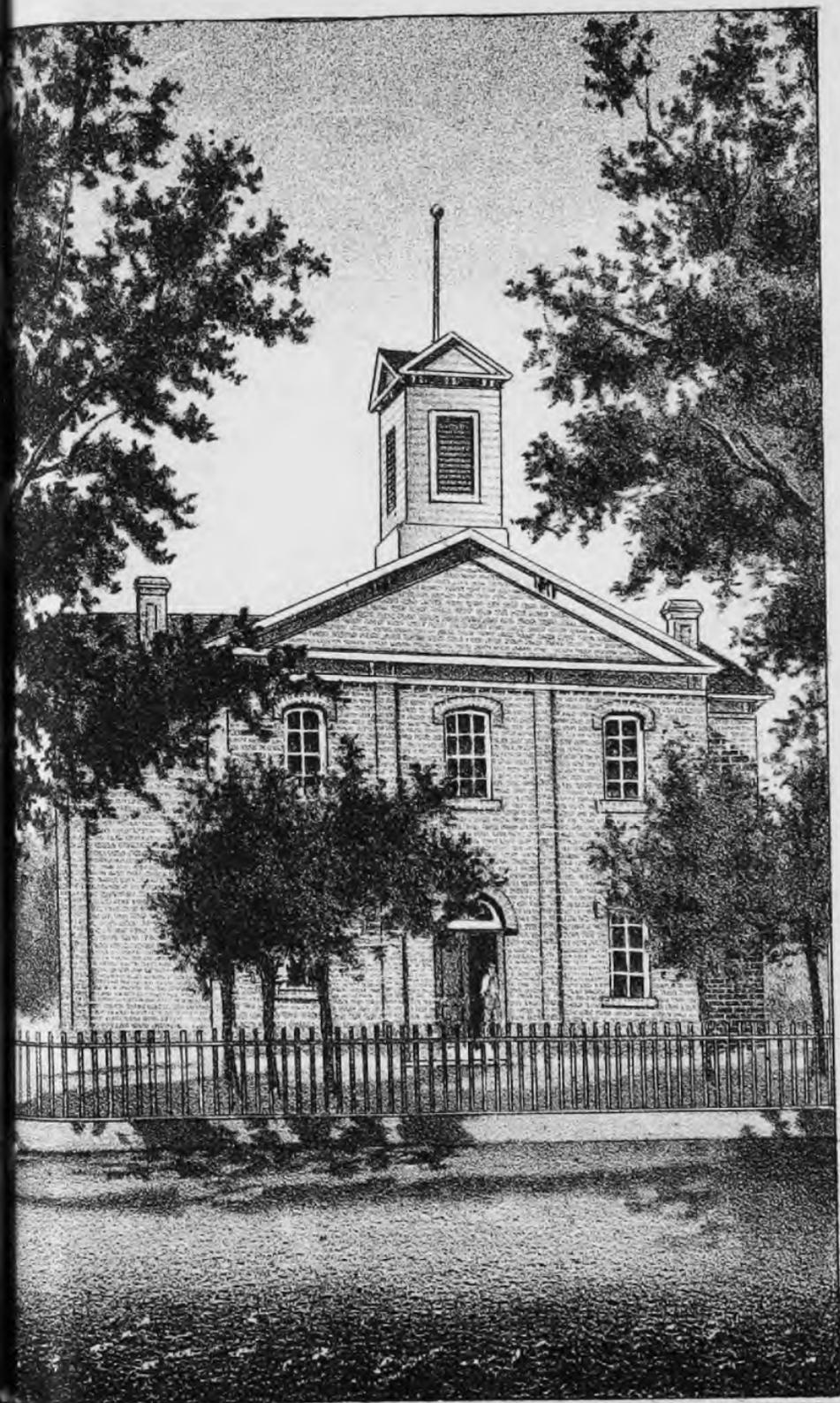
About ten miles above Oatman Flat, on the south side of the river, the Cox and Norcross Company are excavating a canal which will reclaim 10,000 acres of excellent land. The Rumburg canal, which begins below the mouth of the Agua Fria, on the north side of the river, will, when completed, bring under cultivation 25,000 acres. All this land is of prime quality, and where it has been farmed has yielded as high as forty bushels of wheat to the acre. Fruit also does remarkably well, and it is the intention to set out a large number of trees the coming season.

To the immigrant in search of a home, the valleys of Gila

Bend offer advantages equal to any in the Territory. There is abundance of water, the soil is rich, and the climate remarkably healthy. The land lying so near the line of the Southern Pacific railroad gives it an additional value, and affords the settler every facility for shipping his produce to market. Some small patches have been planted in grain and alfalfa, the yield being large. A few small vineyards and orchards have been set out on the Gila River company's tract, and are growing thriftily. The fattening of hogs promises to be a very lucrative business in the Gila Bend settlements, and already some choice breeds have been imported and are rapidly increasing. Although most of the government land under the different canals has been taken up, the new-comer will find no difficulty in purchasing on easy terms. The Gila Bend country possesses many advantages, and when the irrigating canals are completed, a large population will find homes in its beautiful valleys.

Pinal, next to Maricopa, is the most important farming division of the Territory. The Gila river flows through the county from east to west, forming one of the finest valleys in Arizona. Beginning at the point where the river emerges from the mountains, above the town of Florence, its length is nearly fifty miles to the line of Maricopa. This magnificent valley is from one to three miles in width, with a rich loamy soil, and a climate similar in all respects to that of the Salt river. A large part of it has been set apart for the Pima and Maricopa Indians, and is therefore closed against settlement. From the line of the reservation to the cañon it is estimated there are 30,000 acres of fine land which can be brought under cultivation. At present the area under tillage is not much more than 6,000.

There is abundance of water to irrigate at least five times the number of acres now reclaimed. But the present water system, if indeed it can be called a system, is most imperfect. Nearly all of the canals tap the river where it flows over gravel and sand, and where, in the dry seasons, the greater portion disappears beneath the surface. Although the volume of water has never been definitely ascertained, there is known to be a sufficient quantity to flood the area mentioned. But to bring this water over the land it is necessary that it be taken from the river bed, where it is confined between solid walls and flows over a rocky bottom. There are several points in the cañon above Florence where this can be done, the entire stream carried into a ditch of



sufficient capacity and the whole of it properly utilized. That this will be the plan ultimately adopted, there is scarcely a doubt.

At present the water is in much the same condition as in Maricopa county. Those who have priority of right take out all they require, and if there is a surplus it is allowed to go to waste. Where water is the very life and soul of the land, as in Arizona, the waste of the precious fluid should be punished as an offense against the welfare of society. When a water system based upon the broad principles of equity and exact justice to all shall be inaugurated in the Territory its agricultural resources will take a grand stride forward.

The valley of the Gila, opposite the town of Florence, is one of the finest in the Territory. It is over a mile in width and possesses a soil of remarkable fertility. The rich bottom was at one time covered with a heavy growth of cotton-wood, and in clearing the land many of these noble shade-trees have been left standing, singly and in small groups. The effect is simply charming. As one gazes up and down the valley at the great fields of barley and wheat, dotted here and there by groves of cotton-wood and mesquite, the picture of rural beauty and thrift is as pleasing as one would care to look upon. It instinctively recalls scenes in older lands, where the science of cultivation has reached its highest limit; and were it not for the Mexican cabins scattered here and there, and the "natives" lazily stretched around them under the cooling shade, one could easily imagine himself in some fertile bottom of the southern States.

The land in this beautiful valley is considered the richest in the Territory. It is mostly a heavy adobe or a rich, dark sandy loam. The detritus which the river floods have been depositing for ages has created a soil of enduring fertility. There is no wear-out to it; and a steady repetition of crops does not seem to affect in the least degree its productiveness. Two crops a year are frequently raised on the same land and the yield from the second is fully equal to the first. As in the Salt river valley, grain is the principal crop. The planting season is from December to March for the first, while the second crop is generally sown in the latter part of June or the beginning of July. Here, as everywhere else in Arizona, the mode of cultivation is by irrigating ditches. There are a number of these ditches, owned principally by the farmers whose land is supplied by them. The yield of

grain in the Gila valley is a trifle larger than on Salt river, while the cost of seeding, harvesting, sacking, etc., is about the same. The land requires a like quantity of water. For years the wheat grown here supplied a large portion of the Territory with flour of an excellent quality, but at present the mill that produced it is lying idle, awaiting the issue of litigation. There are about 7,000 acres under cultivation in the valley near Florence, and there is five times that area of rich lands lying idle, which only require water to become as productive as any that have been reclaimed.

The yield of grain for the present year is as follows:

Wheat	2,500,000 pounds.
Barley	2,000,000 "
Hay	2,500 tons.

Large quantities of hay are cut in the valley and find a ready sale in the adjacent mining camps and in the towns along the railroad. Alfalfa is also a profitable crop, and over 700 tons were raised in 1883. With proper irrigating facilities the valley can be made to quintuple its present yield of cereals. There is water in abundance, if properly handled, to bring about such a result; and with the present inquiry for good land, that in the valley of the Gila will not long remain unoccupied.

Fruit-culture is receiving much attention. Grapes, peaches, pears, plums, apricots, pomegranates, figs and other varieties yield largely, and show a vigorous growth. Their flavor is simply delicious; and in size and richness the peach and the pear are equal to the best grown in Delaware or California. A number of vineyards have been planted during the past two years, and nearly every settler is surrounding his home with fruit-trees and vines. The grape grown here is large, luscious and remarkably prolific. For table use it is unequalled. The semi-tropical fruits, as the orange, lemon and the olive, seem to do better in this valley than elsewhere in Arizona; Yuma, perhaps, excepted. Experiments with orange-culture prove beyond a doubt that in the sheltered nooks along the Gila it can be grown successfully. The climate shows a more even temperature, and there is less risk of late and early frosts, which are the great drawback to its cultivation in other places.

In the garden of Col. Ruggles, near Florence, are several olive-trees in full bearing. The fruit is of the finest

quality, and the oil equal to the best Lucca. As is known, the olive is the most valuable tree that blooms for man. Among eastern nations it and the date palm are the "staffs of life." Its age is reckoned by centuries, and history, sacred and profane, has immortalized its virtues and its benefits to human kind. It is not an extravagant stretch of fancy to imagine, years hence, groves of this historical tree beautifying and adorning the pleasant homes of Florence and the valley surrounding it. No branch of fruit-culture can be made so profitable, and when once in bearing, the labor of cultivation is light. Almonds and walnuts of a very fine quality have been grown in the valley, and the large yield and fine quality of the fruit have encouraged many people to set out numbers of these trees. The gardens about the town of Florence are being tastefully improved year by year. Beside fruit-trees and vines of all the varieties we have mentioned, the rose, the honeysuckle, the mignonette, the heliotrope and many another beautiful flower charms the eye and sheds its fragrance over the soft, balmy air that wraps the lovely vale "where it seemeth always afternoon."

Vines and fruit trees are increasing each year. Farmers have begun to discover that they are more profitable, and the valley of the Gila, like that of the Salt, will yet become one immense vineyard and orchard. Improved land now brings from \$10 to \$25 per acre, but there is a great deal of government land open for settlement. Here, as in the Salt river valley, the railroad company makes a claim to every alternate section, and pending the settlement of the question some of the finest land is lying idle. Farming is a remunerative business here. There is also a good market in the mining camps of Silver King, Pinal, Butte and Owl Heads, and everything raised commands a good price.

From the foregoing the reader will have some idea of the agricultural possibilities of the Gila valley. It is seen that only a very small portion of the fruitful soil has been reclaimed. By opening a ditch some twenty miles long and taking the water from the rocky cañon above Florence it is shown by careful estimates that at least 40,000 acres of excellent land can be made productive. The capital required for the carrying out of this work would not be large, while a steady income would always be assured from the sale of the water. There is here an opportunity for enterprising men which does not often present itself. The re-

mains of the old prehistoric water-way which can be traced from the ruins of Casa Grande to the Gila proves that an immense area now neglected was at one time under cultivation; and the many ruins which are met with along its course go to show that a dense population once made their homes here. That the supply of water was greater than at present there is no good reason to believe. How then was such a large body of land reclaimed, and how did so many people exist here? The answer is easy: Simply because they had a more thorough and practical knowledge of the application of the fluid to the soil, and because they brought every drop the river contained upon the land. Crude as was the civilization of the old race, they far surpassed all the efforts yet made by their modern successors in this branch of industry. It remains to be seen whether, with all the boasted enlightenment of the nineteenth century to aid them, the present occupants of the land can accomplish equal results with those who have passed away. When the same systematic and intelligent effort is made in the valley of the Gila scores of happy homes will spring up where now solitude reigns supreme.

The lower portion of the San Pedro, above its junction with the Gila, is included within the limits of Pinal county. It is a narrow valley with a soil of great richness and fertility. All the cereals, fruits, grasses and vegetables do well and return a large yield. A number of comfortable homes have been established here and some 500 acres have been brought under cultivation. Owing to the sheltered condition of the valley it has many advantages for the growth of fruit, and the cultivation of the vine, peach, apple, plum, pomegranate, quince and other varieties is receiving much attention. A recent visitor to this valley gives the following facts about the fruit and vegetable yield: "Ten acres of potatoes yield 90,000 pounds this year, worth three cents per pound on the ground. One man expects to have 20,000 boxes of fruit and about 7,000 boxes of tomatoes. W. C. Cunningham of that valley has just gathered his crop of potatoes and gets 200 bushels to the acre. W. A. Lattin gathered from a three-year-old peach tree 1,000 pounds of fruit which sold for \$125." There are not less than 5,000 acres of government land in this charming valley open for pre-emption; and with a careful system of irrigation five times the number of acres now reclaimed could be made productive.

The agricultural capabilities of Pinal are only beginning to be understood. It has an abundant water supply, large valleys with a soil of durable fertility, a climate which brings health, strength and elasticity, and a home market with a demand always equal to the production. That it will yet be the home of a large agricultural population and that its beautiful and fertile valleys will once again wear those robes of verdure in which their ancient occupants decked them there is no reason to doubt.

Graham county, which adjoins Pinal on the east and embraces the upper Gila valley, has some of the finest farming lands in the Territory. It is estimated that along the Gila and its tributaries in this county there are over 100,000 acres of fertile land which can be brought under cultivation. As nearly one fourth of Graham county is included in the San Carlos Indian reservation, some of its richest lands along the San Carlos, Bonita, Eagle creek and other tributaries of the Gila are occupied by these savages and closed against the industrious settler. The county is well watered, having besides the Gila, the San Francisco, San Carlos, Arivapai, Blue, Bonita and the numerous springs which bubble out at the foot of the Graham mountains, and find an underground channel to the Gila. The largest body of arable land in the county is known as the *Pueblo Viejo* (old town). It extends from the upper end of the Gila cañon some thirty-five miles along the stream, until it is again shut in by a mountain range. Its width is from one to three miles, its average being about two, thus giving an area of nearly 45,000 acres. Every inch of this valley is capable of producing magnificent crops of grain, fruits and vegetables. Along that portion near the river, the soil is a heavy, rich adobe, while back towards the hills it is a light loam of great fertility, well adapted for horticulture.

This fine valley was once densely populated and every foot of it brought under cultivation. The ruins of towns, and the traces of large canals are yet visible in every direction. The first settlement by Americans was made about twelve years ago, but owing to its comparatively isolated situation population increased slowly, and even now there are few people in the Territory who have any idea of the extent, richness and grand possibilities of this charming vale. Fort Thomas is situated near its lower end, and Saford, Solomonville, Smithville and San José are the other settlements.

Of this fertile tract only about 5,000 acres are at present under cultivation. Several canals have been taken out, and it is estimated they carry water sufficient to irrigate three times the area now reclaimed. The yield per acre is exceptionally large. Barley gives from thirty to forty bushels, wheat about the same, and corn from thirty to fifty. Corn is found to be well adapted to the soil and climate, the quality being equal to any grown in the east. Potatoes yield, on an average, eight tons to the acre; are large, solid, and when cooked, of a fine flavor. Turnips, cabbages, beets, melons, pumpkins, onions and all vegetables grow large and are of excellent quality. The yield of grain in this valley for the year 1883 was in the neighborhood of 5,000,000 pounds, half of which was wheat and the other half corn and barley. A large quantity of alfalfa and grain-hay has likewise been harvested. The former thrives in the Pueblo Viejo, four crops being cut during the year. It sells readily on the ranch for \$10 per ton.

The farmers in this valley are fortunate in having such good markets close at hand. The military posts of Thomas, Grant and Bowie receive nearly all their grain and forage from here. Wheat and barley scarcely ever sell below \$2 per hundred, corn the same; beans bring from five to six cents per pound, onions from four to six, potatoes from three to five, and all other vegetables at similar prices. There is no better market in the Territory, and the mining camps on the San Francisco river have made an increased demand for everything grown in the valley.

Two crops are raised here. Wheat and barley is sown in January and harvested in June. Corn is then planted on the same land and is ready for the sickle in October. Small grain receives from four to six irrigations, corn from two to three. The valley is beautifully situated for irrigation, sloping gently from the mountains to the river, and showing, after the lapse of centuries, the labors of the early husbandman.

There are in the Pueblo Viejo nearly 30,000 acres of fine land now open to settlement. The railroad grant casts its shadow over this beautiful spot, as on all the valleys of the Gila and the Salt. The company claim every alternate section, and while their claim has not been confirmed it keeps out immigration and retards the advancement of the country.

Improved land can be purchased at from \$10 to \$15 per

acre; unimproved land, under a canal, at from \$5 to \$10, according to character of soil and location. Land can be had on easy terms, and the poor immigrant, if he is industrious, temperate and energetic, will have no difficulty in obtaining assistance to make a fair start. Land can be leased on shares on most advantageous terms, or can be purchased on the installment plan.

The water-supply is sufficient to irrigate every acre of arable land in the entire valley; its soil is of the richest, its climate as salubrious as any portion of the Territory. It escapes the heat of the lower valleys in summer, and it enjoys a cool, bracing atmosphere during the winter months. A light fall of snow sometimes covers the ground, but it disappears within a day or two. The situation is delightful. South and south-west the massive Graham mountain walls in the valley and raises its lofty peak over 10,000 feet above tide-water. Its summit and sides are clothed with a heavy growth of pine which supplies the settler with all the lumber required. Around its base many springs bubble forth and flow out into the plain, forming beautiful green meadows where herds of cattle roam the whole year. Shutting in the view on the west, mount Turnbull rears its grand and imposing crest above the dark outlines of the Galiuro range; to the north the barren hills of the Gila obstruct the view, while to the east the serrated ridges of the Sierra Natanes stand out in clear relief against the horizon. In the center sits this beautiful valley, the line of the Gila being traced by the heavy growth of cotton-woods which fringes its clear and sparkling waters.

It is as pretty a picture as one would care to look upon; and in the early spring, when the summits of Mount Graham are yet wrapped in their snowy mantle, and when the valley smiles in all the glory of waving grain, blooming alfalfa, and blossoming orchard, the sight is one to inspire the painter's brush or the poet's pen. To the farmer who desires to make a home in this Territory, there is no place that offers superior attractions than the Pueblo Viejo valley.

The settlement is about thirty miles north of Bowie station on the Southern Pacific railroad, with which it is connected by a daily stage-line over a fine natural road. In 1872 Jack Swilling, a noted pioneer, led the first party of settlers into the valley, but the effort to establish a colony met with but indifferent success at that time. Set-

tlers came in slowly, and the complete isolation and distance to markets retarded its advancement. The establishment of Fort Grant in 1873, and Fort Thomas in 1876, opened a lucrative market for all that was grown, and since then the area of cultivated land has been gradually enlarged. But even now there is only about one eighth of the arable land under the plow. The water supply in the Gila at this point is always abundant. It flows over a rocky bed, and in the driest season there is enough to irrigate every acre of tillable land in the valley. All that is required is the construction of a canal of sufficient capacity to bring the water from the river. As yet no effort has been made to accomplish the result, and one of the richest bodies of land in the whole Territory remains unoccupied. For a colony with the requisite means to carry such a work to completion, the Pueblo Viejo offers as many natural advantages for comfortable homes as any portion of the Territory.

Besides grains, grasses, and vegetables, fruit also thrives here. It being something like 4,000 feet above sea-level, the hardier varieties, such as apples, cherries, and plums, are well adapted to the climate and give a prolific yield. Grapes of a large size and fine flavor are grown; and in the Mormon settlement of Smithville there are some very thriving vineyards. From the valley a road has been opened to Duncan, on the narrow-gauge road, to Clifton, some thirty miles distant. This places the farmer in direct communication with the mines, where there is always a demand for everything raised. In fact, there is no farming settlement so well provided in this respect. There is a flouring-mill at Safford which turns out an excellent article, but not enough to supply the home consumption. Flour is actually imported from California and Colorado to supply the deficit each year. And this, with thousands of acres of the finest wheat land in the west lying idle and only requiring the opening of a water-ditch to make it produce bountiful crops. But this condition of things cannot last long. People in search of homes will find their way ere long to this charming valley, and the broad acres now considered valueless will soon be appropriated. As in the past, the valley of the "old city" will yet be made to bloom in productiveness from one end to the other.

On the Blue river, a tributary of the San Francisco, in the eastern part of the county, there is a beautiful and fertile valley, containing several thousand acres, with an

ample water supply for irrigation. Some 600 acres of this land have been taken up and are now under cultivation.

Yavapai county embraces the larger portion of the great Colorado plateau and contains some very rich farming lands. The elevation is from three to five thousand feet above the valleys of the Gila and Salt, and consequently the rain-fall is greater. Outside of the Verde the farming lands are confined to many small and beautiful valleys, which are found through the county between the thirty-fourth and thirty-fifth parallels of latitude. These mountain vales have been enriched by the detritus which has been washed down from the surrounding hills for ages past, making the soil exceedingly rich and fertile. They are watered by springs and streams, and many of them are under a high state of cultivation. Corn, wheat, barley, oats and all varieties of vegetables are grown and attain a strong and thrifty growth. Among the most important are Williamson, Chino, Peeples, Agua Fria, Skull, Kirkland and Walnut Grove.

Nearly all of them depend upon the rain-fall for raising a crop. As this is somewhat irregular, and as late and early frosts are of frequent occurrence, farming here is attended with a good many risks. Corn is the principal crop. It is generally planted in the latter part of May, and if all conditions are favorable it is ready for the harvest in October. The farmer depends on the summer rains, which usually begin about the first of July. If the rain comes in season a good crop is harvested; if it should come late the crop is lost. In some of the valleys where there are running streams irrigation is practiced to some extent and good crops are assured every season. The average yield of corn is from twenty-five to thirty bushels to the acre. Potatoes attain a large growth and a prolific yield. Ten tons to the acre is not an uncommon crop. Alfalfa and large quantities of hay are grown and return the farmer a higher profit than any other crop harvested.

The climate is not adapted to fruit, and except in some sheltered nooks every effort at horticulture has been a failure. The season is too short, and the late spring and early autumn frosts are fatal to the successful growth of any but the hardiest varieties. In some localities, where the conditions are favorable and where the trees are sheltered from the chilling winds, excellent apples are produced; and in the Walnut Grove valley peaches of a fair quality some-

times mature. These valleys have been settled for years, and many pleasant homes have been made in them. Besides farming, many of the settlers have turned their attention to stock-raising and dairying. The butter produced from the succulent grasses so abundant in this region is the best in the Territory and will compare with the finest California.

The climate is cool and bracing in winter and not too warm in summer, resembling that of the Atlantic States. In the early summer, when the crops are in bloom and when hill and plain are carpeted with wild flowers, these beautiful vales look like emerald gems set in a wilderness of hill, plain and *mesa*.

There are thousands of acres with a soil capable of producing all the cereals and vegetables if there was a water supply. With flowing wells, the agricultural interests of Yavapai would receive an impetus which would place them second to no other county of the Territory.

The valley of the Verde is the finest body of farming land in this county. From its source in Chino valley to its junction with the Salt, it passes through several cañons, and again widens out into stretches of rich bottom-land. These spots will average from two hundred yards to a half mile in width. The soil is a rich black mold and a sandy loam of great fertility. There is an abundance of water for irrigation and fine crops are insured every season. Corn does remarkably well in this valley, as high as sixty bushels having been raised to the acre. Some of the farms have produced corn crops for the past sixteen years and yet the soil seems to have lost none of its vigor and productiveness. Fruit can be grown here, it being much lower than the surrounding plateau and well sheltered from chilling winds and early frosts. At present there are about 3,000 acres under cultivation along the Verde and there are nearly as many more open to occupation. A new canal is now under construction on the upper Verde which will make available 1,000 acres of fine land. The number of acres under cultivation in Yavapai county is about 6,500.

Besides the farming lands we have alluded to, there are many small valleys in the Sierra Prieta, Bradshaw, Bill Williams, San Francisco and other mountain ranges. These secluded glens grow the finest of vegetables and sometimes good crops of corn. The potatoes raised in them are the best in the Territory. No irrigation is practiced, the rain and snow-fall being all-sufficient.

In **Pima** county the farming lands are mostly confined to the valley of the Santa Cruz and the Sonoita. The former stream, which takes its rise in the Huachuca mountains and enters the Gila east of the Sierra de Estrella, has some peculiarities which are all its own. For more than two-thirds of its course it disappears in the sands. Where it flows on the surface, the land has been brought under cultivation and produces large crops of grain, fruits and vegetables. The soil is exceedingly rich and of wonderful durability, portions of it having been cultivated for centuries. Near Tubac and Calabasas, and opposite Tucson and the old Mission church of San Xavier, the stream forces its way to the surface, and the valley in the vicinity is in a high state of production. The Santa Cruz drains a large area of mountain country, and no doubt beneath its sands there flows a large volume of water. A project is being agitated among some citizens of Tucson to force to the surface this underground river, divert its waters into suitable canals and convey it over the adjacent land. If such a proposition should assume tangible shape it would be the means of making thousands of acres productive which are now dreary wastes.

The limited area now under cultivation yields fine crops of wheat, barley and vegetables. Grapes and all varieties of fruit are also grown, and in yield and quality will compare with any portion of the Territory. The valley of the Santa Cruz was the first land cultivated by Europeans in Arizona. Wherever the mission fathers gained a foothold, their converts were first taught the peaceful arts of agriculture. Fields were plowed, and the vine and fruit-trees set out, and so unerring was the judgment of these old padres that nearly every spot they chose for the founding of a mission has become the site of a flourishing town; climate, soil and situation being in nearly every instance as perfect as could be wished. And so it is with the Santa Cruz valley. The lands tilled by the neophytes of the missions over 200 years ago are yet as productive as when first touched by the plow.

The Sonoita is a tributary of the Santa Cruz, which it joins near Calabasas. It is about sixty-five miles southeast of Tucson, and is one of the most productive spots in the southern portion of the Territory. From old Fort Buchanan to the Santa Cruz is nearly thirty miles, and settlements have been made, wherever water can be had, the

entire distance. The valley is narrow, but the soil is a heavy rich mold, which yields fine crops of corn, wheat, barley and vegetables. Fruit is also cultivated in considerable quantities. At the breaking out of the civil war, when a garrison was maintained at Buchanan, this valley was under a high state of productiveness.

But when the troops were withdrawn the Apache came down from his strongholds and the Sonoita was swept by fire and drenched with blood. Nearly half the settlers were murdered, and the rest fled for their lives. The savages burned and destroyed everything. Sonoita is the dark and bloody ground of Arizona, and the graves of its pioneers mark the hill-sides from one end of it to the other. The valley of the Arivaca, near the Sonora line, contains some good land, estimated at 10,000 acres. It is claimed under a grant, thus keeping out actual settlers, and is at present utilized for grazing purposes.

Although **Cochise** county has been looked upon as mining and grazing region it contains large bodies of fine farming lands, nearly all being unoccupied. The class of immigration which has filled up this portion of the Territory during the past four years was attracted by its marvelous mineral wealth, and has almost overlooked all else in its eager search for the hidden treasures. Yet along the San Pedro and in the Sulphur Spring valley there are large tracts of good land. The soil is exceedingly fertile, producing, with proper cultivation, large crops of everything grown in the Territory.

At St. Davids, some ten miles above the railroad station of Benson, a Mormon colony have established themselves, and already reclaimed a large body of land. They have built pleasant homes, raise good crops of corn, wheat, barley and vegetables. Experiments with the vine and other varieties of fruit have proved that the soil and climate are well adapted for the successful prosecution of the industry. Small farms are cultivated in this colony, and every drop of water utilized.

That portion of the San Pedro north of the railroad which is included within the boundaries of Cochise has been farmed successfully for nearly twenty-five years. This settlement, known as *Tres Alamos* (Three Cotton-woods), has several fine farms which yield good crops of grain, fruits, and vegetables. The corn grown here is said to be the finest in Arizona, and the fruits are especially rich and

luscious. Alfalfa and other grasses yield large returns. Several canals have been taken from the San Pedro, which supplies the settlement with water. The volume of the stream is not large, and the area of land along its banks which can be brought under cultivation will always be limited.

The Sulphur Spring valley, which extends through the eastern portion of the county, contains 15,000 acres of good land, which can be made productive. This great valley, which is nearly 100 miles in length and fifteen miles in width, drains an immense area of country. Over nearly its entire length, and within a few miles of each other, springs are found, and by sinking a few feet the underground river is tapped and an abundant water supply secured. Although the valley is at present devoted principally to stock-raising, its agricultural capabilities are gradually beginning to be understood, and several farms are already under cultivation. There are large tracts where no irrigation is required, the moisture from the water below being sufficient to insure a crop. Corn, wheat, barley, alfalfa, and all kinds of vegetables are grown, the yield being large and the quality equal to any in Arizona. There is hardly a doubt that flowing wells will yet be had in this valley, and at no great distance from the surface. Windmills can also be utilized for gardens and orchards. There is abundance of water just below the surface, and the industry and ingenuity of man will yet force its clear and sparkling currents to the sunlight, and make of the Sulphur Spring valley one of the most productive spots in the Territory. Now that flowing wells have been found in this valley it is certain that a large portion of its area will be occupied by the farmers. The soil is of the richest, and the climate among the best in the Territory. There is no more delightful spot to make a home. The water supply seems to be inexhaustible; and the day is not far distance when a line of artesian wells will make one of the most productive valleys in all Arizona. There is a large area of government land yet open to settlement in this region.

The San Simon valley, which runs parallel to the Sulphur Spring and is separated from it by the Chiricahua range, contains at least 15,000 acres that can be cultivated. The soil is rich, and will grow anything planted in it. In the center of the valley, a short distance below the surface, the Rio del Sur flows on its way to the Gila. This stream

forms several springs in its course, and an abundant supply can be had by sinking from three to ten feet. Some twenty farms have been taken up, and the yield of cereals and vegetables is something phenomenal. Running into this valley from the eastern slope of the Chiricahuas are several mountain streams with small but exceedingly rich stretches of land which will yet be the sites of many happy homes. On the Babacomari, a tributary of the San Pedro which drains the northern slopes of the Huachuca mountains, there are several fine farms, on which good crops of grain and vegetables are grown every year. The acreage under cultivation in Cochise is put at 5,000. There is no better market in the Territory. Hay, grain, and all farm products bring a ready sale in Tombstone and adjacent camps. Corn and barley bring from one and a half to two cents per pound, and everything else at like rates.

Yuma county contains some of the richest lands within the limits of Arizona Territory, a very small fraction of which are under cultivation. The Colorado of the West, which washes the western border of the county, forms some large and fertile valleys. The lower Gila is bordered by large tracts of rich bottom-lands, with abundance of water to irrigate the same at nearly all seasons. The total area of irrigable lands on the Gila and Colorado within the borders of the county has never been correctly estimated, but it is safe to say that it will not fall short of 200,000 acres. The valley of the Colorado, like that of the Nile, is subject to annual overflows, and has been enriched by the deposits carried down by the stream for ages. Under its semi-tropic sun vegetation is very rapid. Weeds, grasses and wild plants reach an amazing height within a short time after the waters recede.

After the overflow the Indians, who cultivate a few patches along the stream, dig shallow holes with a sharp-pointed stick in the rich soil and drop the seed. Although no attempt is made at cultivation the growth is somewhat marvelous, and in less than three months corn and vegetables have fully ripened. No better soil for cotton, rice, sugar, tobacco and hemp, can be found on the continent. The latter fiber is found growing in large quantities in a wild state below Yuma and along the gulf. The orange, lemon, olive, pine-apple grape, fig, almond, peach, pomegranate, and every other fruit grown in the tropic or semi-tropic zone are at home in the valley of the Colorado.

This large body of land, whose marvelously rich soil is the wonder of all who have examined it, remains unreclaimed. The cost of erecting suitable levees to prevent sudden overflow and the difficulties in opening canals are the obstacles which stand in the way. To the poor immigrant these are unsurmountable barriers. Capital alone can make the great valley productive. The late Thomas Blythe of San Francisco expended large sums in this direction and made many experiments on the capabilities of the soil. Opposite Ehrenberg he constructed a wide canal, and was almost ready to begin planting when his sudden death brought the enterprise to an ending. He also established a colony at Ledro, below Yuma, and within the line of Sonora. This was to become a great cotton, sugar, tobacco, and hemp-growing region, and no doubt a brilliant success would have crowned the efforts of the projector had he lived to carry out his plans.

There is a grand opportunity for capital in the Colorado valley. The rich lands are open for pre-emption, and experiments have shown that the staples we have mentioned and all tropic fruits can be grown here, which in quality and quantity will compare with any portion of the Union.

Between the junction of the Colorado and the Gila there is a body of fertile bottom-land, estimated at 25,000 acres, open for settlement. Canals can be constructed from the Gila at a moderate cost and most of this land brought under cultivation. About 1,000 acres of this tract was reclaimed some years ago, and it is stated the largest crops of grain ever grown in the Territory were raised here.

Situated so near a railroad, this fine body of land cannot long remain uncultivated. The soil is extremely rich and the "lay of the land" is well adapted for irrigation. In some of the gardens in the town of Yuma, orange-trees are in full bearing, the fruit being of an excellent quality. It is believed that in the valleys of the lower Gila and the Colorado the conditions for successful orange-growing are more favorable than in any portion of the Territory. For cotton-culture and sugar-making, rice and tobacco-growing, these rich bottom-lands are all that could be desired. For the man with experience in this branch of agriculture and a small capital, there is no part of Arizona that offers greater inducements than the fertile bottoms near Yuma.

The agricultural resources of Mohave county are limited to those lying along its western border, in the valley of the

Colorado, but the great river in its course to the gulf does not form such wide stretches of bottom-land in this county as in Yuma. The soil is identical in both, and the difficulty to be overcome in reclaiming it the same. Save a few patches where the Mohave Indians raise corn, melons and pumpkins, the land remains as nature left it. On the Big Sandy, a tributary of the Colorado, there are about 1,000 acres in corn, barley, alfalfa and vegetables. There are several thousand acres of fine land on this stream and on Williams Fork, but a scarcity of water prevents its cultivation.

In Gila county the area of agricultural land is not large. The county is mostly a mining and grazing region. Yet along the Salt river and its tributaries, above the cañon, and on the small streams that flow down from the Matatzals and the Sierra Ancha, there are several thousand acres with a sufficient water supply, well adapted to the growth of cereals, fruits, and vegetables. The Gila in its course through this country forms some very fine valleys, but nearly all of them are included in the San Carlos Indian reservation. There are at least 5,000 acres on the Salt river, of which only about 1,500 are now being cultivated. There is plenty of water, and the lands are among the richest in the Territory, their equable climate and sheltered situation being exceptionally favorable to the raising of grapes and all other fruits.

Along Tonto creek many small farms have been brought under cultivation, and a fine quality of grapes, peaches, pears and apricots is produced. On Pine, Wild Rye and other streams which make into the Salt from the north, are many acres of alluvial bottom-land now lying idle. The projected Mineral Belt railroad, which will pass through this region, will open a permanent and profitable market for its agricultural productions. At present there are about 2,000 acres under cultivation in Gila county, which will yet be increased five-fold.

Apache county has a good body of farming land along the valley of the Colorado Chiquito and the numerous tributaries which flow into it. In the Mogollon and Sierra Blanca ranges, which traverse this county, there are many beautiful glens and mountain glades well adapted to the cultivation of grain and vegetables. Nearly all the available land along the Little Colorado, and many of the streams that flow into it, have been secured by Mormon

colonists. From Springerville to Brigham City the valley has been brought under cultivation wherever water can be obtained. Dams have been erected and several canals constructed, and a great deal of labor expended in bringing the land under cultivation.

Under the co-operative system of labor adopted by the Mormon church, a great many obstacles were overcome and a large area has been brought under cultivation. Good crops of corn, wheat, barley, alfalfa and vegetables are raised. Attempts at fruit-culture are meeting with marked success, and many farmers are putting out vineyards and orchards. Two flouring-mills are in operation at St. Johns and another is in course of erection. On Silver creek, the Nutriosa and other tributaries of the Little Colorado, there is some rich bottom-land, a large portion of it being under cultivation. There is little vacant land in Apache upon which water can be got, nearly all the desirable locations having been taken up by the Mormon colonists, and the desirable farming lands of the county are rapidly passing into their hands.

Next to Maricopa, Apache is at present the second agricultural county of the Territory. Wherever water can be had, the land is being brought under cultivation and permanent homes are being established. The soil is equal to any in the Territory and the yield fully as large.

As near as can be ascertained, the number of acres under cultivation in Arizona at the present time is as follows:

Maricopa County	.....	35,000	acres.
Apache	“	13,000	“
Pinal	“	7,000	“
Graham	“	7,000	“
Yavapai	“	6,500	“
Cochise	“	4,000	“
Pima	“	3,000	“
Gila	“	1,500	“
Yuma	“	1,500	“
Mohave	“	1,000	“

Making a total of.....79,500 acres.

To this should be added some 5,000 acres tilled by the Pimas, Maricopas, Papagos, Moquis, Ave-Supies and San Carlos Apaches. Along the valleys of the Gila and Salt there are at least 500,000 acres with a sufficient water supply to make them as productive as any portion of the

Union. Of this vast tract only a little over 50,000 acres, or one tenth, are now under cultivation. To bring every acre of this land under tillage requires but the construction of irrigating canals, and a careful, judicious and economical use of water.

With a water system as perfect as that which has made the plains of Lombardy and Castile among the most fruitful spots on earth, the valleys of the Salt and Gill will yet support as dense a population as any like area on the globe. The large tracts now held by individuals will be subdivided, small farms will be brought under a high state of cultivation, and where one family finds a home to-day twenty will abide ten years hence. There is no soil more prolific, no climate more genial, and such a region is again destined to be the home of teeming thousands.

The conditions which the immigrant to this Territory must expect to meet are here stated. If he elects to choose some of these valleys for his future home, he will receive a hearty welcome and generous assistance from those already here; he will find a soil whose fatness equals the delta of old Nile; he will find sunny skies and a climate unsurpassed for healthfulness. The agricultural possibilities of the Territory are at last beginning to be understood; and those seeking homes will not long overlook the grand possibilities of a region which requires but the industry of man to transform its desert wastes into gardens of beauty and productiveness.



CHAPTER XIII.

PREHISTORIC ARIZONA.

“ Chaos of ruins ! who shall trace the void, -
O'er the dim fragments cast a lunar light,
And say 'Here was, or is,' where all is doubly night ?”

THE traveler through Arizona cannot fail to notice the peculiar mounds and the traces of immense *acequias*, or canals, which he encounters in the large valleys.

Along the cliffs, bordering many of the water-courses, he will find excavations in the solid rock, which were evidently at one-time the abode of human beings. Fragments of coarse pottery are generally found scattered about near mounds and caves. In digging into these *tumuli*, stone hammers and axes, rudely fashioned earthen jars, often filled with charred corn and beans, and in some instances human skeletons, have been unearthed. The evidence is indisputable that the valleys of the Gila, the Salt, the Verde, the San Pedro, the Colorado Chiquito, and all the principal water-courses throughout the Territory, were at some time in the dim past filled with a dense population.

The outlines of artificial water-courses, which are found near every stream, and the smooth and perfect configuration of the land—with an almost imperceptible slope toward the river bed—leave no doubt that a teeming population once lived and labored here. Not unfrequently the modern husbandman upturns from the soil some rude implement used by his unknown predecessor, or cuts with his plow into some old adobe wall, once the habitation of the ancient tiller of the soil, whose bones have long since mouldered to their kindred dust.

In many a valley now a desolate waste these mute evidences of thrift and industry are seen on every hand; and vast regions now given over to the solitude of nature were at some remote period the homes of a race who made

them bloom with beauty and smile with industry. There is every reason to believe that where one acre is cultivated in the Territory to-day twenty were made productive by the people who once occupied the land. This may well be called the prehistoric period of Arizona, when the country presented a far different appearance from what it does to-day. It was a period when valley, vale and glen blossomed with the fruits of peaceful industry; when comfortable homes dotted the plain and mountain side, and when a numerous people dwelt in peace and plenty, surrounded by everything which could gratify their simple wants. But the race which once made these arid plains and deserted valleys to smile with verdure have passed away, leaving behind no trace of their origin, their history or their extinction. A few crumbling and shapeless ruins are all that remains to tell the tale of their existence; and the flickering and uncertain gleam of conjecture is all that is left to guide the explorer in discovering the fate that befell them. As helping to cast some light on the life of these unfortunate people, a short description of some of the principal ruins they left behind them is here appended.

First among these prehistoric relics, both in extent and state of preservation, is the famous Casa Grande. It is situated in the valley of the Gila, about five miles south of the river and six miles below the town of Florence. The ruins were first discovered by Cabeza de Vaca in his journey across the continent, of which mention has heretofore been made, and was thoroughly explored by Coronado when he led his famous expedition northward two years later. It was then (1540) four stories high, with walls six feet in thickness. Around it were many other ruins, with portions of their walls yet standing, which would go to prove that a city of no inconsiderable dimensions once existed here. As showing its great antiquity, it is mentioned that the Pima Indians, who then as now were living in the immediate vicinity, had no knowledge of the origin or history of the structure or of the people who built it. It had been a ruin as long as tradition existed in the tribe, and when or by whom erected was as much a mystery to the Pimas as to their European visitors. Fathers Kino and Mange visited the Casa Grande in 1694 and gave a detailed description of the ruins as they then appeared.

They found the remains of a great edifice, having a large room in the middle, four stories in height, with walls six

feet in thickness. They also give an account of twelve other ruins in the vicinity. Father Pedro Font visited the ruins in 1777 and found them much in the condition they were when seen by Kino and Mange. He describes the main building as "an oblong square, facing to the cardinal points of the compass. The exterior walls extend from north to south 420 feet, and from east to west 260 feet. The interior of the house consists of five halls, the three middle ones being of one size and the extreme ones longer. The three middle ones are twenty-six feet in length from north to south and ten feet in breadth from east to west." This was Casa Grande over 100 years ago, but the rains and winds of a century have left their mark on its crumbling wall. The building stood upon a slight eminence, and was no doubt the main structure in the city which once existed here. The walls were composed of a concrete, made of mud and gravel, held together by a hard cement. This concrete was made in large blocks, which were put in place and firmly cemented together. The inner surface was coated with this peculiar cement, and is as hard and smooth to-day as when it dried under the hands of the ancient builders.

The dimensions of the ruin still standing are about fifty by thirty feet. Each succeeding year sees a gradual diminishing, and it is only a question of a short period when Casa Grande will be an undistinguishable mass of mud and gravel, like the mounds that surround it. The walls still standing show round holes in which are found pieces of cedar poles which supported the floors. The ends of these poles show that they were cut with some blunt instrument, and as a number of stone axes, bone awls and other implements of the stone age have been excavated from the ruins, it is evident the people who built these remarkable structures had no knowledge of the use of iron. In the immediate vicinity the traces of an immense irrigating canal have been followed to the Gila river, forty miles distant. This canal no doubt brought water to the city and irrigated the rich valley which surrounds the ruins in every direction.

Casa Grande is one the most interesting remains of the prehistoric age to be found on the continent. In gazing upon its weather-beaten front, which has so bravely withstood the storms and floods of centuries, the question so often asked, but never answered, instinctively comes to the lips: "Who were the people that raised so massive a struct-

ure? From whence did they come, and what has been their fate?" But sphinx-like, the mysterious ruin stands amid the solitude of the desert plain, while from its weather-beaten crest voiceless centuries look down upon the curious inquirer.

Along the valley of the Gila for nearly its entire length in Arizona ruins of buildings and irrigating canals are met with. Wherever the river forms a valley of any size it was evidently cultivated. On the upper Gila is a large and rich body of land, known as Pueblo Viejo (Old Town). In this valley extensive mounds, traces of buildings, canals, broken pottery, etc., are met with in every direction; and it is certain that the entire valley—containing between 40,000 and 50,000 acres—was at one time under cultivation. Stone hammers and axes, broken *ollas* or earthen jars, are found in nearly all these ruins. On Eagle creek, Bonita, and all the principal streams running into the stream, are found the same evidences of an older and cruder civilization.

On the San Pedro, near its junction with the Gila, are the remains of what must have been a large city. The foundations were of stone, laid in a hard, coarse cement, and some of the ruins show that the buildings were large and solidly constructed. In the Tonto Basin, situated between the Mazatzal and Mogollon ranges and north of Salt river, extensive ruins are found. These are of stone, many of them showing the material dressed, and laid in cement equal to that in use at the present day. Many cliff dwellings are also found in this region, and the valleys of all the streams running into the Salt show the same style of building.

On Coon creek, at the foot of the Sierra Ancha, in this basin, are many cliff dwellings hewn out of the solid rock. On the south side of Salt river, near the mouth of Tonto creek, are also many caves in the rock, which were evidently the abode of man in ages past. On the Mazatzal range, near the Four peaks, are found the ruins of many stone dwellings and the remains of what appear to have been fortifications. The solid walls of the buildings that once stood on this lofty perch can be traced along the range for a distance of nearly fifteen miles.

In one of the caves on the south side of Salt river the bones of a large animal, evidently of the mastodon species, have been found. One massive piece was more than three

feet in length and over eighteen inches through at the thickest part.

In another cave, on removing the débris, pieces of cotton and cotton cloth have been discovered six feet below the present floor. These relics were in a good state of preservation, the cotton being of a fine silky fiber. One of the pieces of cloth showed a rude attempt at ornamentation, having small eyelets worked by some sharp-pointed instrument. A piece of coarse matting, made doubtless from native grasses and in a good state of preservation, was also found. Numerous ruins of houses, cliff dwellings, fortifications, etc., are met with along the Verde river and its tributaries, also in the Agua Fria valley, and in nearly every mountain and valley for a distance of more than fifty miles north, east, south and west from Prescott. Nearly all these remains are of stone, showing that the ancient builders used that material in preference to the adobe or concrete whenever they could get it.

The Verde valley must at one time have contained a very large population. Traces of the early inhabitants can be found on all sides. Opposite the fort are a number of stone ruins overlooking the river; and two miles below, on an elevated *mesa*, an ancient burial-ground has been discovered; and some excavations made therein show that a large number of this ancient race sleep their last sleep within its boundaries. On Beaver creek, which empties into the Verde four miles above the fort, the cliffs on either side are lined with cave dwellings. They are walled up in front, resembling the rocky bluffs out of which they have been excavated, and were no doubt reached by ladders, which at night were drawn up by the occupants. Large cisterns, made of cement and still in a good state of preservation, are found near many of these dwellings. One of the caves is eighty feet across its front and nearly 100 feet above the base of the cliff. The interior shows a number of rooms cut out of the rock—a coarse kind of felsite. The wall in front is pierced by loopholes, through which a view of the country for some distance around can be obtained.

On Oak creek, near its junction with the Verde, there rises a round, rocky hill, which is literally honeycombed with small rooms, and which is one of the most singular and interesting of the prehistoric remains to be found in the Territory. In fact, along the entire length of the Verde to its junction with the Salt, cliff dwellings and the ruins

of stone houses are of frequent occurrence. They all show a uniformity in form and structure, and all about them are scattered quantities of broken pottery. Occasionally a stone implement of some kind is unearthed, but no metal instrument has yet been discovered in any of them.

In Chino valley, twenty miles north of Prescott, many interesting stone ruins have been discovered. Several human skeletons have been exhumed from them, and also many large *ollas* filled with charred corn and beans. The doors and windows of these dwellings were partially walled up, evidently as a protection against a foe who had besieged the inmates, who, there is every reason to believe, met a violent death. In the vicinity of Walnut Grove, twenty-five miles south of Prescott, the ruins of large stone buildings are found crowning the elevated mountain tops, some of them being from thirty to forty feet square. On the Hassayampa and all through the mountainous country south of the Prieta range these ruins are encountered everywhere, and were evidently built on their commanding positions by people constantly harassed by foes. That the race who left these ruins behind them followed the business of mining as well as farming is proved by the gravel-beds of the Hassayampa; and the large pine-trees, whose age is numbered by hundreds of years, found growing where the ancient miner once searched for the yellow metal, will give the reader a faint idea of the ages that have elapsed since he occupied the land.

Prescott, the modern capital of Arizona, is built, it is believed, on the site of a prehistoric city, and the many relics of its former inhabitants which are occasionally brought to light serve to strengthen this theory. Near Fort McDowell, above the junction of the Verde with the Salt river, are the remains of a large fortification, and near it the outlines of an immense irrigating canal. This canal brought under cultivation a fine body of rich land. Near this point the bones of a man estimated to have been over seven feet tall were unearthed. That the ancient race were of this gigantic stature is hardly probable, as bones exhumed in other localities would go to show that they were not above the ordinary size. The valley of the Colorado Chiquito shows traces of mounds and irrigating canals over its entire extent, and it is certain that a large population once flourished there.

Near Tempe, in Salt River valley, are found the remains

of extensive buildings which are supposed to have been even larger than the Casa Grande. They are now a mass of mounds, but the foundation of one which has been traced measures 275 feet in length and 130 feet in width. Excavations made in these mounds have brought to light several *ollas* filled with charred bones, and many stone implements. The mounds cover a wide area and are no doubt the remains of a large city. The marks of a canal are traced from the ruins to the banks of Salt river, showing how the water was brought to the ancient pueblo. All over the valley of Salt river and on the immense plain which stretches between it and the Gila, west of the Superstition mountain, the ruins of dwellings and the lines of old canals are plainly discernible. Everything goes to show that this fine valley was at one time thickly populated; and where to-day the American farmer has built a pleasant home and plows, sows and reaps with the aid of all the modern improvements the ancient agriculturist crudely cultivated the soil centuries before Columbus sighted the shores of San Salvador.

On the Rio Bonita, about fifteen miles above its junction with the Gila, the ruins of many buildings are yet found in a good state of preservation. These structures were of a square form and were built of round stones laid in a peculiar coarse cement. On the shelving rocks along the river are the ruins of dwellings which cannot be reached except by the aid of ropes, but were evidently at one time approached by a stairway cut in the sandstone cliff. At the foot of the Sierra Natanes, in Graham county, there is a cave nearly 100 feet square. There is one large chamber in the center surrounded by small rooms with doors and passage-ways excavated in the solid rock. The walls are adorned with many hieroglyphics in red and yellow paint. At the end, and nearly opposite the main entrance, a clear cool spring bubbles up and flows in a tiny stream through the cave to the sunlight. The rock is a soft sandstone and must have taken years of labor to excavate, as nothing save some flint and stone instruments have been found in or near it.

Many of the narrow valleys and cañons of north-eastern Arizona show evidences of being once densely inhabited by a race of cliff dwellers. In the neighborhood of the Rio de Chelly and its tributaries, as also along the streams which flow into the Little Colorado, the ruins of these cliff

dwelling are numerous. In the cañon of Cosnino creek, twelve miles east of Flagstaff, in Yavapai county, there was once a large settlement of this prehistoric race. The cañon is nearly 2,000 feet in depth, and averages from 20 yards wide in the bottom to 300 at the top. Before he is aware of its presence, the visitor is brought to a sudden halt on the brink of its dizzy depths. The walls have been rent and torn by the storms and floods of ages, and the cloud-bursts and freshets of each succeeding year see its depth increase. Along the sides of this rocky gorge the shelving layers of rock project, forming what may be termed small terraces, in such a shape that one overhanging ledge forms a roof for that below it and a floor for that above. At points where these terraces enlarge, the ancient people built solid stone walls reaching from one shelf to another, and also side walls, thus making a secure retreat. The height of the walls varies with the distance between the overhanging layers of rock, being from three to six feet. The remains of two tiers of these cliff dwellings can be traced along the cañon for nearly five miles. They occupy a line along the sides of the gorge, midway between the level of the surrounding country and the bottom of the chasm. They are all provided with one opening, which doubtless served the purpose of door, window and chimney. They are difficult of approach, and some of them could only have been reached by ladders. Save a few rude domestic implements of coarse earthenware, nothing has been found to indicate the character of those who once inhabited them. What possible pursuit the people who lived in this gloomy chasm could have followed is a mystery. There are no farming or mineral lands in the vicinity, and the game could not have been sufficient for so large a population.

And now the question again recurs: Who were those people who built imposing structures, dug immense canals, and redeemed from the desert such vast stretches of land? From whence did they come, and what has been the cause of their extinction? Did war, pestilence, famine, or some mighty convulsion of nature destroy them? Nothing is left to tell the story of their existence save the few earthen vessels which have been found in the ruins, the stone implements occasionally met with, and the fragments of pottery which lie scattered about their former abode. Time has nearly destroyed evidences of their existence. In the

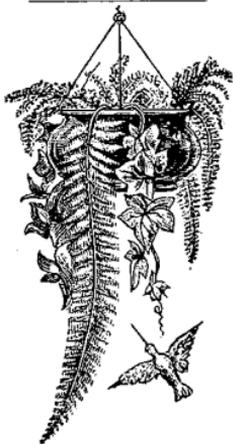
lapse of ages their history has grown almost a mythology. As to their customs and religious beliefs all is conjecture, but from the few hieroglyphics which they have left behind, it has been supposed they were sun-worshippers.

As to their pursuits and mode of life, it is clear they were a pastoral and mining, as well as an agricultural, people. As has been before remarked, the evidence is conclusive that many of the rich gulches in the Sierra Prieta range were worked for their golden treasures ages ago. That this unknown people who have left such interesting remains of their skill and industry behind them had made considerable progress in the arts of civilization there can be no doubt; but that their condition was materially different from that of the Zuni and other pueblo Indians of the present day there is no reason to believe. They have left nothing to show they had got beyond that condition which may be best expressed by the word semi-civilized.

The age in which they flourished is as yet a matter of speculation, but from the total absence of anything like metal tools or instruments we may well imagine that its antiquity is great. That they were subject to constant attack and were surrounded by enemies, would be judged from the style of their cave dwellings and fortifications in the mountains. These were evidently built for defense, and from the commanding positions which they occupied it can well be imagined the people were always on guard against a sudden attack.

Some have advanced the theory that the foe against whom they were ever on the alert was the Apache, and that he at last compassed their destruction. But it could hardly be possible that a people so numerous as those ancient dwellers in Arizona undoubtedly were, and so far superior to the savage Apache, would allow themselves to be overmastered by the latter. They have been called Toltecs and Aztecs, and many learned theories have been advanced as to their origin and history, but all is conjecture and speculation, and nothing is yet absolutely known of one of the most remarkable prehistoric races of the western world. They lived and labored and passed away, and a new and more vigorous civilization has redeemed the land; but there will always be a haze of romantic interest about those early Arizonans which the mystery that enshrouds them helps to intensify.

There is here an interesting field for the savant who desires to trace the growth of a civilization whose origin is shrouded by the mists of time, and whose crumbling monuments yet proclaim its ancient vigor and wide extent.



CHAPTER XIV.

WOOD AND WATER.

“**L**ARGE quantities of first-class pine lumber are now being shipped from Flagstaff, over the Atlantic & Pacific railroad, to Los Angeles, California.” This item, which appeared in one of the Territorial papers a few months ago, will be a genuine surprise to people in the east and on the Pacific coast who have a very imperfect knowledge of the timber resources of this Territory. With the immense forests of the Sierra Nevada so close at hand, and the great pineries of Washington Territory and Oregon so easy of access by water, it would appear to the outsider almost as preposterous as “carrying coals to Newcastle” to send lumber from Arizona to the Golden State.

It is a fact, nevertheless, and it has been proved by the surest of all tests, practical demonstration, that lumber from northern Arizona can be laid down in the City of the Angels and sold at a lower figure than that from Oregon or the Sierras, and it is of the very best quality, fine-grained, clear and free from knots. It is not at all improbable that hereafter the towns and cities on the treeless plains of southern California will receive their timber supply from Arizona. Thus that great civilizer, the iron rail, has dissipated another of the delusions regarding this Territory and shown to the world that, with its other munificent gifts from the hands of nature, an abundant timber supply has not been overlooked. In this respect she is endowed much more generously than most of the western States and Territories, and the magnificent forests of pine, oak and cedar in the Mogollon, the San Francisco, the Bradshaw, the

Santa Catalinas and other ranges are equaled by few regions of the great west.

Popular opinion long regarded Arizona a portion of the Great American Desert, a treeless and waterless waste, where the principal productions were cacti, rattlesnakes and Gila monsters. People in the east who had obtained their knowledge of the Territory from the reports of some disappointed adventurer or the highly colored letters of some imaginative newspaper correspondent had an idea that it was altogether devoid of vegetation, and so destitute of water that the unfortunate traveler ran the risk of perishing from thirst in traversing its plains and mountains. Until within a few years this was the general impression, and even the opening of two transcontinental railroads and the influx of travel have not yet entirely dispelled it. Throughout the land to-day many people will shake their heads when Arizona is mentioned, and warn their friends against emigrating to a country where they are sure to perish from heat and thirst, even if they should escape the tomahawk of the Apache.

These wiseacres are of the same class with those who included all that vast and fertile domain west of the Missouri in the "American Desert," and asserted that it was incapable of cultivation and unfit for the abode of civilized man. But the fruitful fields, the happy homes, and the rich and populous cities which cover the vast plains from the Big Muddy to the Rocky mountains show that the so-called "desert" is one of the most productive portions of the great republic. And so it will be with Arizona. She has the soil, she has the climate, she has the water, and she has the timber to make her agricultural resources scarcely second to her vast mining and grazing interests. Although we have before alluded to the matter in a general way, we propose in this chapter to speak in detail of the timber and water facilities, and of the system of irrigation upon which the farmer must always rely for the raising of crops in this Territory.

Although no data can be had from the Surveyor-General's office it is safe to assert that at least twenty thousand square miles of the entire area of Arizona are covered by a heavy growth of timber. This vast belt may be said to extend from the thirty-sixth parallel of latitude to the line of Sonora, following in its course the principal mountain ranges. This timber belt is not continuous. It occurs on

the sides and summits of the high mountains which have a general north-west and south-east course. The largest body of timber in Arizona is the Mogollon forest. It begins at the San Francisco peak and extends in a south-westerly direction to the thirty-third parallel, a distance of nearly two hundred miles. Its average width is about sixty miles, making the entire area over 12,000 square miles. Think of it, you who have imagined Arizona as a rocky, barren desert. Here is a body of magnificent timber land nearly as large as the State of Maryland, and yet almost untouched by the woodman's ax.

This is indeed the "forest primeval" of Arizona, and its vast extent and solitary grandeur can only be appreciated by those who have visited it. For miles in every direction its somber outlines present an unbroken stretch of towering pines as far as the eye can reach. At intervals through this immense pinery are beautiful natural parks, covered with a heavy growth of grass. In these openings the deer the wild turkey and the antelope love to roam, and the sportsman will find no better hunting-ground on the continent. In passing through this great timber belt deep chasms are frequently encountered, caused by the rains and floods which for ages have fallen on this elevated region.

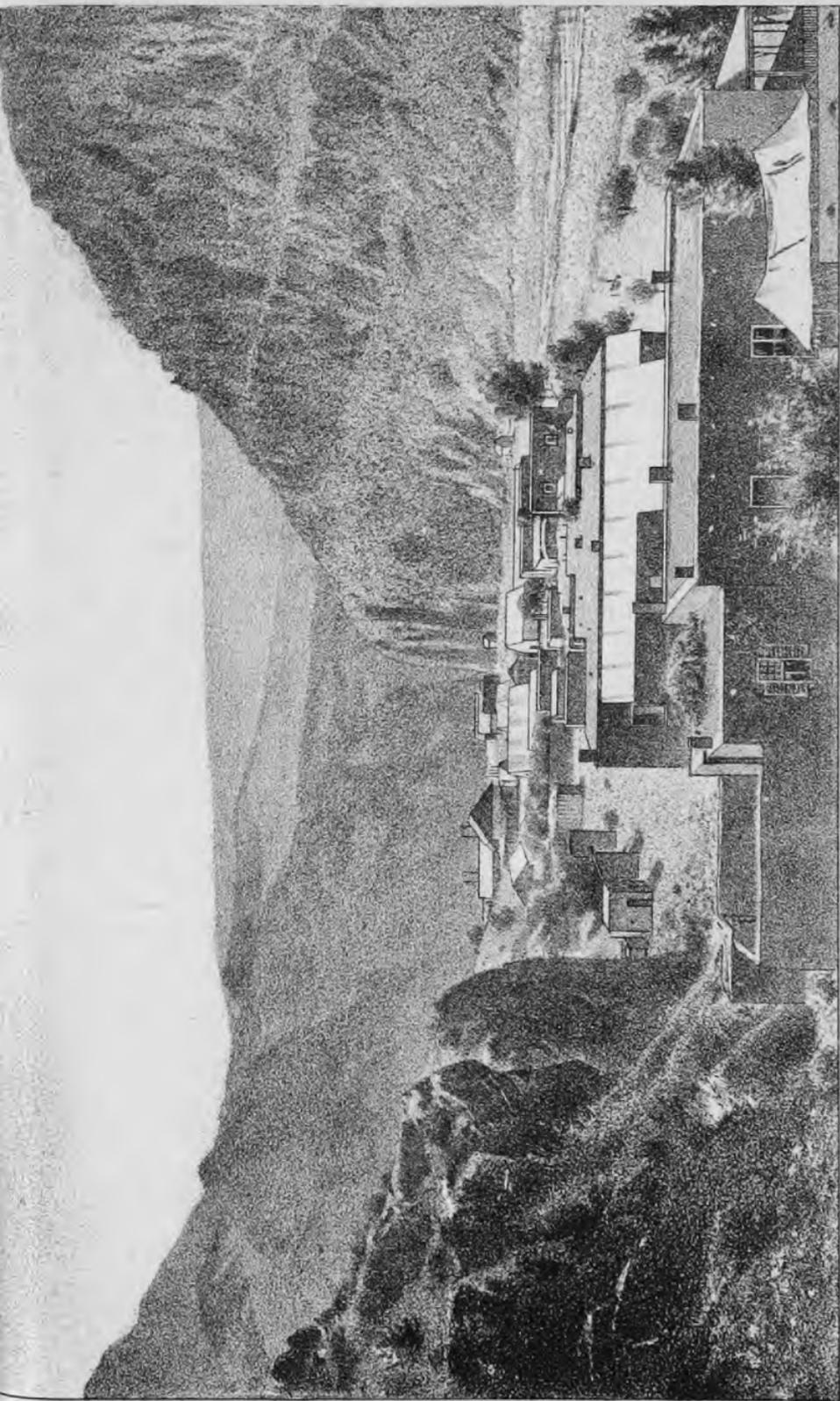
In these dismal gorges the homes of the ancient cliff dwellers are met with, and as the beholder stops to gaze upon the relics of a dim and distant past the natural inquiry again comes from the lips: "Who were those people, from whence did they come and whither have they gone." But save the mournful sighing of the waving pines, which seems to chant an ever ending requiem for the race that is no more, there comes no answer. Although three saw-mills have been employed in this forest since the opening of the Atlantic & Pacific road their work is scarcely noticeable. The growth is thick, and the lumber produced is among the finest in the Union.

Its immense extent guarantees to the Territory an abundant timber supply for years to come. It is one of the most precious gifts which Arizona has been blessed with, and should be guarded carefully and well. As one wanders through its dim aisles, with the sunlight shimmering through the interlacing boughs above him and the green carpet beneath his feet, he will not wonder that the Druids of old built their altars in God's own temples.

In this grand cathedral of nature the *Pinus ponderosa* rears his lordly head sometimes to a height of 200 feet, and specimens are not uncommon of 100 feet without a limb, and from four to six feet in diameter at the butt. The pine is of the pitch and sugar varieties, and makes fine, clear lumber, well adapted for building and all other purposes. Reduced to acres, this vast belt contains 7,680,000, and estimating twenty trees to the acre, and 1,000 feet to the tree—a very modest estimate—we have the enormous total of 153,600,000,000 feet of lumber in this forest alone! In the Sierra Prieta range, near Prescott, where from one to four saw-mills have been at work since 1864, there are yet millions of feet untouched.

The large pine forest that crowns the Santa Catalina range remains undisturbed, while the wide stretches of timber land in the Santa Ritas, the Huachucas, the Chiricahuas and the Pinalaños contains thousands of acres of virgin forest. In fact, Arizona has been favored by nature beyond most of her sister Territories in the matter of timber. Besides possessing enough for her own wants she is in a position to supply her neighbors for generations to come. Besides the pine there are also large belts of oak and ash in the Sierra Blanca. The oak is of the white variety, the trees being tall, straight and remarkably free from limbs. The grand forest of the Mogollon has scarcely been touched, but it is not likely to remain long in that condition, as the Mineral Belt road, which is now under construction, will pass through it for over 100 miles. When this road is built the timber to supply the mills, mines, farms, cattle-ranges, cities and towns of Arizona will be drawn from this grand pinery. Many articles of woodenware and lines of furniture which are now brought from abroad will be produced at home. For building material the timber is equal to the best Oregon pine, and here is enough to supply homes for Arizonans until the latest generation.

Before the building of railroads the lumber consumed in the Territory was manufactured at home. A saw-mill in the Santa Rita mountains supplied Tucson and nearly all the country south of the Gila with the material for building and other purposes. Northern and central Arizona procured their lumber from the Sierra Prieta range, near Prescott. With the opening of the Southern Pacific road California redwood and Oregon pine found its way to the



TOWN OF CLIFTON, ARIZONA.

BANCROFT-LITH-S. F.

Territory, and for the past four years has been used almost exclusively in southern and central Arizona. But the opening of the northern transcontinental line bids fair to bring the home product once more into general use. Already large shipments are being made from Flagstaff by way of Albuquerque to the towns and camps of the south, and with the opening of the proposed Mineral Belt road, which will pass through the heart of the great forest, every foot of timber used in the Territory will be of native growth.

With the richest of mines, the finest of grazing and farming lands, extensive coal deposits and thousands of square miles of timber Arizona has all the resources to make a rich, populous and prosperous State.

Nor has the Territory been neglected in the supply of water. The Colorado, the Gila, the Salt, the San Pedro, the Verde, and scores of other streams are capable of irrigating vast stretches of land. We have seen that the Territory was at one time the home of a dense population. The remains of *acequias*, or irrigating canals, are found in almost every valley, showing that hundreds of thousands of acres now relegated to the desert were once under cultivation. There is no reason to suppose that the rain or snowfall was greater then than now, but there can hardly be a doubt that ten times the acreage was cultivated. And the same result can be achieved again. The water supply of Arizona is sufficient to irrigate nearly all the arable lands within her borders, and with a system as perfect as that which once prevailed as large an area can be reclaimed. On the judicious, careful and systematic handling of the water supply and its proper application to the soil depends the future of Arizona as an agricultural country. Here the richest soil without water is valueless for farming purposes. The rain-fall is short and uncertain, and the tiller of the soil must always depend upon artificial means for the production of a crop. But, fortunately, the numerous streams and springs throughout the Territory supply him with the element which causes the arid valley to bloom and blossom and crown his labors with a generous yield. Although requiring some additional labor, this mode of cultivation commends itself for its certainty and for its large returns. When the farmer who depends on the natural aids to insure a crop is harassed by spring deluges or summer droughts, the irrigator has his water under control and can apply

the life-giving element whenever his fields or orchards require it.

But the fact is apparent that the ancient tillers of the soil had a much better knowledge of the irrigating problem than their modern successors. They evidently utilized every drop, and allowed none to go to waste. The present occupants have not yet attained the same degree of perfection in this respect, but it is only a question of a very short time when some regular system must prevail. As the farming industry depends for its success entirely on irrigation, and as the system is little known or practiced anywhere in the United States outside the Pacific States and Territories, some brief data regarding it are here inserted which may be of benefit to those who think of coming to the Territory and engaging in farming.

Irrigation is probably the oldest system of agriculture known to man. In the cradle of our race, the dry elevated plains of Persia, Assyria and Babylon, it is practiced at the present day, and it is not unlikely that Adam, after being driven out of the Garden and compelled to earn his bread by the sweat of his brow, learned to construct canals and raise crops by irrigation on the plains of Mesopotamia; and tradition has it that Noah, after leaving the ark, cultivated the vine by irrigation on the sunny slopes of Ararat. Some of the richest and most productive regions on the globe have been cultivated in this manner ever since man learned the art of tillage. The greater portion of India, the plains of Lombardy, the valley of the Nile and the fruitful fields of Castile have always depended on irrigation for the raising of crops. And although subject to such a system for thousands of years, they are to-day the most productive spots on earth and support a dense population.

In India, where irrigation has been most successful, there are from 200 to 600 persons to every square mile. In Italy we find an average of 270 persons for Piedmont and 390 persons for Lombardy. The irrigated portions of Spain have populations ranging in number from 200 to 430 souls per square mile. Egypt, which for ages was called the "granary of the world," has a population equivalent to 484 persons upon every square mile of her cultivated territory. In these countries the governments have framed laws regulating the entire irrigating system and defining clearly what shall be the "duty of water," that is, what quantity each occupant is entitled to in the raising of a crop. The

measurement is by the cubic foot, flowing at a uniform rate through the irrigating season.

In the several provinces of Spain the quantity of water required to raise crops is as follows: Murcia, one cubic foot per second will flood 96 acres; in Granada the same quantity will supply 244 acres; in Henares, 157 acres; in Valencia, 280 acres; in Reoja, on low, clayey soil, 350 acres. For cereals and grasses generally the "duty" is placed at 280 acres; for gardens, 85 acres. In Spain, whose soil and climate is not materially different from Arizona, the number of waterings given to each crop per year is as follows:

Wheat, three irrigations, in March, April and the latter part of May.

Barley is only irrigated once, in April.

Corn is flooded eight times during its growth, from the twentieth of June to the end of September.

Alfalfa requires, on an average, thirty irrigations during the season.

Vegetables are subjected to eight waterings before they are gathered.

In Italy the average duty of water is about 80 to 110 acres per cubic foot, but in the valleys of Lombardy and Piedmont the meadows and rice-fields require a constant sheet of water running over them for several months of their growth.

In India wheat requires five waterings to insure a crop, and the average number of acres flooded by a cubic foot during the season is given at from 160 to 180.

In the United States irrigation is practiced in southern California, Nevada, New Mexico, Arizona, Colorado and the great Utah basin. The system has perhaps reached its highest developement in Los Angeles and San Bernardino counties, and the crude modes of the mission fathers have been gradually improved upon until every drop of the precious liquid is made to do some service, and a cubic foot will sometimes irrigate as many as 300 acres of the loamy soils of the *mesa* lands; while in exceptional cases, where scarcity of water requires the utmost economy in its use, and distribution by means of pipes, as high as 1,500 acres are cultivated by one cubic foot. The careful and judicious use of the water in these counties has accomplished wonders, and although the supply is at all times limited its proper application has made of Los Angeles the "Garden of California."

But here the water is under municipal regulations, and is measured out to the irrigator, who prepares his land well to receive it; he takes as much as is required and no more, and he is careful in the use of it. The supply of water in Los Angeles county is from natural streams, springs, and artesian wells. The streams are small and uncertain in their supply, the total available volume of the Los Angeles river in May last being only seventy-eight and a half cubic feet per second; while from the San Gabriel river and its tributaries it was but 191 cubic feet. The Santa Ana, which waters the flourishing settlement of Anaheim, carried 203 cubic feet, and the Trabuco and San Juan creeks eight cubic feet per second. Yet from this comparatively small flow of water the following acreage was cultivated in 1879

Los Angeles river.....	9,435	acres
San Gabriel "	24,833	"
Santa Ana	23,200	"
Trabuco and San Juan creeks.....	400	"

This gives an average of nearly 200 acres to each cubic foot of water flowing per second through the irrigating season.

Another great source of supply for irrigation in southern California is derived from artesian wells. The number of wells in Los Angeles county is estimated at nearly 600, and new ones are being constantly added. The flow from them is variable; and while some will irrigate from 100 to 200 acres, from forty to fifty is the general average. It is estimated that there are 17,000 acres of land in Los Angeles county irrigated by this means. The water of the Los Angeles river, controlled by the city government, is divided into irrigating "heads" by placing board partitions in the flumes of the main ditches where the depth is uniform. The amount of each "head" is about three cubic feet per second, and the prices fixed by the city council are as follows: for one day, \$2; one half-day, \$1.25; for one hour, 50 cts. The canals are all under the charge of a *zanzaro*, who has entire supervision, and supplies each individual with the water he requires, and at specified times.

The loss by absorption in Los Angeles and throughout California is very great. From actual measurements made on the main ditch entering the city, there was shown to be a loss of thirty-three per cent. in a distance of 6,000 feet. On the dry plains of the San Joaquin it is still greater. As

a preventive against this waste a method has been adopted in some places of paving the bottom of the ditches with cobble-stones snugly fitted together; but the most perfect method is the lining of the bottom and sides with concrete. This plan was adopted centuries ago in India, Persia, Spain, and Lombardy. Another great loss of water is by evaporation. It has been estimated that the evaporation from Kings river, in the San Joaquin, for a length of sixty-two miles, during the year, has reached the enormous quantity of 487,821,412 cubic feet. There is a great loss from this cause by the unnecessary duplication of works, and the building of four or five small canals where one of moderate dimensions would serve the purpose more effectually, at less expense, and at far less loss of water.

Irrigated land, the world over, has always commanded a higher price than that which depends on rain-fall. Unimproved land in portions of Los Angeles county under irrigating canals is worth from \$100 to \$200 per acre, while that improved finds ready sale at \$350 per acre. Before the construction of irrigating ditches it would not bring \$5 per acre. And such land cannot compare with some of the rich valleys of Arizona. On land supplied by artificial irrigation there is more certainty of a crop and the yield is generally larger. On sandy soils irrigation has a marked effect in increasing their fertility; in filtering through the porous soil all the sedimentary matter contained in the water is retained and acts as a perpetual restorative.

These, in brief, are the salient features of the California system of irrigation, and by a clear understanding of it the reader will have some idea of the manner of producing crops by the aid of irrigating canals. It is the system which prevails in Arizona, but in a crude and imperfect form. As yet there has been no effort made to devise any plan regulating the supply. The first settlers in the valleys of the Territory took out ditches and laid claim to certain quantities of water. Companies are formed and stock issued, each share entitling the owner to what is called a water-right. These rights are generally intended to be sufficient for the watering of 160 acres, but in most cases more than double the quantity required is taken. This water is allowed to run over the land when in many instances there is no need of it. Owing to the number of ditches, a large quantity is lost by evaporation and absorption. Besides, the streams through the valleys of

Arizona sink in many places in their sandy beds during the summer months, and most of the canals which have been constructed carry away but a small portion of the water. This could be remedied by tapping the river-bed where it is confined by rocky banks and where the bed-rock is exposed.

It has been estimated that the Salt river, where it emerges from the plain above Phoenix, carries during the irrigating season 60,000 miners' inches of water. By building suitable canals this immense volume can all be utilized; yet at the present time there is nearly 25,000 inches taken from the river, and only about 35,000 acres under cultivation in the entire valley. On the Gila, Verde, San Pedro and other streams the same waste and extravagance in the use of water prevail. The system adopted by the first settlers, if indeed it can be called a system, still prevails, and the owner of a water-right generally presumes he has the privilege to waste all the water he pleases. These men have acquired riparian rights which they cannot be divested of, and no steps have yet been taken to regulate a most vital question affecting the future prosperity of the Territory.

As we have said, there is water enough in the streams of Arizona to supply all the lands adjacent to them. With a proper use of the article the immense valleys of the Gila and the Salt rivers can all be brought under cultivation. But there must be system, economy and intelligent management. Whether this shall be brought about by local regulations or by Territorial legislation is a question yet to be determined. In a country like Arizona, where every pound of grain raised depends on artificial moisture for its growth, the water with which nature has blessed the country will not long be permitted to go to waste.

It is estimated there are something like 80,000 acres at present under cultivation in the Territory. That there is sufficient water to irrigate five times this area is an indisputable fact; but it must be used carefully and economically. As the water is now misused, there is enough wasted on one acre to raise a good crop on five. As immigration flows in and the valleys of the Gila and the Salt rivers are filled by a larger population, the control and distribution of the water supply must be regulated by a system which shall at once be just and equitable to all. When that time comes, Arizona will take her place as one of the

most prosperous grain and fruit-producing regions of the coast.

The problem of artesian water in Arizona, which was so long a doubtful one, has been solved during the past year. There are already five flowing wells in the Sulphur Spring valley and others are being sunk. The water is abundant and of a good quality, and the supply seems inexhaustible. Artesian water has also been discovered near Pinal, and Mr. Whitney, the owner of the well, has been adjudged the bonus of \$3,000 offered by the legislature for the first flowing water found in the Territory. The well is 150 feet in depth and has a steady flow of several inches. It was sunk in a most unpromising place among the rolling, rocky hills on the western slope of the Pinal range. The formation is a lime and basaltic rock, and there are no surface indications, unless a small spring a short distance away, of an underground reservoir. Throughout the length and breadth of the Territory it would be difficult to find a spot that gave less promise of water below, yet the well has now been flowing for over a year, and the stream is as strong and steady to-day as when it first rose from its rocky depths. No better proof can be required than this well affords of the vast quantities of water stored in the mountains and valleys of Arizona.

When a flowing well can be found on the rocky foot-hills of a low range like the Pinal, what an abundant supply can be expected in the large valleys like the San Simon, the San Pedro, the Salt, the Gila, the Chino, the Hualapai, and the scores of others throughout the Territory. These valleys drain large areas and are the natural reservoirs of the mountains which surround them. That they contain vast bodies of water cannot be questioned after the successful experiments in Sulphur Springs. With artesian water in the valleys named, Arizona would be second to no country on the continent as a farming and grazing region. On the lofty mountains which surround them, the snow-fall is heavy nearly every year, and the moisture has only one natural outlet—the valleys below. They are the great cisterns where Nature has stored a treasure almost as great as the gold and silver in her rocky hills; a treasure which has long remained unused and unknown, but one which the cunning of man will soon utilize to make many a barren waste smile with verdure.

The attention of Congress has repeatedly been called to

the question of artesian wells in Arizona, and surely a small portion of the public money could be put to no better use than in the effort to find living water in the dry plains and valleys of the Territory. Now that our own citizens have demonstrated its practicability, it is to be hoped the General Government will lend a helping hand. The benefits to the farming and stock-raising industries would be almost incalculable, and the area of grazing and arable land would be increased ten-fold.

The finding of artesian water in Arizona marks an epoch in her industrial progress which promises the most beneficial and lasting results. The millions of acres of unoccupied grass lands have a value, now that the question of flowing wells is no longer in doubt, they never possessed before. The domain of the farmer as well as the cattle-man has been widened ten-fold; and many a vale and glen never yet touched by the plow will be changed into cultivated fields when the wealth of waters beneath pour their fructifying streams over the thirsty soil.

Those who are unaccustomed to the process will have some idea after reading the foregoing of the conditions which exist in the Territory. We have shown what has been done with a limited water supply in California, and the waste and extravagance which prevails in Arizona. We know there are valleys here in fertility equal to any in the Golden State; and we know that nature has provided water sufficient to make them bloom with productiveness. It only remains for man to use with care and judgment the precious boon which has been conferred upon him.

From the proceedings of the State Irrigation Convention, lately held at Riverside, California, extracts are here given which cannot fail to be of interest to the Arizona farmer, and may assist him in perfecting some system whereby the waters of the Territory shall be properly utilized and the vast stretches of wild lands bordering our streams be reclaimed and made productive.

“ * * * Under what is known as the Satterwhite law of 1876, the water in California is guaranteed as a ‘perpetual easement’ to the land which it has once irrigated. This law welds together the land and water in a way that forever sets at rest all vexed questions as to the right of the irrigator to the water. The Streeter law of 1881 places the regulation of water rates in the hands of the governing power of counties and municipal corporations.

“* * * One speaker proposed as a solution of the irrigating question that the State shall direct and control the diversion of waters from the streams; see that riparian proprietors are supplied with water for stock and domestic purposes, if they can not come in for a share of the water for irrigation; see that all lands naturally dependent upon a public source of supply get their share as far as the supply will go; see that the rights and privileges which have accrued be respected without having recourse to the courts in every case of conflict—the State to provide for the care of the streams, the beds, banks and waters thereof; to provide for the issue of water-privileges in proportion to the supply in each stream; establish a definite standard of measure for water used for agricultural and mining purposes.

“* * * It was shown that in Colorado, where irrigation is extensively practiced, the entire system is regulated and controlled by the State. The rights of all claimants to water-rights are recorded, under oath, and the court enters a decree declaring the extent and relative priority of each claim. This decree forms the basis for future distribution of waters from the stream to the canals, which is done by a commissioner for each district. The law gives general satisfaction and prevents endless litigation.

“* * * Another practical irrigator residing at Lugonia, 2,000 feet above sea-level, declared that the amount of water required in his valley for fruit-culture would not exceed one miners' inch to ten acres of land. The same gentleman strongly advocated the building of reservoirs for the storing of surplus water as one of the great aids to irrigation, and one which has been followed in olden lands for centuries.

“* * * The convention resolved that the water and land should be sold and held together; that Congress be memorialized to make appropriations for the sinking of artesian wells; that the English common-law rule of riparian rights does not exist, nor has it practically ever existed, in California; that the legislature of the State should pass a law relative to the administration and settlement of irrigation claims similar to that in operation in Colorado.”

After a thorough and intelligent discussion of the subject from every standpoint this was the conclusion arrived at by the Riverside convention. It was composed of re-

representative men, all deeply interested in irrigation. That its recommendations will yet receive the sanction of law there can scarcely be a doubt, and that the system which has given such entire satisfaction in Colorado will be adopted in California is already a foregone conclusion. This is a question of vital interest to Arizona. While it may be too soon to call in the aid of legislation to regulate the control and supply of water for irrigation, it can only be a question of time when it will be done. The growth and future prosperity of the farming industry of the Territory depend upon it. There is no question of more importance to our Territory; there is none requiring more careful consideration, wise judgment and good, practical sense. That the representatives of the people of Arizona will be equal to these requirements when the time for action comes, there is no reason to doubt.



CHAPTER XV.

THE MISSION FATHERS.

NO work on Arizona Territory would be complete without some account of the labors, the hardships, the sufferings and the triumphs of the Mission fathers.

Following in the wake of that band of daring adventurers whose conquest of the vast and powerful empire of the Montezumas will never lose its romantic interest, came a few earnest and pious men whose standard was the Cross, and whose mission the spreading of the doctrines of the Nazarene. While the mail-clad warriors who followed Cortez and Coronado were filled with the thirst for gold and glory, the humble disciples of Loyola and Francis of Assisi had a higher motive in penetrating these western wilds, and looked for their reward, not in the treasures they might discover, but in the savage souls they might redeem from barbarism and idolatry. To those sincere and self-sacrificing men belongs the honor of first planting the germ of Christian civilization in what is now known as Arizona.

Although they did not come with the pride and circumstance of an invading host, the peaceful conquest they achieved has been far more lasting. While Coronado and Espejo swept over the land and left behind them only a name linked with avarice and brutality, the poor friars who came after sowed the seeds of honesty, virtue, temperance and industry, which bear fruit even to the present day. As has been mentioned elsewhere, Padre Marco de Niza was the pioneer of the Cross in this remote region. On hearing the tales told by Cabeza de Vaca of the great cities of Cibola, the zealous father set out on his perilous journey to discover them. We have already given an account of his trip,

and the fate which befell his blackamoor attendant, Estevan. Evidently the good friar did not think the time propitious or the temper of the Moquis in a suitable condition to receive the gospel truths, so he contented himself with setting up the cross, and returned to Sinaloa.

It is but charitable to suppose that the glowing accounts which the good father gave of the riches and extent of the Moqui villages was done with the object of having an expedition sent thither, thus affording an opportunity of spreading the true faith among the natives. If this was his object, he succeeded in part, at least, and the expedition of Coronado was the result. But the rough soldier cared more for the treasures he expected to gather than for the conversion of the heathen. When he found a collection of stone and mud hovels instead of gorgeous palaces flashing with gold and precious stones, he turned his back with disgust and disappointment on the "Cities of the Bull," and Father de Niza was compelled in sorrow to abandon a field where the harvest was ripe and ready for the reaper.

More than a hundred years elapsed after the expedition of Coronado before the first mission was founded in "Arizona," although the cross had been planted as far north as Sonora and the Valley of Taos, some time before. It is claimed by some that the first efforts were made at the Moqui villages, and were undertaken under the direction of the Duke of Albuquerque, then Viceroy of Mexico. It is said that after professing the religion of Christianity the Moquis apostatized and joined the general revolt among the tribes of New Mexico in 1680. All efforts after this to convert them proved abortive, and unto this day they adhere to the idolatry of their fathers. This is given on the authority of Vauegas in his history of California.

Eusebio Francisco Kino, who devoted the best part of his life to the spreading of the gospel among the wild tribes of Sonora and Arizona, was a native of the Tyrol, and resigned the professorship of mathematics in the University of Ingoldstadt to devote his life to the conversion of the heathen. He arrived in Mexico in 1680, and in 1686 we find him zealously at work founding missions in Sonora. Hearing of the ruins of Casa Grande, he visited that place in 1694, and in the presence of a great gathering of Pimas celebrated mass within its roofless walls. The first mission established in Arizona was at Guevavi, some thirty miles south of Tucson, in the year 1692. Kino and Juan Maria

Salvatiens were the pious pioneers who laid the foundation-stone. Although the exact date is not at hand, it is supposed that the missions of Tumacacori and San Xavier del Bac were founded about the same time, or shortly after. While establishing these missions, Father Kino pushed north and preached the doctrines of Christianity to the Indians living along the Gila. An effort was made to establish a mission amongst them at Casa Grande in 1695, but was frustrated by an uprising of the Indians, who assassinated some of the fathers and compelled the others to flee.

During his apostolic labors in Pimeria Alta, Kino explored the country north to the junction of the Verde and the Salado, and west as far as the Colorado river. His map of the coast region from Sinaloa to the Gila, with the peninsula of Lower California and the gulf, published in 1701, is remarkably correct, and shows how thorough was his exploration of this, at that period, remote and unknown region.

Father Kino made several visits to the Indian tribes on the lower Colorado, his last being in 1700. From his lips these savages first heard the divine truths of Christianity, but no permanent missions were established amongst them until several years later. The zealous priest made no less than six expeditions to the Gila tribes, preaching the word and converting thousands of the natives.

In 1706 he made his last tour among the Pimas, and a few years later death removed him from the scene of his earthly labors. He was the animating spirit of the Arizona missions, and his zeal, self-sacrifice and energy were proof against every obstacle. He taught the Indians the ways of peace and industry, was jealous of their rights and watchful of their welfare. He procured an order from the *Audiencia* of Guadalajara that his neophytes should not be parceled out to work in the mines, as was the system then existing under the vice-regal government of Mexico. Under the paternal and humane care of the good priest, the Papagos made rapid advancement in the arts of civilized industry. In 1710 this noble man yielded up his pure and unselfish spirit to his Maker, and was sincerely mourned by the people among whom he had labored so faithfully for nearly a quarter of a century. It is said that over 40,000 of the heathen were baptized by this famous propagandist during his years of labor in Sonora and Arizona. The historian relates that "in all his missionary career he was known to have no

other bed than two sheep-skins, a coarse blanket for a cover and for a pillow a pack saddle."

At the death of Father Kino there were eight missions in a flourishing condition within the Territory of Arizona. These were named, respectively, Guevavi, San Xavier del Bac, San José de Tumacacori, Santa Gertrudis de Tubac, San Miguel de Sonoita, Calabasas, Arivaca and Santa Ana. They possessed herds of cattle, sheep and horses, and cultivated a large area of land, which yielded cereals, fruits and vegetables. Many rich silver mines near the missions were worked extensively, and the rude reduction facilities at hand produced large quantities of the precious metals.

This was the most prosperous era in the history of the Arizona missions; but the elements of discord and decay were already at work, and the wise counsel and directing hand of their founder were missing. The Arizona mission received a visit from Don Benito Crespo, Bishop of Durango, in 1725, who wrote to Philip V. giving a detailed account of them. The Spanish monarch ordered that they be afforded every protection, and be aided from the public treasury. In 1743, Father Ignacio Keller was commissioned to proceed to the Moqui villages and make an attempt to win the inhabitants to the Christian faith. He was thoroughly qualified for the enterprise, having passed several years among the Indians of the Gila. In September he set out, accompanied by several Pimas as guides. He passed the Gila and the Salt rivers, and journeyed north into a mountainous country, where he encountered hostile Apaches who attacked and compelled him to retrace his steps.

In October, 1744, Father Jacob Sedelmeyer again made an attempt to reach the Moquis. He went no further than the Gila, being dissuaded from the expedition by the Pimas, who assured him that the mountains to the north were infested with fierce Apaches, who would certainly massacre his whole party. So the father had to give up his project, and resign the Moquis to their sun-worshipping idolatry. He explored portions of the Rio Salado and the Verde and ascended the Gila some distance, but was driven back by the Apaches. He then descended the stream to the Colorado and visited the Coco-Maricopas and Yumas.

In the latter part of 1751 the missions of Pimeria Alta received a blow from which they never recovered. In November of that year the Pimas rose in revolt at Saric, led by one Don Luis, a native chieftain and formerly an ally of the

Spaniards in their wars with the Apaches. So secretly had the plot been carried out that no suspicions were aroused until a few days before the storm burst with all its fury upon the unprotected missions. Nearly a hundred Spaniards, including several priests, were killed; the missions, pueblos and ranchos within the limits of what is now southern Arizona were destroyed, and wide spread ruin and devastation marked the progress of the infuriated Pimas. Early in 1752, troops arrived and the rebellion was crushed. After the suppression of the revolt several of the principal missions and pueblos were reoccupied, but they never recovered their former prosperity. The raids of the Apaches became more frequent and many of the neophytes returned to their wild life.

In 1767 the prosperity of the missions received another check from the decree ordering the expulsion of the Jesuits from Spain and her colonies. With heavy hearts the members of the order took leave of their charges, and left the land which for years had been the scene of their unselfish labors, and which the disciples of the soldier-monk were the first to redeem from barbarism.

In May, 1768, fourteen Franciscan fathers from the College of Santa Cruz de Querétaro arrived at Guaymas, destined to take the place of the expelled Jesuits in the missions of Pimeria Alta, as Arizona was then called. They found the several establishments in a declining condition; life and energy seemed to have departed with the Jesuits, and where once all was order and industry slothfulness and confusion now reigned supreme. The Apaches, until then but little known, made constant raids on the more exposed of the missions, driving off their herds of sheep and cattle. In this year they attacked San Xavier del Bac, destroyed the mission buildings and drove away all the stock. The Franciscans set themselves to work industriously, and in some measure succeeded in bringing back the order and prosperity so long enjoyed by their predecessors. It is very probable that the mission of San Augustin, in Tucson (now called the old pueblito), was one of the first founded by the Franciscans. The author of the *Rudo Ensayo* says that in 1762 there were at Tucson a sufficient number of Indians to form a good mission, but that the priest of San Xavier could not take charge of them, having more than he could do to attend his own flock.

The Franciscan fathers visited the tribes on the Gila and

Colorado, and after many failures they at last succeeded in founding two missions on the last-named stream. In January, 1774, Captain Juan Bautista Ainsa, in pursuance of orders from the Viceroy, undertook to establish communication by land between Sonora and Alta California. He was accompanied by Fathers Garcez, Pedro, and Elrach, who visited the Maricopas, Yumas, and other river tribes, and for nearly two years labored persistently among them. Father Garcez visited the Mohaves and Yavapais and explored a large portion of central Arizona, everywhere preaching the doctrine of Christianity among the wondering savages.

In 1776 Captain Ainsa returned from California, bringing with him from the Colorado Palma and other chiefs of the Yuma tribe, praying for the establishment of missions among them. In compliance with their request, Father Garcez was selected as the man best fitted for the task, and in 1779 three missions stood on the banks of the Colorado—two on the western and one on the eastern. One was on the hill opposite the junction of the Gila, where Fort Yuma now stands, and was known as La Concepcion; another was established near Chimney Peak, and was called San Pablo, and the last was opposite Castle Dome mountain, and named San Pedro. A presidio was established on the hill of La Concepcion, and a small garrison for the protection of the missions maintained therein under the command of Don José Maria Ortega. On the 17th day of July 1881, the Yumas rose against the Spanish authorities, massacred the officers and soldiers of the garrison of La Concepcion, and the priests and civilian employees of all the missions. The women and children were made captives, the buildings destroyed, and thus ended the missions of the Colorado. After a brief existence of three years the beacon-fires of Christianity which flashed across its turbid waters were quenched in blood, and no effort was afterward made to rekindle the flame.

Among the adventurous pioneers of the cross who explored Arizona from 1773 to 1776 mention should be made of Fathers Pedro Font, Francisco Garcia, Sylvestre Escalante and Francisco Dominguez. These zealous sons of Saint Francis visited and made a thorough examination of the Casa Grande, traversed a large part of central Arizona, penetrated to the Moqui villages, but it does not appear any attempt was made to found the missions there. Esca-



RUINS OF CASA GRANDE.

BANGROFT-LITH-S.F.

Jante's party crossed the Colorado above the Grand cañon, and reached the Uintah mountains. He also explored the country as far east and south as Moro, in New Mexico. He published an interesting account of the region through which he passed and the different tribes he encountered.

Escalante appears to have been the last of that pious and zealous band who followed in the footsteps of Marco de Niza, and carried the cross among the savage tribes of Arizona for nearly 250 years. After the destruction of the missions on the Colorado the depredations of the Apaches became more frequent. They swept down from their mountain strongholds, leaving death and destruction in their track and keeping the peaceful neophytes in a constant state of alarm. The breaking out of the Mexican war of independence was a heavy blow to their prosperity. Deprived of the fostering care and protection of the viceregal rule they languished and declined. The government of the republic did not exhibit a friendly spirit, and in 1827 a decree was published ordering their suppression. Shortly after they were abandoned to the tender mercies of the Apache, and the fruits of 150 years of patient industry, unremitting toil, privation and self-denial were given back to the savagery from which they had sprung.

That the missions of Arizona at one time attained a high degree of prosperity and gathered about them a large Indian population is shown by their baptismal records, several of which are in a perfect state of preservation to-day. From 1720 until their abandonment in 1827 the missions of Tubac, Tumacori, San Xavier and Tucson had in succession forty-seven priests, many of whom fell martyrs to their faith and moistened with their blood the seeds of Christian truth planted in the wild regions of "Arizona." As showing the mode of life among the Indian neophytes we insert the following, written by Bishop Salponite, of Tucson:

"Early in the morning the Indians had to go to church for morning prayers and to hear mass. Breakfast followed this exercise. Soon after a peculiar ring of the bell called the workmen. They assembled in front of the church, where they were counted by one of the priests and assigned to the different places where work was to be done. When the priests were in sufficient numbers they used to superintend the work, laboring themselves, otherwise they employed some trustworthy Mexican to represent them. Towards evening, a little before sundown, the workmen

were permitted to go home. On their arrival in the houses, which were located around the plaza, one of the priests, standing in the middle of this plaza, said the evening prayer in a loud voice in the language of the tribe. Every word he pronounced was repeated by some selected Indians, who stood between him and the houses, and last by all the Indians present in the tribe." An alphabet of the Pima language was prepared, and the converts had made some progress in learning to read and write. They were taught the arts of agriculture, and under the direction of the fathers large tracts were reclaimed and made productive, and many a smiling grain-field and fruitful vineyard and orchard flourished where now all is ruin and desolation.

Of all the mission churches built by the Jesuits and Franciscans in Arizona that of San Xavier del Bac is the only one remaining in a state of preservation. This mission was among the first established in the Territory, but the present building is supposed to date from the latter part of the last century. When the priests were driven from the missions in 1827 the Papagos took charge of the church and preserved it from destruction by the Apaches. In 1863, thirty-five years after its abandonment, it was again taken possession of by two members of the order who founded it. These priests were from Los Angeles, California, and accompanied the first Commissioner of Indian Affairs, Mr. Poston, when he visited the Territory.

Great was the joy of the simple Papagos at having the "black-gowns" once more among them. The gold and silver vessels of the altar and all the other valuable ornaments were brought forth from the secure hiding-places where they had remained undisturbed all these long years; nave, chancel and altar were gayly decorated; lights flashed from every column, and the voices of the happy Papagos filled the dim aisles and lofty arches of the old church with songs of joy and gladness. Since then religious services are held regularly and a school has been established by the Sisters of St. Joseph; but the pastor resides in Tucson and the edifice is left entirely in charge of the Indians, who take the greatest care of it.

The church of San Xavier del Bac has the form of a cross. It has a length of 105 and a width of twenty-seven feet, inside the walls. The foundation is of stone and the upper walls of brick covered with a coating of fine cement.

The style is that peculiar type of church architecture met with in Spain and all Spanish-American countries. It has been called the Spanish renaissance, and its predominating features are one of the legacies which the Moorish invaders left to Castile and Leon. The building faces to the south, with a beautiful facade highly ornamented in scroll-work and adorned with the arms of the Franciscan order. Two lofty towers surmount the front, one of which remains in an unfinished condition. Over the main chapel, in the north end, is a massive dome whose strength, lightness and perfect proportions are the admiration of all who gaze upon it. Around the walls of the roof, from which springs the dome, is a balustrade of brick coated with cement, with griffins' heads, also in cement, at each angle and corner. The interior fairly dazzles the beholder, being a mass of elaborate gilding, painting, and fresco-work. The nave is divided into six parts, marked by as many arches. On the right-hand side as you enter, and between the door and the main altar, there is a fresco representing the "Coming of the Holy Ghost;" and on the left a work of similar style illustrating the "Last Supper." These frescoes are still in a good state of preservation and show no little artistic ability. The main altar is dedicated to St. Francis Xavier and is adorned with small-sized figures of the saint, the Virgin, and the Holy Family. Four frescoes near the altar represent the "Adoration of the Wise Men," the "Flight into Egypt," the "Adoration of the Shepherds," and the "Annunciation"—all still well preserved. Statues of the twelve apostles are placed in niches in the massive columns along the main aisle, while the main altar and those on either side are decorated with columns and arabesques in relief gilded and painted in the Moorish style. The lofty ceiling was once a mass of brilliant fresco-work, much of which has been defaced by moisture trickling through the roof.

Near the main door are two small openings leading to the stairs which conduct the visitor to the towers. The first flight leads to the choir, which is decorated with some fine frescoes; two flights more and the belfry is reached. Here hang four small, home made bells whose chime is said to be remarkably sweet and musical. A few steps more and the visitor is in the little dome covering the tower, about seventy-five feet above the ground. From this coign of vantage there is a fine view of the Santa Cruz

valley and the peaks and mountains which surround it on every side. At this point the valley is under a high state of cultivation, and its green fields of grain form an agreeable contrast to the barren plain and bare and rugged mountain which meets the eye in every direction.

When we consider the age in which it was built, and the facilities at hand for its construction, the church of San Xavier del Bac must always appear a remarkable structure. As has been well said, "the entire edifice is perfect in the harmony of its proportions, and in every point of view the eye is satisfied." The traveler who first beholds its graceful outlines standing in solitary grandeur on the edge of the desert waste, is astonished to find in this remote region a building which would adorn any capital in Christendom.

It stands a noble and impressive monument to the zeal, energy and self-sacrificing devotion of the mission fathers, who were the first to open to civilization and settlement the wild region now known as Arizona. They were no ordinary men, and were inspired by no ordinary motives, who could rear so imposing a structure as this in the southern wilds fifty years before the immortal Declaration was read from the steps of Independence Hall. And although the bones of its founders have long since mingled with the dust, the fruits of their labors are seen in the happy and prosperous tribe they redeemed from barbarism and taught the arts of peace and civilized industry.

The ruins of San José de Tumacacori is the only other relic of the numerous missions which flourished in Arizona. It stood on a gentle slope within a few hundred feet of the Santa Cruz, near the old presidio of Tubac. This mission was taken by the Apaches in 1820, and all the occupants massacred. The church was smaller and less pretentious in its style of architecture than San Xavier. Its shape was that of a Greek cross, with a basilica. The latter is still standing, crowned with the emblem of Christianity. The material used in the construction was adobe, or sun-dried brick, which was plastered with cement and coped with burnt brick. The roof was flat and covered with tiles. The rich valley adjacent was brought under a high state of cultivation and bloomed in richness and beauty. The remains of crude smelting-works, and the slag from the same, go to show that the old Jesuits practiced the mining industry here long before a pound of bullion was produced in any

portion of the vast territory now known as the United States.

Of all the other mission churches reared by the pious hands of Jesuit and Franciscan, nothing remains but piles of shapeless ruins, the work of the red fiends. But while hardly one stone remains upon another and the outlines of the former structures can hardly be traced, the truths which they taught and the germs which they planted have bloomed and blossomed, and are to-day bearing the fruits of a vigorous and progressive civilization.

Tumacacori at one time was the richest of all the Arizona missions, but the Apache "came down like a wolf on the fold," and nothing remains of Jesuit enterprise and endeavor save the crumbling ruin of the old church, and the abandoned shafts and tunnels, overgrown with brush and filled with débris, which are frequently met with in the surrounding mountains. The old padres sleep in bloody graves; but as long as piety, zeal, courage and self-denial shall command the admiration of men, Arizonans will remember the struggles and triumphs of the early mission fathers.



CHAPTER XVI.

THE EARLY DAYS.

“Their spirits wrapped the dusky mountain,
Their mem’ry sparkled o’er the fountain;
The meanest rill, the mightiest river,
Ran mingling with their fame forever.”

THE dark and bloody days in Arizona’s history have not yet been written; but when the full facts of the thrilling border drama enacted on this frontier for years are given to the world, it will make up a tale of absorbing interest. Within the limits of this volume it is not possible to relate every incident of the furious fray which raged here for years. All over the Territory occurred events similar to those here set down. All were alike in their sickening barbarity, their savage cruelty; and many were witness to deeds of gallantry and daring which have made the name of many a pioneer a household word throughout the Territory. The memory of those brave hearts who fell before the treacherous blow of the savage will ever be honored and revered by those who are now reaping the rewards due to their unselfish devotion and indomitable will. To the memory of many an “old-timer” who rests in a bloody grave on plain and mountain-side, this short sketch of the stirring work of the “early days” is offered by one who has always admired their sterling traits of head and heart.

As in other portions of Arizona, so in Yavapai county, the early settlers were at warfare continually with the Apaches. The county was named after a tribe of Indians that, owing to their frequent battles with the Hualapais and Mojaves on the west, and the Tonto tribe on the east, was nearly extinct when white settlers first came in 1863; so from the Verde river and the San Francisco mountains on the east to the Juniper mountains on the west, and to

Salt river on the south, a strip of country 200 miles long by 100 miles wide, embracing what is now the heart of Yavapai county, could hardly be said to be inhabited by Indians, and was in fact a sort of neutral ground for all the tribes on its borders, who hunted over it during the summer and fall and fought each other whenever they met.

Even when the first gold-bunters came, these Indians did not make common cause against the invaders and attempt to drive them out or destroy them, as they might easily have done; consequently, the settlement of the section mentioned was almost undisturbed for nearly a year, except by the marauding bands who sneaked around the mining camps and stole horses, mules or donkeys, which they almost invariably drove but a few miles away and then killed and eat.

The first Indian killed in Yavapai county was one of those thieves who was caught in the act by a party of teamsters some distance north-west of where Prescott now stands. Two others were killed in the town of Weaver in December, 1863. Previous to that time the redskins were in the habit of packing wood into the camp, which found a ready sale at a dollar a load. The proceeds they would invest in flour, sugar and tobacco. Waiting until night came on, they would take their leave, and next morning valuable stock would be missed. Two who were well known came into town one day, and being questioned closely about horse-stealing tried to get away, and were stopped by parties who had recently lost several horses. One of the Indians snatched a gun from a by-stander and attempted to shoot, when both were immediately killed. After that no more Indians came to Weaver, but they commenced at once to steal every animal left unguarded.

The first killing of settlers was by a large band of Tonto Apaches who came in from the south-east and in the big cañon of the Hassayampa murdered three miners. Continuing their course toward Weaver, they attacked a party of a dozen Mexicans who were moving from that town to Walnut Grove to engage in farming and killed five of them. This was on the eleventh day of March, 1864, and from that time on until 1874 all Indians were considered hostile and every traveler, prospector or farmer carried his life in his hand; and many a one lost it too. It was an oft-repeated story of ambush and cold-blooded murder on the

one hand, and occasional well-organized, wrathful, relentless pursuit and indiscriminate slaughter on the other.

At first the Apaches were poorly armed, most of them with bows and arrows; but as every white man they killed had a gun or rifle, and generally a pistol also, with plenty of ammunition, it was not long until they were well provided with the latest-improved weapons and became bolder in their operations.

During more than eleven years of warfare with the Hualapais, Apache-Yumas, and Apache-Mohaves between the Yavapai settlements and the Colorado river, and the Tonto Apaches on the east, more than 400 citizens and soldiers were killed and over 1,000 Indians were slain in return by the whites. The former, or at least nine tenths of them, either singly or in small parties, were waylaid on the roads or trails, surprised on their farms or at their mines and murdered with scarcely a chance to defend themselves or to escape. The latter, after some marauding band had raided through the settlements and by a deed of unusual atrocity had aroused the people, were tracked to their mountain fastnesses by strong parties of citizens or soldiers, or both together, and were forced to fight and were killed without mercy. The attraction of rich mines, agricultural and grazing lands brought constant additions to the number of white men notwithstanding the dangers to which they were exposed, while every Indian who was killed left a gap in the ranks of the red-skins which there were no reinforcements to fill; yet as their numbers diminished their deeds of rapine and blood became more frequent and daring, until 1873, when General George Crook conquered a lasting peace and forced the last remnants of the hostile Indian tribes north of the Gila river to go upon reservations.

The record of those dark and bloody years shows many a noteworthy and daring deed performed by the pioneers, but space is wanting in a work of this character for more than brief reference to a few incidents, and for lack of reliable data the dates given may not all be accurate, but the facts are guaranteed.

In the spring of 1864, in consequence of the killing at Walnut Grove and the many other murders and numerous thefts of animals traced directly to the Tonto tribe, it was determined to send a party into their country and endeavor to arrange terms of peace or decide on war. Volunteers

were called for, and from Wickenburgh, Weaver, Walnut Grove, Prescott, Lynx creek and Hassayampa mining districts, the Verde and Williamson valleys, some sixty men soon assembled at Prescott. Many furnished their own animals and equipment, the rest were fitted out from a fund raised by subscriptions. All were well mounted, and with plenty of ammunition and rations for thirty days the expedition, under command of King S. Woolsey, started out for that portion of the Territory now embraced within the limits of Gila county, one of the strongholds of the Tonto Apaches. The party explored the country for some weeks without coming up with the Indians. Procuring a fresh supply of provisions from the Pima villages south of the Gila river and also getting in communication with a scouting party of troops from one of the southern military posts under command of Captain Tidball, the expedition again began its march. The Tontos were often seen at a distance, and as Woolsey's party turned homewards they appeared in large numbers, showing hostile demonstrations, and day and night the most careful precautions were taken by the whites against being surprised or entrapped. At length the Indians, by signals, flags, etc., showed their willingness for an interview. It was held at what is known as the Wheatfields, now in Gila county, and after several parleys a time was set to have a "big talk" the next day. Woolsey's scouts had discovered previous to the grand pow-wow that the savages meant treachery and had planned to cut off the escape of the little band on all sides. It was evident a desperate fight was at hand and Woolsey decided to begin it. He had arranged with Captain Tidball to be within supporting distance at the expected meeting, but the plan somehow miscarried and the troops took no part in the fight.

On the eventful day Woolsey divided his force, a portion guarding the camp and the animals, and the rest ready for the interview. About fifty warriors came to the place of meeting and seated themselves, while many others were visible on the neighboring hills. Woolsey gave the Apaches piñole (a coarse meal made of parched corn, ground) and tobacco for refreshments, and speeches were made on both sides. The Apache chiefs were evidently talking to gain time for their outside men to creep up and surround the camp. At the earliest favorable moment Woolsey gave the preconcerted signal and every one of his band opened

fire upon the Indian nearest to him. The treacherous savages were beaten at their own game and completely surprised. They retreated fighting, hotly pursued for a short distance by the whites. The main body of Indians made no attempt to support their fellows who were at the meeting, but hastily got out of rifle-shot and then showed themselves by hundreds on the hill-tops, yelling like demons. Thirty-one dead Indians were found after the fight was over, among them three chiefs, as shown by their dress. Half a dozen of Woolsey's men were wounded by arrows, none fatally.

Packing up as rapidly as possible and gathering a few buckskins, weapons and head-dresses as mementoes of the affray, the little band hastily retraced their steps towards home. The panic-stricken Tontos offered no immediate obstacle to their exit from the scene, but harassed their journey without daring an attack until the first white settlements were reached. These are the facts concerning the so-called "Pinole treaty," as related to the writer by Col. Woolsey, and substantiated years afterward by Apaches who participated in it. Two or three days after the "Pinole treaty" the Apaches in large force made a fight with Capt. Tidball's command, in which they were badly whipped. After the fight sixty-three dead Indians were found. Nine soldiers were killed and several wounded.

In May, 1864, a party of five men, well armed and mounted, with two pack animals, left Walnut Grove on a prospecting trip. They traveled east about twelve or fourteen miles the first day and camped beside a small stream of water, having picketed their animals near by. During the night a large band of Apaches, who were on a raid, and doubtless had watched the movements of the prospectors before dark, stole all their animals. They then piled up breastworks of rock on a ridge opposite the camp and commanding the water, and lay behind them. When the five whites arose in the morning they were greeted with most frightful yells and a volley of arrows and bullets from the breastworks. Every one of the five was wounded at the first fire. Fred Henry was shot in the left arm, Binckley was hit in the nose by a bullet which drove a piece of bone into and put out one of his eyes. The other three received serious wounds, from which two of them afterwards died. The party had four rifles, one heavy double-barreled shotgun and five six-shooters, all loaded when the attack was

made, and they returned the fire vigorously and prevented the enemy from making a charge on the camp. The affair settled down to a regular siege, which lasted until about four o'clock in the afternoon when the Indians withdrew. Their numbers were estimated at about 80, yet they were too cowardly to charge the camp, but apparently expected to force the party to exhaust their ammunition, when they could approach them safely, and to that end they used every taunt and insulting gesture to induce the whites to shoot. About noon the Indians killed and ate two of the horses on the hill-side at safe distance, but in full view of their owners. At one time a gigantic warrior, thinking there was not a loaded gun in the party, rushed up alone within a few yards of the camp and attempted to shoot an arrow at one of the men most exposed, but fell on his face with nine buckshot in his breast as he drew his bowstring. His body was in too exposed a position for his comrades to remove it and was the only body left on the field. The Apaches invariably remove their dead during a fight if at all practicable, but the discovery of thirteen Indian skulls in a cañon about a mile from where the fight took place, with portions of other partially burned bones, made within a year afterward, told how gallant a fight the little band had made and how dearly the savages had paid for their temerity. After the fight, Henry and Buckley, who were the only ones able to travel, made their way back to Walnut Grove and the next morning a party went out and brought in the wounded men. The scene of the fight was named Battle Flat. The stage road from Prescott to Alexandria now passes over the ground, and the driver often relates to his passengers the thrilling story of twenty years ago.

Skull Valley, the first agricultural and stock-raising settlement west of Prescott, was named on account of several Indian skulls found there in 1863-4, relics of some tribal battle, but it well deserves its name by reason of later incidents. The main road and trails from Prescott to Antelope, or Rich Hill, Date Creek, Wickenburg and Ehrenberg on the Colorado river, went through the valley, and at least fifty white men were killed while traveling on them during war times. A small detachment of soldiers was stationed at the lower end of the valley in 1866, to escort the United States mails and protect the road and settlers. In the spring following the establishment of the military station,

several freight teams loaded with merchandise for Prescott were attacked by a large band of Apache-Yumas and Apache-Mohaves, at a point a couple of miles above the station. The Indians pretended to be friendly and had been in the teamsters' camp two nights before the fight. Their actions, however, were suspicious, and that morning the teamsters sent word to Lieut. Hutton, in command at the station, that trouble was brewing and asking assistance. The Indians numbered about seventy, and had several squaws with them, pretending they were out on a big hunt, but during the fight the latter took an active part loading the guns and encouraging the warriors from the hill sides with frightful yells. The teamsters, their escorts (every big freight team in those days had an armed man or two as escort) and night herders were thirteen in number. When the issue of the battle seemed doubtful a dozen soldiers came up and took the Indians in the flank just as they were making a second charge on the wagons. The savages were thrown into confusion and fled in all directions. The result of the fight was that thirty-three dead Indians were left upon the field. Several whites were seriously wounded and others slightly, but all recovered.

Old Charley Freeman, a noted Arizona pioneer, freighter and *raconteur*, was in the fight, and in narrating the story was wont to say that he had "a big double-barrel gun and chucked in a handful of buckshot at a load, and as the cursed lizard-eaters charged on them he turned the old fusee loose and just mowed 'em down." When asked, as he often was, "How many did you kill yourself, Uncle Charley?" he invariably replied: "Thirty-three."

The Indians engaged in the fight were from La Paz reservation on the Colorado, and it was afterwards proved that they followed the freight-wagons more than 100 miles to make the attack, leaving the river in small parties by different routes and concentrating at a given point.

Hon. G. W. Leiby was their Indian agent at La Paz and had the utmost confidence in those under his charge, and though warned that he had offended some of them and should be on his guard or they would kill him, he laughed at his advisers and would go about the country alone and unarmed. He made a visit to Prescott either in the fall of 1865 or 1866 with only one companion. About ten miles below Skull Valley, the road passes for more than a mile through a rocky defile, where in 1864 two prospectors named

Bell and Sage were killed by Indians—and hence named Bell's cañon. On his return from Prescott, Leihy and his friend were waylaid and killed in Bell's cañon, by his own wards, and their bodies horribly mangled. His murderers at once returned to the reservation and spread the news, whereupon for two days and nights there was great rejoicing among the tribe. Horses were killed and eaten, as was their custom on their days of feasting or celebration, and the residents of the town of La Paz wondered what the occasion was, until informed by some squaws that Leihy was killed, a statement soon confirmed by the next traveler over the road.

To give detailed statements of one tenth of the noteworthy events of the "Indian times" which occurred in Yavapai county, would fill a large volume, and a brief mention of a few more must suffice for this record.

The Indians sometimes enjoyed a joke, as some of the following incidents show. In December, 1863, there was no grass near the town of Weaver, and the Mexicans were in the habit every morning of going out to the plains, three or four miles away, and cutting gramma-grass, returning at night with their *burros* (donkeys) loaded down. One day, three of them with seven *burros* went out as usual, and came back to town about four o'clock in the afternoon, naked as they were born. They had one rifle and one revolver when they went out, and stated that about three o'clock, having left the rifle a few yards from where they were at work, they were surprised to find themselves entirely surrounded by Indians with guns and bows and arrows drawn on them. One of the Indians stepped up to the man who had the pistol and said in fair Spanish: "My friend, give me your pistol." There was no choice, and the pistol was delivered. Then he said: "We already have your gun, and are driving your *burros* away to better feed. Now, strip off and give us your clothes." The order was obeyed, and the Indians immediately put on the clothing, dividing it among them. There were eleven of the Apaches, and they shouted and danced around their victims in great glee. One of the Mexicans said: "Well, if you are going to kill us, do so and make an end of it." The leader of the party answered: "We are not going to hurt you; a dead Mexican is of no use. You may go back to town and get money, and this winter you will go to Sonora and bring us some more *burros*, or perhaps some mules, in the spring. We con-

sider you our friends. Good-bye." And so they left them to find their way to town as best they might.

In the early days, deer, antelope and wild turkey were abundant, and several men made a business of killing game and selling it to the miners, and it is an inexplicable fact that the Indians rarely molested the hunters, though they went out alone miles from the settlements, always with two or three animals, and would be away several days. However, they got the best of one hunter who used to supply the miners of Weaver, Rich Hill and Antelope Creek, with meat in 1864. Everybody in those days had a nickname, and he was known as "Hog Johnson." About three miles from Weaver, one morning, while on a hunt, he saw a band of deer. Tying his horse to a tree, he crept up to within about 600 yards and killed one. He cut off its head, took out its entrails and prepared it to load upon the horse and then went for the animal. When half-way to where he had left him, he heard a yell, and looking up on a hill-side saw four Indians, out of rifle range, going off with his horse; just then he heard shouting behind him, and turning around he saw four more Indians, each with a quarter of the deer he had just killed upon his shoulder. In relating the affair, Johnson said he sat down upon a rock and watched the "derved varmint" load the deer on his horse and start off towards the Hassayampa creek, and then went home and said his prayers. Three years later, while mining alone near Antelope hill, Johnson was killed by the Apache-Mohaves.

In April, 1864, a Mexican was herding a dozen head of cattle in Walnut Grove. One afternoon he shot a rabbit, and ran after him without loading his gun. After picking up the rabbit and turning back he found himself confronted by three Indians, who stood within ten feet of him with arrows leveled at his breast. One of them walked up and took the gun away from him, another picked up the rabbit, and then showed him several others of their comrades driving the cattle off at full speed. Then they marched him across the valley in the same direction for about a mile, at double-quick step, pricking him on the way with arrows. On reaching the hills they stopped, gave him the rabbit, and motioned him to go home, laughing, hooting and pointing their fingers at him the while.

The redskins were most expert thieves, and would lie in hiding near mining camps to see where the miners picketed

their horses, and during the night would steal them. On Lynx Creek, in 1866, a miner had a valuable horse, and during the day would picket him near where he worked, moving him occasionally so the animal could get sufficient grass. At night he would take him to his cabin and tie the end of a fifty-foot picket-rope close to the head of the bed. If on waking in the night he did not hear the horse eating or moving, he would pull on the rope to feel if he was still there. One morning he got up and found the horse gone. The end of the picket-rope was tied to a bush, and the barefoot tracks of an Indian were followed for a few yards to where he had mounted and ridden away. The miner said twice that night he had pulled on the rope, and feeling it pull back a little as he tightened it up felt sure the horse was safe, and slept again.

The most savage dogs were but little protection, either to men or their stock, for the Indians on a thieving expedition would take trained sluts along with them to lure the watch-dogs away while they stole the animals, or surprised men at their work. One of the early settlers in Verde valley had a span of horses, and a fine shepherd-dog which used to stay with them all night and drive them home in the morning. At daylight one morning he heard the dog howling at the door, and going out found him there alone with half his tail cut off. After biuding up the abbreviated narrative, he followed the dog half a mile and found the sign that showed where the Indians had surrounded and captured the horses, having doubtless fooled the dog as the Philistines fooled Sampson.

As a party of Mexicans were traveling on the road at night somewhere below Wickenburg one of them lit a cigarette, and as he was walking along smoking, Indians shot at the light from a bank above the road. One arrow struck the man in his left shoulder and another cut off half an inch of the end of his nose as square as though it had been done with a knife.

In 1865, two miles above Wickenburg, a Mexican was riding on top of a small load of hay, drawn by two mules which were too poor for Indians to steal. Hearing a yell behind him the man looked back and found the rear end of his load all ablaze and he barely had time to get down and unhitch his team and save them. The wagon was consumed. While the hay was burning half a dozen Indians came to the edge of a bluff near by and jumped and yelled in great glee.

One of them had sneaked up behind the load of hay and set it on fire.

In Walnut Grove as a pioneer named Gns. Swain was planting corn in a field partly surrounded by brush; having set his rifle against a tree a little way off, he saw an Indian crawling in the brush towards the rifle. Carelessly moving up to the tree he saw the Indian lie flat on the ground to conceal himself. Quickly picking up the rifle Swain shot the fellow in the head, killing him instantly. Getting assistance he hoisted the body up into a crotch of a tree where it remained until the buzzards cleaned the flesh from the bones. Seven or eight years afterwards Swain was killed by Apaches.

T. Lambertson, of Walnut Grove, was one of the first settlers who brought cattle into that valley. He had seven or eight cows and watched them continually. He was driving them home one evening in 1867, when he was ambushed by the redskins within half a mile of his house. The old man was badly wounded in his side at the first fire and fell to the ground. The Indians rushed upon him from the brush, but Lambertson had a Henry repeating rifle, and as he lay on the ground killed three of them when the rest retreated and he made his way home with the cows. He never entirely recovered from the effects of the wound, though he lived for several years afterwards.

Harvey Twaddle, a pioneer prospector, was waylaid on a trail in Walnut Grove and shot in the heart, but drove the Indians off who attacked him. Assistance arriving shortly he was carried home and lived eight days. A post-mortem examination showed the bullet imbedded in his heart half an inch from its lower point. This is one of the most extraordinary instances of vitality on record.

In 1866 a marauding band of Tontos surprised a Mexican named Gonzales between the Agua Fria valley and Prescott, killed and stripped him, set the body up with the knees, elbows and head resting on the ground, and then shot seventeen arrows into it and left it in that position.

In 1867 two well-known citizens, Le Roy Jay and William Trehan, while escorting a wagon-load of provisions from Prescott to the Bully Bueno mining camp, fell into an ambush and were killed between Big Bug and Turkey creek. The driver escaped, the Indians getting away with the provisions and animals. The B. B. Mining Company, from 1866 to 1869, lost by Indians 240 mules and horses, five of their



TOWN OF YUMA, FROM FORT, ARIZONA,

BANCROFT 117H-51.

employes were killed and four badly wounded and their ten-stamp quartz-mill burned.

The cowardly Apaches rarely besieged houses, and in the few trials they made they were always badly worsted. The father of Jake and Sam Miller, of Prescott, located a ranch six miles west of Prescott in 1864, and built a log-cabin, in which he was besieged nearly a whole day by more than twenty Indians, several of whom he shot through port-holes in the logs. The Indians retreated and Miller left the ranch when the enemy burned the cabin. The place goes by the name of the Burnt Ranch to this day. J. Buckman and his son, a lad of 13 or 14 years, were besieged in a stone cabin on a ranch at Fort Rock, 60 or 70 miles north-west from Prescott. The old man was severely wounded before reaching the house, but they were well supplied with ammunition, and as the house stood in an open place and had port-holes on all sides, the Indians were afraid to attempt a charge or set fire to the building as they might otherwise have done. Several of the Indians were seen to fall and were carried off by others, and when night came on the band withdrew. The attacking party were Hualapais.

In 1867 two Frenchmen mining in Hassayampa creek owned two burros and lived in a stone cabin with a log roof covered with earth. One afternoon they observed three Indians on a hill near the creek. Immediately they got the donkeys, took them into the cabin, and shut the heavy plank door. In five minutes there were twenty Indians around the house. At first they tried to break in the door by throwing heavy rocks against it, but as one of the attacking party advanced with a heavy boulder in his hands he was shot through the heart from a crack in the door and fell dead in front of it. That was the only shot the Frenchmen fired. The reds then went behind the house, which was built against a high rocky bank, and tried to break it down by throwing great rocks upon it from the bluff above and kept that game up well into the night, but the roof withstood all assaults. The inmates remained in the house until the middle of the next forenoon, when a mining neighbor named Wallace came along and found the dead Indian at the door. Seeing smoke rising from the chimney he hailed the inmates and the badly scared Frenchman opened the door. They stated that they had plenty of provisions and thought they would wait and let the Indians go away.

Wickenburg was a town on the Hassayampa, built by

those who worked quartz from the Vulture mine in 1864 and 1865.

Many men were killed in those years in that neighborhood, and hundreds of animals stolen. In 1865 there were thirty-three arrastras in the town running on Vulture ore. In the summer, on moonlight nights, many of them were run all night. Bigelow & Smith were running three arrastras day and night, having six animals. One night in June, as Smith (known as "Oregon Smith") was on duty, he saw a suspicious object moving in the tall grass near the arrastras. He aroused his partner, saying: "The Indians are here." Both went out, Smith with a rifle, Bigelow with a shotgun. Smith said: "Lay low, Big, and you'll see the cuss raise up his head above the grass out there," pointing where he had seen him. In less than two minutes a head raised, and Smith fired. A groan followed and all was still. Smith reloaded and both cautiously approached the supposed dead Indian, and found a young donkey lying dead in the brush; it was shot in the throat and its neck broken. The slayer, after that, was known as "Jackass Smith."

In 1867 or 1868, Lieut. Cradebaugh was sent out from Camp Verde with a detachment of men to the Black Hills, for the purpose of having a talk with a band of Indians who signified a willingness to make peace and come into the post. He camped the first night in a small flat below a high ledge of rocks, the horses being fastened to a picket-rope in front of the camp. Towards morning the slumbering troopers were awakened by the most unearthly yells and showers of arrows and bullets. Every horse at the picket-line was soon shot down. The troops huddled closely under the rocky cliff. One man was killed, and several wounded, including a doctor, who had his arm broken and afterwards amputated at the post. Jackson McCracken, afterwards the discoverer of the famous mine which bears his name, was with the party. When the attack began, he was sound asleep with his head against a small pine tree about eight inches in diameter. He was in full range of the fire, and when the leaden hail became fast and furious he hugged the protection of that small tree with praiseworthy pertinacity. Being a large, fat man, the little sapling was insufficient to cover his whole body, and years afterward, in telling the story, he used to say that as he heard the arrows whiz by and the bullets strike the tree

near his head he thought he would give all of Arizona to have that tree six inches larger.

The worst of Arizona's Indian troubles occurred while the peace policy of the United States government was being tried as an experiment, from 1868 to 1872. Vincent Colyer and Gen. O. O. Howard were sent out here as high joint peace commissioners. A gang of Indian agents and members of various Christian denominations were stationed at the several reservations to subdue the Apaches by preaching and praying. The scheme was a sad failure. The hands of the military were tied. They were ordered not to assume the offensive against the Apaches, to escort the peace commissioners to and from the reservations, and to act under their instructions. The Indians soon understood the situation, met the peace officials at various points, received their presents, promised everything that was asked of them, and then, assured of no danger of attack from the soldiers, began a bloody war upon the unprotected and comparatively defenseless settlers. Hundreds of citizens were cruelly murdered and thousands of head of stock stolen in those years. Many settlers, frightened at the carnage and disgusted at the state of affairs, abandoned their mines and ranches and fled from the Territory. The years 1869, 1870 and 1871 were full of terror in Yavapai county. At last, the petitions of the people and of the Territorial legislature asking for protection and relief, and more than all, the voice of the public press of the Pacific coast and the western States generally, induced the government to allow Gen. Geo. Crook, then in command of the department of Arizona, to commence aggressive operations against the savages. He enlisted the Hualapai warriors as scouts, and used them most effectually against their old enemies, the Tontos. The troops were guided by the best scouts to be found among the old pioneers, and expeditions were made in force to the strongholds of the red fiends. Citizen bands co-operated with the movements of the troops. The treacherous and blood-thirsty Apaches soon cried enough. In two years those of them who had not been slain were under military guard upon the Date Creek and Verde reservations, about two thousand in number, from which points they were eventually removed to the Sau Carlos reservation. Since then northern Arizona has been at peace, and prospered in all the vocations of its rapidly increasing population.

A few incidents of the late years of the Apache reign must close this chapter.

In 1868 George Bowers, one of the brightest young men of Prescott, was killed on the road coming from Camp Verde to Prescott. In 1869 a party of thirteen prospectors outfitted in Santa Fé, New Mexico, and came into the eastern portion of Arizona looking for placer diggings. They were successful in finding gold, but the Indians attacked them while at work, killed four or five of the party and got possession of their camp, provisions and animals. The remainder made their way across the mountains to the Verde settlements, and coming down Clear creek approached the camp of a detachment of soldiers who took them for Indians and fired more than fifty shots at them before the ragged, half-starved wretches could convince them of their mistake.

In the summer of 1870 a Lynx-creek miner while hunting went to a spring for a drink and was captured. Being missed, his friends searched for him, found his trail to the spring and saw where he was surrounded and taken prisoner. All traces of him from that spot were lost, but a few years afterwards, in the Black Hills, the skeleton of a man was found tied by withes to a tree, head down, and the remains of a fire which had been built under his head. It was reasonably certain the bones were those of the unfortunate Shirley who was so tortured to death.

C. Davis, better known as "Jeff" Davis, who is still living in Yavapai county, had a lively experience in those days. He lived on a lonely ranch near the head of the Hassayampa and was engaged in farming and stock-raising. The latter pursuit, however, was not a success, for whenever he had accumulated a few head of stock the Indians were sure to steal them. "Jeff" was a great hunter, and in one of these expeditions he came upon a band of Indians in the heavy pine timber. Stepping behind a tree he waited until the foremost savage got within range when his trusty rifle rang out and the Indian fell to rise no more. The astonished redskins looked around to see from whence the attack came, and ere they could recover themselves two more bit the dust. The remainder fled panic-stricken, while "Jeff" pumped the lead after them while one remained in sight.

The capture of the mail stage on its way from Prescott to California, destruction of the mail and killing of the

driver and five passengers occurred in 1871 and was known as the Wickenburg massacre, as it was perpetrated a few miles west of that town. The deed was traced to the Apache-Mohaves and Hualapais living on the waters of Bill Williams fork of the Colorado river.

John Townsend, a farmer who lived on the Agua Fria, was a noted Indian fighter and trailer. He had an undying hate against the Indians and hunted them to the death. Several of his kinsmen had been killed by the Comanches in Texas and he had registered a vow to avenge them. In the fall of 1871 a band of Indians stole some horses from Bowers' ranch, east of Prescott, and a party was organized in Prescott, with Townsend as leader, to follow and chastise them. They followed the trail into Tonto Basin and came upon the Indians encamped in the oak brush. The animals had been killed and portions of the flesh were drying on the bushes. The savages were resting in the shade and had so gorged themselves with the horse flesh that they could neither fight nor run. They were taken completely unawares, and the first intimation they had of the presence of the whites was a rattling volley poured in amongst them. "In the game that ensued" fifty-four Tontos, to use the expression of one who participated, "passed in their chips." The dry brush was then set on fire and the rancheria consumed. Many Indians who were in hiding perished in the flames. On the return of the victorious party to Prescott they were given a grand banquet and Townsend was presented with an elegantly ornamented Henry rifle engraved with his name. Townsend seemed to bear a charmed life, was in many fights and never hurt, and often said that he knew he had killed twenty-seven Apaches. He met his fate at last. While out hunting in 1873 he came upon a few Indians at Dripping Springs and was shot and killed by one of them. After being gone from home three days his horse came back alone. A party of his neighbors at once took the horse's trail and followed it back to where he lay dead. The horse had faithfully staid by the body of his master until decomposition had set in and then went directly home. The evidence indicated that Townsend had come upon three or four Indians near the water and had exchanged shots with them and received his own death wound unknown to them, as the body, gun or horse was not disturbed.

The last raid of the Tonto Apaches into the Yavapai settle-

ments was made in April, 1873. About 100 of them crossed the Verde river above Camp McDowell, went south of Silver mountain to the Hassayampa, below Wickenburg, then northerly through Peoples, Skull and Williamson valleys and back to their country across the upper Verde, taking with them as the result of their raid some sixty head of horses and mules. About ten miles below Wickenburg the party came upon a young man named Taylor, son of the superintendent of the Vulture mine, whom they killed in the hills while he was hunting deer. Two or three miles from there, near the sink of the Hassayampa, they waylaid and murdered Gus Swain and another man who were in a wagon on the road. These and a man named Roberts, who was killed on Castle creek while prospecting, were the last, or nearly the last, of the victims of the Indians in Yavapai county. The former home of the Tonto Apache is now settled by prosperous stock-raisers and is one of the finest grazing sections of the Territory. The remnant of the once powerful Hualapai tribe are perfectly peaceable and still live in their own section. They are under no restraint and are practically supported by government, rations being issued to them regularly at the old military post at Beale Springs. The miserable survivors of the mongrel Apache-Yuma and Apache-Mohave tribes, after being gathered in and fed at Date Creek reservation, were removed to the Verde and thence to the San Carlos reservation, where with the other tribes they are under guard and are learning to farm; in fact, the Arizona Apaches are now raising grain instead of raising scalps, as they used to do. The incidents here related are only the few among a thousand that occurred in Arizona during the days when the pioneers carried their lives in their hands and when life on this frontier meant a continual struggle to maintain it. It is only a sample of the career of the pioneer in all western lands; but how slight has been his reward for all his toil and bravery!



CHAPTER XVII.

ANSWERS TO MANY QUERIES.

SINCE issuing the last edition of this work, thousands of inquiries about Arizona have flowed in upon the author from all parts of the United States, from Canada, from Europe, and even from the Antipodes. All are eager to learn something of this distant region of the south-west, and judging from the tone of many of them, the knowledge relating to Arizona abroad is of the most vague and fragmentary character. One writer from Canada wishes to know if a white man can stand the climate; another from pious New England asks if there are any schools or churches in the country, while another gravely asks: "Do the Indians ever attack Phoenix?"

This chapter is especially designed to meet the numerous queries received daily from those thinking of emigrating to this Territory. It is possible that some minor matters may be overlooked, but the main facts which the prospective settler would desire to know will be found set down here. After reading them, he will have as correct a knowledge as the writer of the opportunities Arizona offers to him who has pluck and energy and is not afraid of work. But let him not delude himself with the idea that gold and silver can be picked up in every gulch, or that a fortune can be made without a patient and determined effort. The day is gone by on the Pacific coast when \$50 "slugs" were as plentiful as half-dollars are now. There is here, as elsewhere, keen competition in the battle of life; but in this new land there are openings for enterprise and industry unknown in older communities.

"What can I do if I go there?" is the first question

which the reader who may have some thought of emigrating to Arizona will naturally ask after a perusal of the foregoing pages. And it is a very important one. People who desire to seek homes in new lands, and who are about to sever the ties and associations which years have woven around them, wish to know what will be the opportunities in their new home for engaging in the business or calling for which experience has best fitted them. And let it be understood that the following remarks are addressed to people of moderate means and with some little capital. It is not the object of this publication to encourage a large immigration of poor people to this Territory. While a man who is in the possession of health and strength, is temperate, frugal and industrious, has the capital which insures success the world over, it is not the intention to hold out any specious inducements for such a class of immigration to Arizona. To every new country there will always come more than enough of poor men. With the opening of mines, the establishment of manufacturing industries, and the full development of the varied resources of the country, there will be an increased demand for labor, skilled and unskilled. But at present the supply is fully equal to the demand. For those, however, who have some means, and are desirous of making a home in a new country, we say, come to Arizona.

“But what can I do there?” Almost anything and everything. Are you a farmer? Here are hundreds of thousands of acres of as fine land as the sun ever shone on, capable of producing nearly everything grown in the temperate and tropic zones. Here is a climate of perpetual summer; a balmy air, a bright sunshine, and an atmosphere of wonderful purity and healthfulness. Here no freezing gales or inhospitable snows make life a burden for half the year. Here no epidemics, cyclones, plagues or floods destroy the fruits of the farmer's toil and sweep away in an hour the labor of years.

For the husbandman nature has done everything in Arizona. The soil is fertile, the yield is large, the cost of cultivation light, and the market always a sure and profitable one. The demand for everything grown is steadily on the increase; and it has been demonstrated that the farmers of Arizona are able to compete against their eastern and western neighbors and can produce grain, vegetables and fruits as cheaply as in California or Kansas, thus having the im-

portant item of freight in their favor and always insuring a ready market and a good price. So if you follow the trade of Adam and till the soil for your daily bread, Arizona offers as inviting a field as you will find in the west. Good land can yet be had at low rates. In its broad valleys the industrious immigrant can make a beautiful home and in a few short years surround himself with every comfort in a country where the temperate and tropic zones unite to produce the most perfect climate on the continent.

Are you a horticulturist? Here in the broad valleys and beautiful mountain glens of Arizona is one of the finest fruit regions of North America. Here the orange, the lemon, the olive and other fruits of the tropics grow side by side with the apple, the peach and the pear of a more northern clime. Here is a land where in a few years the thrifty settler can literally sit under the shadow of his own vine and fig-tree, and assured of a steady income from his orchard or vineyard pass his days with pleasure and profit. Fruit-raising is yet in its infancy in the Territory, but it promises to become an important branch of industry. It has been demonstrated that the soil and climate are especially adapted for it, and in a few years Arizona fruits will find their way to the markets of the east. Wine-making, fruit-canning and raisin-making are all profitable pursuits for those who have the experience and the capital to engage in them. Good land suitable for vineyards or orchards can be had at a nominal figure. So, reader, if you are acquainted with fruit-culture and are looking for a country with the requisites of soil, climate and a ready market, come to the Territory. You will here find all these favorable conditions and in a few years you will have a pleasant home and a respectable bank-account.

Are you a stock-raiser? If so, here is a veritable paradise for your calling. Millions of acres of fine grass lands are yet unoccupied and can be had for the taking. Here are no northern snows, no Texas blizzards, no disease. Here your cattle can roam over hill, mountain and plain and keep in prime condition during every month in the year. Here you are not required to lay up large stores of winter feed and do not run the risk of losing your herd by the freezing snow and storms of more northern regions. Here the increase is something phenomenal and the profits enormous. Here the quality of beef is unequalled for richness and flavor. The market is at your door, the local demand is steadily

on the increase and two transcontinental railroads give you the choice of shipping either to the east or the west. Good ranges can be had at low figures, while in many of the large dry valleys covered with rich grasses water in abundance can be had by sinking.

There is yet room for millions of cattle in Arizona, and no business which the new-comer can engage in promises larger or surer returns. The stock interests of the Territory are only second in importance to its mineral wealth; and the fortunate man who is in possession of a good range and a few hundred head of cattle has found a short and easy road to fortune. He can sit in the shade of his *hacienda*, enjoy the good things of life and see his wealth increase on every hill and valley that surrounds him. If you are a stock-grower, come to Arizona and grow up with the country. There is no shorter, surer or safer road to wealth.

Are you a wool-grower? The remarks on cattle-raising will also apply to the business of sheep-husbandry. The northern portion of the Territory is especially adapted to sheep. The grass keeps green and nutritious the entire year; sheep are remarkably free from disease; the increase is very great; the quality of the wool is excellent, and the profits from the business are remarkably large. Rail communication gives you cheap and rapid facilities for sending your product to market. There is money in sheep in Arizona, and there is room for five times the number now in the country. If your line is wool you will find few regions of the west better suited for your business and none where the risks are less and the profits larger.

Are you in the dairying business? If so, you cannot do better than come to Arizona. Although grass and other feed is plentiful and cheap, butter is worth from fifty cents to one dollar per pound, and even at these figures three fourths of the butter consumed in the country is imported from California and the east. The grasses in the mountain regions and on the upper Colorado plateau are sweet and nutritious and make a finely flavored article, while in the cultivated valleys the alfalfa, which keeps green all the year round, makes very fine feed for cows. The country should produce all the butter required for home consumption, and that at a handsome profit to the dairyman. There is always a steady demand and a good price; and those who are engaged in the business are making money. Cheese could also be profitably manufactured as cheaply

and of as good a quality as that made in California. Heretofore the dairying business has been neglected in Arizona, but there is a fine opening for men who understand it.

If you are desirous of engaging in manufacturing enterprises and have the requisite capital to do so, Arizona offers as desirable a field as you will find in the west. Outside of lumber and flour, there are no manufactories in the Territory. Everything else that is worn or consumed is brought from abroad. Thousands of hides are annually shipped away and sent back again in the shape of boots and shoes. This one item alone is one which could be turned to profitable account by men who have the skill and the experience. There is no good reason why all the leather needed in the country should not be made here at home.

The raw material in abundance is ready to hand; the water-power is here and the tanning material also. As has been stated before, there are among the native plants and shrubs of the Territory several rich in tanning qualities which, it has been demonstrated, make as fine leather as any manufactured on the coast. Hundreds of thousands of dollars are annually sent out of the country for footwear, nearly all of which could be kept at home if tanneries were established. Leather can be produced here as cheaply as abroad, and the number of men to whom steady employment would be given would be another source of prosperity to the Territory. Capital can find no safer investment or one which will yield more lucrative returns than the establishment of tanneries in Arizona.

Millions of pounds of wool are sent out of the country every year, and yet every woolen fabric used or worn is imported. Here is another profitable opening for the investment of capital. Why should not the raw material be manufactured here, and the money now sent abroad be kept in circulation at home? There is no good reason why it should not. The wool grown in the Territory is of a good quality, suitable for the manufacture of blankets and woolen goods of every variety. Every facility for the successful prosecution of such an enterprise is at hand. There is water-power in abundance, and labor can be had as cheaply as in California. The cost of shipping the raw material out of the country and bringing back the manufactured article, will be in favor of the home producer. Here is an opportunity which is not often found. The outlay required for a suita-

ble "plant" will not be large, while the profits will be sure, and the market steadily growing.

There is a large and increasing demand for paper, rope, mats, etc., all over the United States. Arizona has the raw material in any desired quantity for the manufacture of such articles. The leaves of the *mescal* and of the *amole*, or soap-weed, contain a fiber from which a very good quality of paper, rope and coarse cloth can be made. The Indians, in their crude way, have been making the two last articles ever since we have any knowledge of them. Late experiments have demonstrated that an excellent quality of paper can also be produced. The price of this article has risen very rapidly within the past few years, and as the demand has increased, various substitutes, such as wood pulp and straw, have been used in its manufacture instead of rags. But they have not given satisfaction, and the product has not been of a first-class quality. But from the native plants of Arizona an article of superior texture and finish can be produced; and there is enough raw material in the Territory to supply the people of the United States with all the paper they require for years to come. On every valley, *mesa* and mountain-side the material is found growing in profusion.

Mexico has already begun to realize what a treasure she has in her *mescal* fields, and beside making them a source of large revenue to the State, has fostered and built up several profitable industries from them. There is no reason to doubt that the ancient race who once had their home here utilized these plants, and made from them cloth, ropes, matting and other fabrics. But little attention has yet been paid to the grand possibilities of this branch of manufacturing industry in Arizona. Such valuable raw material will not much longer be allowed to remain idle. The cultivation of the *mescal* plant and the manufactures which will grow from it will yet be the leading industry, and many articles useful to man will produced from its valuable fibre. Soap, candles, matches, several lines of furniture, straw-goods and wooden-ware, can be profitably manufactured, and the capital required will not be large. It is well known that straw from irrigated grain is much tougher than that grown by rain-fall, and for the coarser variety of straw-goods is unequalled. These are some of the enterprises which present themselves to a man of means and energy in Arizona. Who will be the first to engage in some

of them, reap this virgin field and glean a golden harvest?

The grand opportunities for the investment of capital in mining enterprises have been alluded to in another place. There is no mining region on the globe that has yielded better returns for capital invested than Arizona. This is indisputable. Taking the total amount invested within the Territory, and then comparing the dividends with the assessments, she can make a better showing than any country on the coast. In nearly all other mining regions the amount required to get a dollar out of the ground has in nearly every instance equaled, and in most cases exceeded, the dollar; but in Arizona the reverse has been the case; dividends have been the rule and assessments the exception.

In this short chapter we have told many of our readers what they can do in Arizona. It is presumed they are in possession of some surplus cash, and in a position to take advantage of the many opportunities which we have pointed out to them. For those who have only strong hands, stout hearts, temperance and industry there is always an opening here, as in every land under the sun. A man may be poor in purse, but so long as he possesses the qualities we have mentioned he is sure to make his way in the world; and while Arizona does not wish to encourage people without any means to come here, she will always have a welcome for those who bring to the development of her grand resources health, strength, industry and sobriety. For immigrants of such character, who are not afraid of work, and can "rough it" in a new country, there are grand opportunities which they can hope to find nowhere else.

In the foregoing, nothing has been said about the inducements which the Territory offers to women. The right of the weaker sex to compete with man in almost every walk of life is now generally conceded, and the people of this Territory cheerfully accord them such a privilege. As will be seen by the census, there is a great disparity in the sexes in Arizona. Female labor is scarce, difficult to be had, and commands a good price. In the towns and settlements Chinamen have taken the place of women, and nearly all domestic service is done by them. This labor is of a character performed by women in civilized countries, and would be done by them here if there were a sufficient number to be had. The difficulty of obtaining female domestics is a constant source of annoyance to people

throughout the Territory, and if a family is fortunate enough to secure one, she is sure to be taken in the matrimonial net in a short time. It is safe to say that 400 or 500 female servants—cooks, chambermaids, nurses, etc.—could find steady employment in the Territory, and at wages ranging from \$25 to \$40 per month. For women who are not afraid to work, and are willing to cast their lot with Arizona, there are opportunities here to better their condition which they can never hope to find in the crowded centers of population.

Besides the openings for labor and capital here mentioned, there are many others growing out of the conditions and surroundings of life in a new and progressive country which are continually presenting themselves. A man with energy and industry can always find something to turn his hand to, and those seeking investment will find no safer or better opportunities in the west. The vast forests in the eastern part of the Territory, which railroads will soon penetrate, are mines of wealth to those who have the capital to engage in the many enterprises soon to be presented here. There are vast deposits of iron ore in the Territory which will yet become valuable, and with the steadily increasing demand for the manufactured product on the coast the day is not far distant when the raw material can be profitably worked here.

To enumerate all the advantages which Arizona offers for the investment of capital, or the inducements it holds out for immigration, would occupy more space than can be given in this volume. There are many other callings which will readily suggest themselves to the reader, and desirable chances constantly arising in a new country which cannot well be enumerated here. It is enough to say that in the leading industries—mining, grazing and farming—there are always opportunities for industrious and active men which they will look for in vain elsewhere. But the man who comes to Arizona from the east must be prepared to meet different conditions from those he has been accustomed to in his old home. He must come ready to turn his hand, if necessary, to anything that offers; but if he has the grit and the determination to win, he is bound to succeed. Should he come poor in purse he need not long remain so, and he will find in no part of the United States a more generous reward for his labor, or an easier road to fortune. To the immigrant of limited means there are few more im-

portant items for consideration than the cost of living in his new home.

If he is a mechanic, or follows some other calling where manual labor supplies him with his daily bread, he will be desirous of knowing what his labor is worth in the region where he contemplates making a fresh start in the race of life. Even if he have other resources besides his hands to depend upon for a livelihood, he will naturally wish to learn what it costs to live in the new land. If he has a family he will want to know the expense of building a little home and the prevailing rates of rent in the principal towns; the price of the staple articles of consumption and wear, and all other matters connected with domestic economy. In this short chapter will be found the information sought, and the figures given have obtained for several years, and there is not much probability of any material change for some years to come.

The following are the rates of wages for skilled labor which prevails generally throughout the Territory:

	PER DAY.
Miners.....	\$4 00
Carpenters.....	4 00
Blacksmiths.....	4 00 to \$5 00
Bricklayers.....	4 00 " 5 00
Masons.....	4 00 " 5 00
Engineers.....	4 00 " 5 00
Painters.....	4 00 " 5 00

And other trades in like proportion. Mechanics should not forget that the supply of labor in their several lines is always in excess of the demand. While the rates of wages are temptingly high they should remember that the opportunities for securing employment are limited. To a mechanic who has steady work where he is, we would say stay. While your labor commands a much higher price in Arizona you should not lose sight of the fact that the field is circumscribed. As has been before remarked, manufactures of all kinds are yet in their infancy in this Territory, and a man who casts his lot here now must come prepared to turn his hand to anything that presents itself.

For miners who understand their business, there is always a demand, but the supply is generally equal to it. This class of workers are sure to find their way to every new mineral region, and if they cannot secure employment at their regular calling, they have the western faculty of

“rustling,” which always brings them right side up. They are the men whose indomitable courage, patience and energy bring to light the resources of new lands, and open the way for capital and immigration. To them Arizona owes her present prosperity, and to them she offers unlimited opportunities in the future. There are yet rich mines to be discovered, and fortunes to be made in the quest for the treasures which lie hidden in every hill and mountain range.

The wages paid for other branches of labor are about as follows: Clerks, \$50 to \$75 per month, and board; teamsters, \$40 to \$60 per month, and board; farm laborers, from \$30 to \$40 per month, and board; day laborers, from \$2.50 to \$3.50 per day, without board; herders, \$30 to \$40 per month, with board.

The cost of the necessaries of life in Arizona is very reasonable, when the distance from the great markets of the east and the west is taken into consideration. If we except flour, meat and vegetables, nearly everything worn or consumed in the Territory is brought from abroad. Groceries, hardware, clothing, boots and shoes and all staples are imported from California or the east. Yet notwithstanding the cost of freight, prices are not high. In Tucson, Tombstone and Phoenix, the prices of groceries, provisions, hardware, clothing, etc., are nearly the same and rule about as follows:

Flour (imported).....	\$4 to \$5 per 100 pounds.
“ (domestic).....	3 “ 4.50 “ “ “
Coffee	20 cts. per pound.
Sugar.....	16 “ “ “
Tea.....	50 cts. to \$1 “ “
Bacon	12½ cts. “ “
Beef.....	10 to 20 “ “
Mutton	8 “ 12 “ “
Potatoes	2 “ 5 “ “

And all other vegetables in like proportion. Board can be had in these towns at from \$6 to \$9 per week. A suit of clothes can be bought as low as fifteen dollars, or as high as the length of your purse will stand. Rents are not unreasonably high, when the cost of building is considered. A house of three or four rooms can be had at from \$15 to \$25 per month. Furnished single rooms will command from \$10 to \$20 per month. The rates for board and the cost of supplies are very little higher in Prescott, Globe, Pinal and other towns farther from a railroad. More than

half the flour consumed in the country is of home manufacture, and it will be but a short time when the valleys of Arizona will produce sufficient to supply the entire home demand. In Tucson, Tombstone, Phoenix, or Prescott, you can buy a pair of boots at from \$4 to \$7; a hat from \$1 to \$4, and all other articles of clothing at similar prices. Hardware and furniture are all imported and the cost of transportation makes such articles come rather high, but with the building of railroads the price is being materially lessened.

Good merchantable lumber can be bought in Prescott at from \$20 to \$30 per thousand, and in Tucson, Tombstone, and Phoenix, California and Texas lumber can be had from \$40 to \$60 per thousand, according to quality. A cozy little home can be built in any of the principal towns or valleys at from \$400 to \$500. This of lumber; but in the southern towns and farming valleys most people prefer the adobe, or sun-dried brick, as being better suited for the climate, and less costly. This is the material which the first settlers in southern Arizona used in the construction of buildings, and it has given entire satisfaction. Houses built of the adobe are cool and roomy, and when properly plastered and finished, with a wide veranda running all around them, make as comfortable a residence as one could wish in a warm climate.

These, in brief, will convey to the reader an idea of the cost of living in Arizona Territory. It is not higher than that which prevails throughout the Pacific States and Territories. If the immigrant should think the prices rather steep, he should remember that here the laborer is worthy of his hire; that every calling and profession receives a generous remuneration, and he should not forget that the products of the garden and farm command much higher prices than in the States nearer the rising sun. And before we close this chapter, a word on the class of immigrants which Arizona *don't* want. Of lawyers, doctors and professional men generally, there are already more than enough, and an influx of the learned professions is not desired. They are overcrowded, and sharp competition has made the practice of them anything but profitable. It is true there is always room for a man at the top, but unless he has the acquirements to gain that position he had better remain where he is. Of clerks and all others who are seeking positions where the labor is light and the salary high, the supply on

hand always exceeds the demand. The truth is, to Arizona, as to all new countries, comes a class who expect to grow suddenly rich without much effort on their part. To all such we would say, remain at home.

Here, as everywhere else, energy, perseverance and hard work lead to success, and he who expects to reach it by any other way should stay where he is. No drones in the hive of industry are wanted in Arizona. Vim, enterprise and industry are the roads to fortune, and those who sit quietly down and wait for the goddess to bid them good-morrow will be apt to remain in the shade of poverty all their lives. But for those with stout hands and brave hearts, who are not afraid of work, and can "rough" in a new country; who will fight the battle of life, and not give up the contest because Fortune does not always smile on them; who can turn their hands to anything that presents itself; who are sober, steady and industrious, Arizona is a field where the opportunities for securing a competence are unequalled in the west.

This short statement of facts will, it is hoped, give people who think of coming hither a fair idea of the openings which the country presents for their labor or their capital. Nearly every man of wealth in the Territory to-day came here poor. The same opportunities offered to them are yet offered to you. The same path that led them to fortune's goal is still open to you. To wealth as to learning there are few royal roads, but in a country of such mineral wealth as Arizona a man who is poor to-day may find himself rich to-morrow. But this is the exception. Come prepared to gain a competence by the exercise of those virtues which command success the world over, and our word for it, you will never regret the day you cast your lot in a land with such grand future possibilities.

And now, reader, the writer's pleasant task is done, and he begs to make his bow and retire. In the preceding pages he has endeavored to give you a fair and impartial account of Arizona and its resources. How far he has succeeded it is for you to say. Everything like coloring has been avoided, and a simple statement of facts presented. He has shown the opportunities the country presents to the immigrant and the capitalist; he has shown its many grand resources lying dormant and only awaiting the magic touch of capital, skill and industry; he has given a glimpse of its dim and misty past; has traced the incidents of its discovery

and settlement by Europeans; has noted the advent of the American, and given a brief and abstract chronicle of his bloody contest with the Apache; he has traced its steady advancement from solitude and savagery to its present degree of civilized prosperity, and now he trusts you will indulge him if he casts a glance ahead and catches a beam from the sun of its future glory, already flashing above the horizon.

That Arizona is destined to become a populous and a powerful State is beyond conjecture. Since the dawn of time, agriculture, mining and stock-raising have been the chief occupations of man. They have been the cornerstones of prosperity in every age and in all nations. Few countries are so blessed as to possess all three, and those so favored by nature have reached the highest pinnacle of power and prosperity.

Arizona contains all these sources of wealth; she has rich mines, fertile farming lands and extensive cattle-ranges. She has a climate unsurpassed for salubrity, and a soil capable of producing nearly everything grown in the tropic and temperate zones. Generous nature has done everything for this sunny land, but thus far man has done but little. Like the first American settlers of California, the pioneers of Arizona entertained the idea that the country is unfit for the home of a white man. They came here to dig and delve after the buried treasures in her rugged mountains, "make their pile," and then hie them away to some other country for a home. It is only within a few years that the fertility, productiveness and magnificent climate of the valleys of the Gila and Salt rivers have been understood and appreciated, or any attempt made to build permanent homes therein. Yet these valleys have all the gifts of a most favored clime, and under the hand of cultivation will yet become gardens of beauty and fruitfulness. As pleasant homes can be established there as in any portion of the great west or the Pacific coast, and man can surround himself with every comfort and luxury found in older lands or more densely settled communities.

As we have seen, Arizona was the home of a vast population in the past; there is no good reason why she should not support as many in the future. With all the aids and appliances of a new and more perfect civilization, the latent resources of the country will be more thoroughly developed. Where the prehistoric man followed, in a crude way, agri-

cultural pursuits, and depended mainly upon the products of the soil, the modern occupant will wrench from the rocky hills the treasures so long held in their grasp, and cover mountain, valley and plain with flocks and herds. He will erect manufactories, build railroads, sink artesian wells, excavate canals, and make valley and plain bloom with beauty as in ages past. Pleasant homes embowered in groves of living green, adorned with flowers, and furnished with all the luxuries of modern civilization, will beautify the plain; lowing herds will cover hill and dale; the music of the quartz-mill will awaken the echoes in mountain and glen, and a happy, prosperous and progressive people will dwell beneath these sunny skies. Peace and security reign throughout the land; the war-whoop of the savage is heard no more, and the domain over which for centuries he was the absolute lord and master will soon know him no more.

The elements of power and prosperity are here, and it requires but the skill and industry of man to fashion from them one of the richest and most prosperous States in the American Union. The great natural resources of the country have long remained unknown and unnoticed; isolation and savagery have long stood in the way and barred the path of its advancement. But both are being swept aside by the onward march of enterprise and industry. The dawn of a newer and more perfect civilization for Arizona has already been ushered in. On the ruins of a past age and an unknown race there rises a structure of social, material and intellectual strength, perfect in all its proportions.

To the man of means seeking safe and profitable investments, there is no region of the west that offers so many advantages. Mining, cattle-raising, manufacturing and many other branches of industry invite investment and guarantee large returns. To the immigrant desirous of making a home in the west, we say, come to Arizona; cast your lot with its liberal, enterprising, and progressive people, enjoy the heritage which its future has in store, and pass your days in a land where health and happiness walk hand in hand with progress and prosperity.

Arizona's past has been a dark and a bloody one. Its history is written in the crimson tide from the hearts of its slaughtered pioneers, and their lonely graves, on hill, plain and mountain side, silently attest the sacrifice made to wrest this rich domain from the grasp of the murderous savage. For many a long and dreary year his shadow fell

across the land, obscuring the sun of its progress and prosperity. Under this dark cloud murder and robbery held high carnival, life and property were at the mercy of a band of red fiends who made of the country a perfect pandemonium. It seemed as if the flickering light of civilization would be quenched in blood and the country abandoned to savagery. But against all obstacles the undaunted pioneer bravely battled. The Apache was subdued, and the country redeemed from his barbarous sway; the iron rail has drawn the Territory into closer intercourse with her sister States and Territories, and Arizona has entered on the high road that leads to power and prosperity.

The past is but the memory of some horrid nightmare; the future is bright with the halo of promise. With wealth beyond computation in her vast mineral beds, with the finest grazing grounds in all North America, and with immense stretches of arable lands unsurpassed for richness by any on the Pacific coast, the country has all the resources to build up a great State. With a climate among the healthiest of any on the globe, and with all this great natural wealth, it is not unreasonable to believe that the country will yet be the home of a large population.

The building of the network of railroads, already projected, throughout the Territory, and the influx of immigration, will reclaim many a valley now given over to solitude, and many a vast plain, now a desolate waste, will be covered by cattle and sheep. Mills and reduction-works will spring up in camps where now there is no sign of life; prosperous towns will spring into existence on mountain and plain; the smoke from many a manufacturing enterprise will float over hill and dale, and the State of Arizona, populous, prosperous and happy, will add another star to the flag of the Union.

Reader, if you are in search of a home, come to a new land and take a fresh start in the battle of life; come to a country where every calling and pursuit is not overcrowded; come to a region where Nature has scattered her treasures with so lavish a hand, and where life is not a continual struggle for existence. Such a land is Arizona, blessed with every gift which can conduce to man's health and happiness. To the homeless she points to her broad acres; to the capitalist she beckons towards her rocky treasure-vaults; to all she extends a welcome. Her acres are many and the tillers are few; her treasure-houses are

large, but capital alone can furnish the key to unlock them.

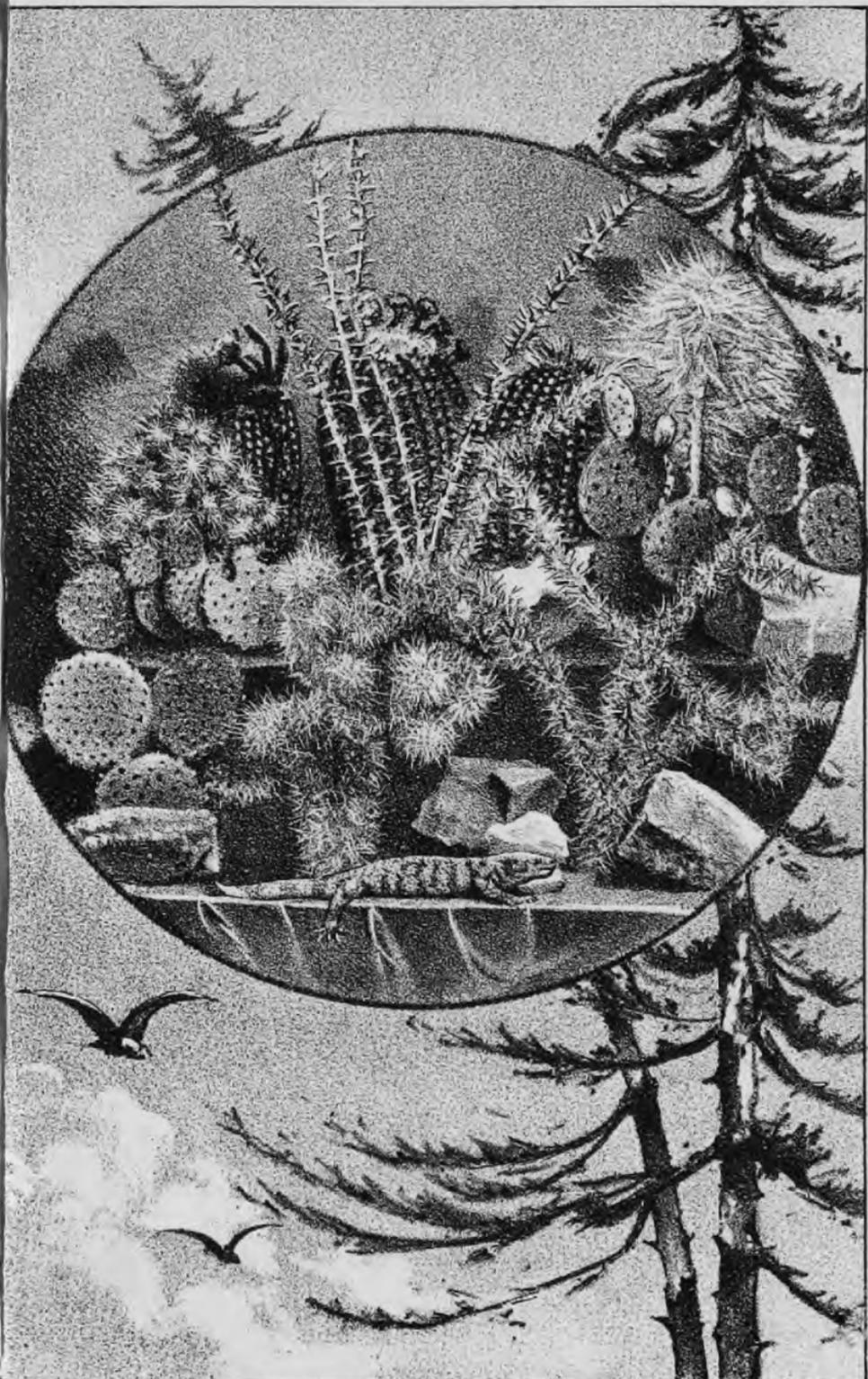
Nothing more remains to be said. Every subject relating to the Territory which can interest readers at home or abroad has been presented. The lights and shadows, the grand gifts, the rare opportunities and the magnificent possibilities of Arizona have been set before you. No fairer field for brave hearts and willing hands, for capital's golden lever, or labor's lusty arm, can be found on the globe. And now, "your very humble servant, and good-bye."



ARIZONA.

CAPITAL.....PRESCOTT.

POST OFFICE.	COUNTY.	POST OFFICE.	COUNTY.
Agua Fria Valley.....	Yavapai.	Kingman X	Mohave.....
Alexandra.....	Yavapai.	Lees Ferry.....	Yavapai.....
Allen.....	Pima.....	McDowell.....	Maricopa.....
American Flag.....	Pima.....	Manlyville.....	Pinal.....
Antelope Valley.....	Yavapai.....	Maricopa X	Pinal.....
Arivaca.....	Pima.....	Mayer.....	Yavapai.....
Armer.....	Gila.....	Meesville.....	Yavapai.....
Ash Fork X	Yavapai.....	Mesaville.....	Pinal.....
Aubrey.....	Mohave.....	<i>Mineral Park</i> A	Mohave.....
Benson X	Cochise.....	Mohave City.....	Mohave.....
Big Bug (Bed Rock).....	Yavapai.....	Morenci.....	Graham.....
Bisbee.....	Cochise.....	Nogales X	Pima.....
Bonita.....	Graham.....	Norton's.....	Yuma.....
Bradshay.....	Yavapai.....	Nutriso.....	Apache.....
Breon.....	Mohave.....	Oro Blanco.....	Pima.....
Bueno.....	Yavapai.....	Pantano X	Pima.....
Bumble Bee.....	Yavapai.....	Parker.....	Yuma.....
Butte.....	Pinal.....	Payson.....	Yavapai.....
Cababi.....	Pima.....	<i>Phoenix</i> A X	Maricopa.....
Calabasas X	Pima.....	Picacho.....	Pinal.....
Camp Huachuca.....	Cochise.....	Pima.....	Graham.....
Camp Verde.....	Yavapai.....	Pinal A X	Pinal.....
Casa Grande X	Pinal.....	Pioneer X	Gila.....
Castle Dome Landing.....	Yuma.....	Powell (Needles).....	Mohave.....
Centennial (Plomosa).....	Yuma.....	<i>Prescott</i> AIX	Yavapai.....
Chalender.....	Yavapai.....	Quijotoa.....	Pima.....
Charleston X	Cochise.....	Redington.....	Pima.....
Cherry.....	Yavapai.....	Riverside.....	Pinal.....
Chino.....	Yavapai.....	Sacaton.....	Pinal.....
Cienega.....	Yavapai.....	Safford.....	Graham.....
Clifton X	Graham.....	Sahuarito.....	Pima.....
Clip.....	Yuma.....	Saint Davids.....	Cochise.....
Contention X	Cochise.....	<i>St. Johns</i>	Apache.....
Crittenden X	Pima.....	Saint Joseph.....	Apache.....
Desert.....	Pima.....	San Carlos.....	Gila.....
Dos Cabezos X	Cochise.....	Sentinel.....	Maricopa.....
Dragoon X	Cochise.....	Show Low.....	Apache.....
Dudleyville.....	Pinal.....	Signal.....	Mohave.....
Duncan X (Purdy).....	Graham.....	Silver King.....	Pinal.....
Dunlap.....	Graham.....	Simmons.....	Yavapai.....
Ehrenberg.....	Yuma.....	Snow Flake.....	Apache.....
Erastus.....	Apache.....	<i>Solomonsville</i>	Graham.....
Esperanza.....	Pima.....	Springerville.....	Apache.....
Fairbank X	Cochise.....	Stanton.....	Yavapai.....
Flagstaff X	Yavapai.....	Stoddard.....	Yavapai.....
<i>Florence</i> A X	Pinal.....	Sunset.....	Apache.....
Fort Apache.....	Apache.....	Taylor.....	Apache.....
Fort Bowie X (Apache P.).....	Cochise.....	Tempe (Hayden).....	Maricopa.....
Fort Defiance.....	Indian Reserv'n.....	Teviston (Bean).....	Cochise.....
Fort Grant.....	Graham.....	Tip Top A	Yavapai.....
Fort Thomas.....	Graham.....	<i>Tombstone</i> A X	Cochise.....
Gila Bend X	Maricopa.....	Tonto.....	Gila.....
Gillett.....	Yavapai.....	Total Wreck.....	Pima.....
<i>Globe</i> A X	Gila.....	Tres Alamos.....	Cochise.....
Greenville.....	Pima.....	Tubac.....	Pima.....
Hackberry X	Mohave.....	<i>Tucson</i> AIX	Pima.....
Harshaw.....	Pima.....	Vulture X	Maricopa.....
Hassayampas.....	Yavapai.....	Walker.....	Yavapai.....
Hayden.....	Maricopa.....	Walnut Grove.....	Yavapai.....
Henning.....	Mohave.....	Wickenburgh.....	Maricopa.....
Holbrook X	Apache.....	Wilcox (Maley) X	Cochise.....
Howells.....	Yavapai.....	Williams X	Yavapai.....
Jerome.....	Yavapai.....	Winslow X	Apache.....
Juniper.....	Yavapai.....	Woodruff.....	Apache.....
Keam's Canon.....	Apache.....	<i>Yuma</i> AIX	Yuma.....



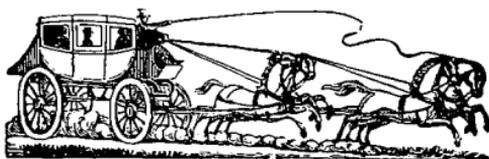
SOME NATURAL PRODUCTIONS.

BANCROFT-LITH-S.F.

Advertisements

GILMER, SALISBURY & CO'S

Stage Lines



—CARRYING—
U. S. MAILS
 AND
 Wells, Fargo & Co's Express

— BETWEEN —

PRESCOTT AND MARICOPA

(VIA GILLETT.)

Leave Prescott Daily at	8:30 a. m.	} Connecting with S. P. R. R. trains For East and West
Arrive Phoenix	11:40 a. m.	
Arrive Maricopa	7:30 p. m.	

Stages for the	} Arrival of trains from West at 3:30 a. m.
North	
—LEAVE— MARICOPA	Arrive at Phoenix daily at 10:35 a. m.
—ON—	Arrive at Prescott " 2:30 p. m.

❖ BETWEEN PRESCOTT AND PHOENIX ❖

(VIA WICKENBURG AND VULTURE)

Leave Prescott Monday, Wednesday and Friday at 6 a. m.

Arrive at Phoenix Tuesday, Thursday and Saturday at 3:30 p. m.

Making connection with our late stage for Maricopa, which leaves Phoenix at 4 p. m. and arrives at Maricopa in time to connect with R. R. trains.

Returning Leave Phoenix Monday, Wednesday and Friday at 12 m.

Arrive at Prescott Tuesday, Thursday and Saturday at 10 p. m.

❖ BETWEEN PRESCOTT and the A. & P. ❖

Leave Prescott daily at 1:30 p. m.

Arrive at Ash Fork daily at 4:30 a. m.

Connecting with A. & P. Trains, East and West.

Leave Ash Fork upon arrival of train daily at 8:30 p. m.

Arrive at Prescott daily at 10:45 a. m.

JAMES STEWART, Superintendent.

The Official Paper of
the County,

The Largest Cir-
culation.



PUBLISHED WEEKLY

— AT —

✻ Globe, Arizona. ✻

The "BELT" was established long before the organization of Gila, and is the best medium of advertising in the county.

Terms, \$5.00 per year.

ADVERTISEMENT RATES MADE KNOWN ON APPLICATION.

A. H. HACKNEY, Editor and Proprietor.



Published at FLORENCE, PINAL CO., ARIZONA,

— BY —

THOS. F. WEEDIN, Editor and Proprietor.

Is one of the best advertising mediums in Arizona, having a general circulation throughout the territory.

It is the only paper published in Pinal County, and contains each week all the local and mining news presented in a clear and concise manner.

Subscription price, \$5.00 per annum; \$3.00 for six months;
\$1.50 for three months.

Advertising rates furnished on Application.

W. M. GRIFFITH, President.

D. C. STEVENS, Superintendent.

Texas and California STAGE COMPANY'S



FOUR HORSE LINE OF COACHES

— LEAVES —

CASA GRANDE, Daily

FOR

FLORENCE,

BUTTE CITY,

RIVERSIDE,

PIONEER,

and GLOBE CITY.

Also, connect at FLORENCE, with the Company's daily line of Coaches

— FOR —

PINAL AND SILVER KING.

GOOD STOCK,

FAST TIME,

and LOW FARES.

Daily and Weekly "Star"

Published in TUCSON, ARIZONA TERRITORY.

Is acknowledged as the best authority on the great silver and copper mining interests, as well as the rapidly developing stock interests of Arizona in general, and Pima County in particular.

Its Editorial Columns Treat on the Leading Topics of the Day.

Reliable correspondents from every important mining district report all new developments and discoveries, so that the readers of the STAR are always well and reliably informed.

ADVERTISE IN THE ARIZONA "STAR."

Will be mailed to any part of the United States at the following rates:

DAILY.		WEEKLY.	
One Year.....	\$10 00	One Year.....	\$3 00
Six Months.....	6 00	Six Months.....	2 00

SAMPLE COPIES SENT FREE ON APPLICATION.

L. C. HUGHES, Publisher and Proprietor.

THE ARIZONA JOURNAL,

DAILY _____ and _____ WEEKLY

Leading Republican paper of Northern Arizona.

Has the largest circulation, and is the best advertising medium.

Daily, per year, \$12.00.

Weekly, per year, \$5.00.

J. C. MARTIN,

Editor and Manager.

ESTABLISHED 1880.

DAILY AND WEEKLY.

Gazette Printing and Publishing Co.

HOMER H. McNEIL, Manager.

Phoenix, ————— Arizona.

Phoenix being situated in one of the finest agricultural and grazing valleys in the territory, is the only distributing point for supplies of all the mining country in Central and Northern Arizona; and as the *Gazette* is taken in almost every family, mining camp and hamlet in this region, makes it one of the best advertising mediums in the Territory.

Daily, One Year, \$10.00.

Weekly, One Year, \$4.00.

— ADVERTISING RATES GIVEN ON APPLICATION. —



Corner Washington and Pima Streets,

PHOENIX, ARIZONA.

Building 150x125 feet. New and comparatively fire-proof, elegantly furnished, large sample rooms for commercial travelers.

Bath and Barroom attached.

Fine Dining Room, polite and attentive employees.

TERMS ALWAYS REASONABLE.

DOUGLAS M. LEMON,

Business Manager.

G. H.

Arizona Scenery

FINEST ASSORTMENT OF

Stereoscopic Scenes and Scenery of Arizona

Constantly on hand, consisting of the most attractive

Natural Scenes, Towns, Forts, Ruins, Indians, Cactus,

— ETC., —

Giving a most Comprehensive Idea of the Peculiarities of this wonderful Territory.

Catalogues on Application. Orders by mail promptly attended to.

ADDRESS

G. H. ROTHROCK,

PHOENIX, ARIZONA.

Daily and Weekly Phoenix Herald

N. A. MORFORD, Editor and Proprietor.

PHOENIX, MARICOPA COUNTY, ARIZONA.

The Leading Paper of Central Arizona,

AND ONE OF THE PIONEER PAPERS OF THE TERRITORY.

With one exception the "Herald" has the largest circulation of any paper in the Territory, and is therefore one of the best Advertising mediums in Arizona.

The "Herald" is now printed on a power press; an excellent

 **JOB OFFICE** 

Is attached, and Work in the Job Department is done at San Francisco prices.

Daily Herald, \$10 per year. Weekly Herald, \$4 per year.

Advertising Rates on Application.

Address, **"The Herald,"** Phoenix, Arizona.

Clarion

JOURNAL

AND THE OFFICIAL PAPER OF GRAHAM COUNTY.

Published every Wednesday, at Clifton, Graham Co., Arizona,

—BY—

D. L. SAYRE & CO.

The *Clarion* has a general circulation in Southern Arizona and New Mexico, and as an Advertising medium is unsurpassed.

SUBSCRIPTION PRICE:

One Year, \$5.00. Six Months, \$3.00.

SAMPLE COPIES FURNISHED ON APPLICATION.

ADDRESS.

"THE CLARION," CLIFTON, ARIZONA.

SILVER KING HOTEL

FLORENCE, PINAL CO., A. T.

The Only First-Class Hotel in Town.

Has just been Refitted and Refurnished throughout.

The Table is provided with the Best to be had in the market.

THE BEST BRANDS OF

WINES, LIQUORS and CIGARS

— AT THE BAR. —

G. A. STONE & CO., Proprietors.

Sunshine & Silver

A RECORD OF THE

Claims and Prospects of the Silver South-West.

Published EVERY SUNDAY, at TUCSON, ARIZONA,

BY

HARRY BROOK,

FORMERLY EDITOR OF THE SAN FRANCISCO WASP.

Bright, Spicy and Readable. Illustrated. Contains every week a complete digest of everything relating to Arizona.

Subscription: One Year, \$3. Six Months, \$1.75. Three Months, \$1.

SEND TEN CENTS FOR SAMPLE COPY.

"Sunshine and Silver" Tucson, Arizona.

F. D. WELLS.

T. RICE.

City Livery Stable,

East Washington St., adjoining Phœnix Hotel.

WELLS & RICE, Proprietors.

Anything in the Livery Stable line can be found here.

HORSES & BOARDED

— BY THE —

Day, Week or Month, and given Careful Attention.

P. MINOR,

Wholesale and Retail

DEALER IN



Shingles, Doors,

Sash, Blinds,

Mouldings, and

First-Class Building Material

AT REASONABLE RATES.

Lumber Yard at Cor. Adams and Montezuma Streets.



—*decorative flourish*—
 ONE BLOCK
NORTH
 OF THE PLAZA.

PHOENIX

Livery *and* Feed Stable,

MONIHON'S OLD STAND,

Washington Street, BELOW THE POST OFFICE, Phoenix, Arizona.

W. M. ZENT, - PROPRIETOR.

FIRST-CLASS TEAMS & RIGS OF ALL KINDS SUPPLIED TO ORDER.

==== **GOOD SADDLE HORSES.** ====

The very best attention given to Boarding and Transient Stock.

PRICES REASONABLE.

TAKE THE OLD-ESTABLISHED

✦ SWAGE ✦ LINE ✦

OF

Pedro Aguirre & Co.

==== **BETWEEN** ====

Tucson, Quijotoa, Logan City, New
Virginia, Oro Blanco, Esperanza,
and Sombreretillo.

Splendidly Equipped Line! Fine Six-Horse Stock! Quick Time!

Fares between Tucson and Quijotoa, \$10.

For further information apply to or address

C. B. SESSIONS, Agent,

10 Congress, Tucson.

E. C. DAKE'S Advertising and General Agency,

64 AND 65 MERCHANTS' EXCHANGE,

California St., San Francisco, Cal.



Rates ascertained and Advertisements placed, in any part of the United States, Mexico, South and Central America, and the Hawaiian Islands.

Type, Printing Presses,
Printing Materials,
Paper, Ink & Stationery

Forwarded at the Lowest Market Rates.

Newspapers Bought and Sold.

Collections made in California.

Fire and Marine Insurance placed in good
Companies at best Rates.

B. FRIEDLANDER,
Merchant Tailor,

761 MARKET ST.,

Bet. Third and Fourth, San Francisco, Cal.

— A FULL LINE OF —

French, German and English Cloths.

ALWAYS ON HAND.

Perfect Fit Guaranteed.

Samples Sent on Application.

Arizona Daily AND Weekly Miner

Published by WM. O. O'NIEL,

PRESCOTT, ARIZONA.

Pioneer Paper of Arizona.

— ESTABLISHED 1864. —

Has a Larger Circulation than any other Paper in
 Northern Arizona.

Mining News a Specialty.

TERMS:

Daily, \$10 per year. Weekly, \$5 per year.

A. L. BANCROFT & CO.



ENGRAVERS,

Printers, Lithographers,

AND

BINDERS,

721 Market St., San Francisco, Cal.

The Book and Job Departments, and Bindery, occupy the two top floors of Bancroft's Building, 721 Market street, and have the best facilities on the Coast for doing all kinds of work in their respective branches.

The Label and Lithographing Department is located in the building on the South-east corner of Sacramento and Davis streets, occupying the entire top floor, 92 x 118 feet, where, with recent additions to machinery, we have facilities that are unequalled on the Coast.

Parties in need of Lithographing or Labels of any kind can be waited upon either at 721 Market street, or corner Sacramento and Davis streets. Connected by telephone with the central office, and private line between the two places.

The specialties of this branch of the Department are Fine Show Cards, Lithographed Label and Commercial Work, Fruit, Salmon, and other Labels.

A. L. BANCROFT & CO.