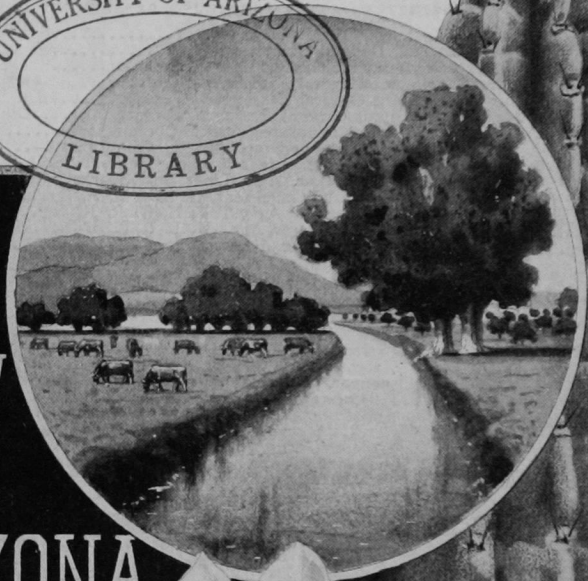
The NEW ARIZONA



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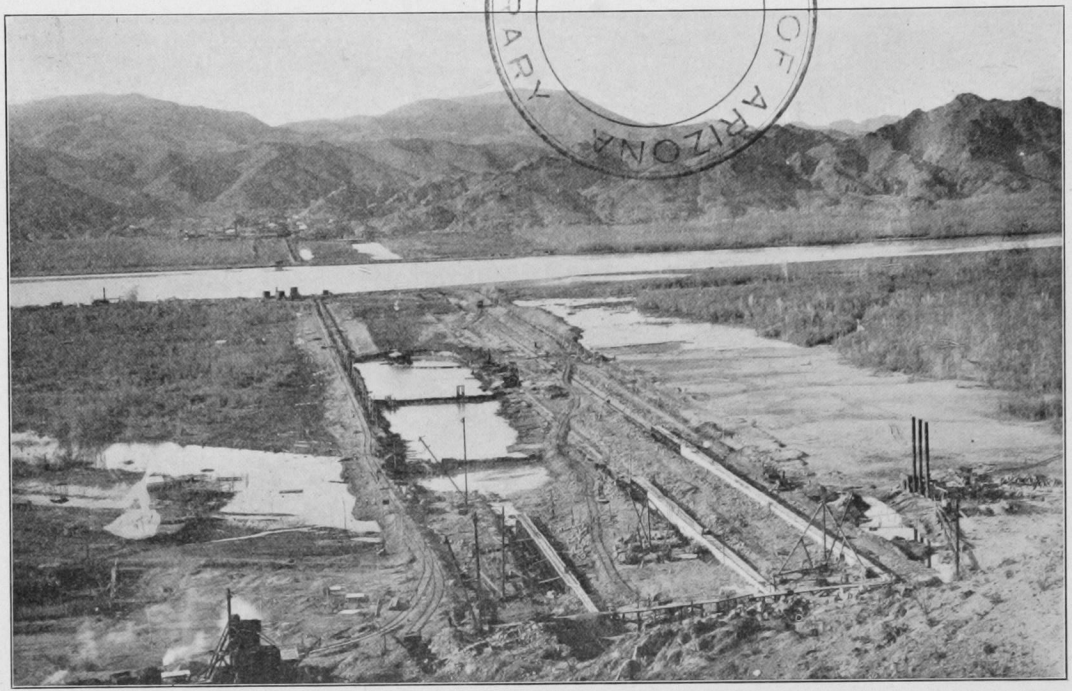
THE NEW ARIZONA

Homes and Wealth for Out-of-Doors Folks

By A. J. WELLS

San Francisco
1907



Construction Work on Laguna Dam, near Yuma

The New Arizona

This oldest and newest of cultivated lands is especially new in the section lying below the thirty-fourth parallel. Old in ancient occupation and civilization, it is new in modern progress and development, and, with a background of mines and mining towns and camps which promise to be permanent, the whole aspect of the country is being changed by farms and orchards.

It is not a question whether Southern Arizona will ever become an agricultural country. It *is* an agricultural country now, and was a land of the farmer before history was invented. The mysterious people who built towns and vast houses and dug great canals from which to water the land, left no other record of themselves save that they were farmers. Where they led the water along canals which they ran with precision without instruments, and made the desert to blossom with harvests, the American farmer now comes to renew the old farms and to repeat faded and forgotten harvests by modern methods of culture.

Southern Arizona is not a desert. It is a land of many attractions, of strong contrasts and surprises, but with a homeside that will interest you. It is like none of "the States" in appearance, in character, or behavior, and cannot be judged by Eastern standards. It has a character and individuality of its own, but you must get close to it to feel its charm. It offers you much, but you will not hear its call nor feel its charm from a car window.

THE LAY OF THE LAND.

The face of the country is rugged. It is a series of elevated plateaus, highest in the north, but reaching sea level in the extreme southwest. About midway of the Territory there is an abrupt descent of about 3,000 feet, and a change in the nature and aspects of the country. The north is broken by tremendous canyons, is both naked and forested, rich in pasture and

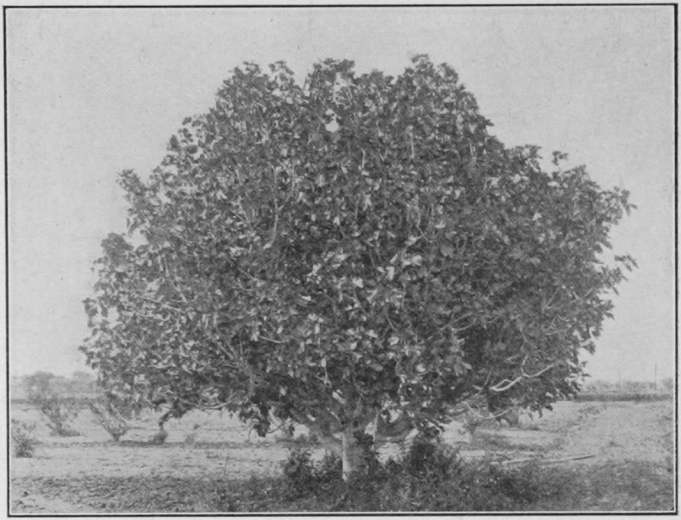
Ludy Canal near Yuma (showing silt deposit)

desolate with waste lands, has the Painted Desert and the Mogollon Forest, and is cold in winter. The south has large plains and valleys, fertile tablelands, detached mountain ranges and single peaks, and a half-tropical climate. The traveler from the north, in three hours by rail comes into it as into another country. He finds river bottoms, rich in sediments; broad valleys, that need only the irrigating ditch; flat plains, that seem to constitute the body of the country, yet are shut in by encircling mountains, and he finds a changed atmosphere—soft airs, almost uninterrupted sunshine, and the evidence of having dropped into a warmer zone in the orange groves, the figs and orchards of olives, the clusters and avenues of date palms and the green fields of alfalfa.

He has an ever-present impression of immense plains, but is never out of sight of mountains. There are extensive mesas, or tablelands, and there are valleys so wide as to look like prairies, yet Southern Arizona is naturally a mountainous country, and great mineral wealth is scattered all through it and lies everywhere in close touch with vast agricultural resources. This is one of the advantages which the farmer will quickly appreciate.

THE LOOK OF THE LANDSCAPE.

Every one wants to know of a new or little-known region, "How does it look?" Here the features of the landscape are wholly new and unfamiliar. It is easy to exaggerate the characteristics of such a country, and writers and picture-makers show you the freaks and oddities, rather than the normal and general feature of the country. There are cliffs curiously eroded, mountain forms fantastically shaped and carved by wind and rain; hillsides whose scattered and stunted tree growths remind one of some wasted and neglected old orchard, and there are cactus forms which are widely varied and chiefly curious because we have not been fortunate enough to have been brought up in a cactus land. You will be struck with the marvelous clearness of the atmosphere, and will note how neighborly the mountains seem, how black the shadows cast by the floating white clouds, and how vast the spaces are around you on the



Smyrna Fig Tree, Salt River Valley

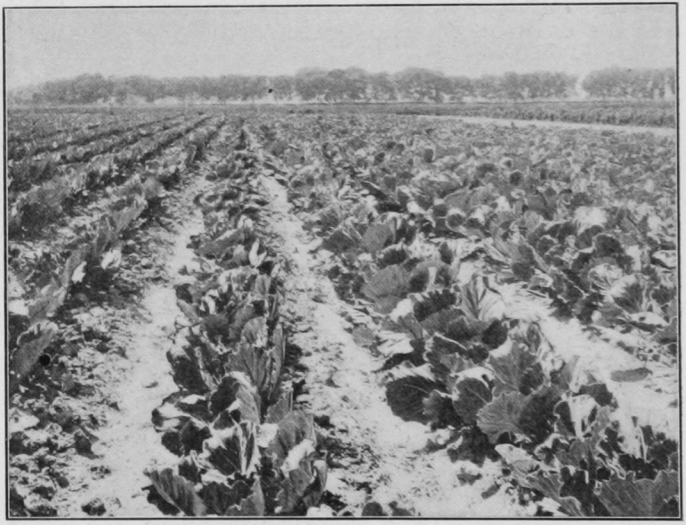
plains. Under the vast canopy of the sky you mark the silence, and all sounds seem swallowed up and lost. You feel the fascination of the desert, but on the edge of it or in the midst of it, homes, gardens, farms, the avenues of familiar orchard trees, green fields, towns and cities, make a new impression upon the mind. Familiar things as we knew them in "the States" are more homelike and more impressive because seen in the midst of strange and unusual natural conditions. The familiar picture simply has an unfamiliar setting. But the strange physical aspects of this land only serve to make the home and the cultivated field more attractive, as the desert enhances the beauty of the oasis in its midst.

THE WORK OF THE RIVERS.

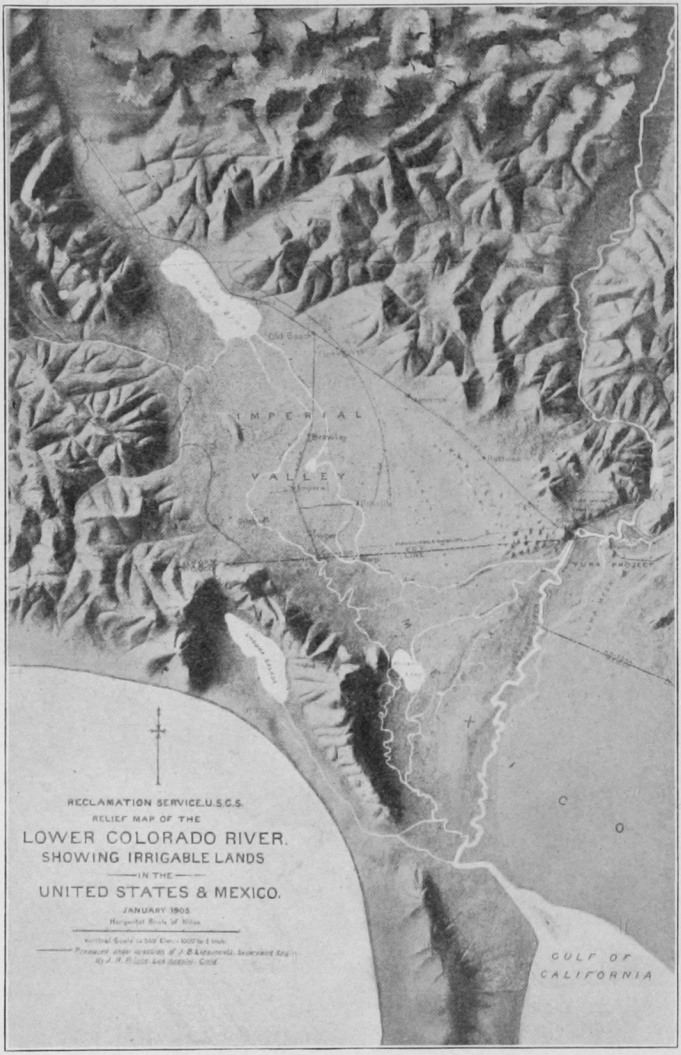
Southern Arizona rivers have great drainage areas, and in few countries of the world can one see the process of making farms going on year after year on so gigantic a scale. During

times of flood the water rushes from mountain and mesa heavily charged with sediment, and every flood season lifts the level of the valleys a trifle higher. Geologists speak of "detrital deposits" developed on "a grand scale in Southern Arizona," and of the "rich alluvions" of the chief rivers of the Territory. It is another way of saying that the rivers are sediment-bearing, and that they drop the soil they hold in suspension to make fruitful fields.

This soil-making process went on more rapidly in other ages, because the rainfall was then torrential, but to-day it is clearly visible, only now it has this disadvantage, that the soil-carrying streams constantly tend to get on top of the land by the filling up of their own channels. Thus you find wide river bottoms and a tendency to make new channels, or to break away entirely and wander in a new direction as in the case of the Colorado. These delta rivers make the richest lands man ever farmed, they



Young Cabbage Patch, Salt River Valley


IMPERIAL
VALLEY
YUMA PROJECT
GULF OF
CALIFORNIA
RECLAMATION SERVICE, U.S.G.S.
RELIEF MAP OF THE
LOWER COLORADO RIVER,
SHOWING IRRIGABLE LANDS
IN THE
UNITED STATES & MEXICO.
JANUARY 1905

need to be controlled by damming and made to deposit their surplus waters in storage reservoirs for the good of the land they have made while running wild. To quote Scripture: "And everything shall live whithersoever the river cometh."

THE FAT VALLEYS.

This phrase is as true of the valleys of Arizona as it was when used to describe the valleys of ancient Egypt. Here it is strikingly impressive. Yet the farmers' side of Arizona is better than it looks. It improves by acquaintance. When the practical man looks at the alluvium of these valleys, where farms have been in the making for ten thousand years, and the keen-eyed farmer, who knows a good acre when he sees it, digs up a fistful of this sediment, they are both apt to say: "This is it. No worn-out farms here."

The Colorado once emptied into the Gulf of California, perhaps as far up as Yuma, and the Yuma Valley, the Imperial Valley on the California side, and all the vast stretches of sedimentary soil in Mexico, clear down to the present head of the gulf, were formed by the river. Millions of acres, long called the desert, are simply the delta of the Colorado; immensely rich and fathomlessly deep. Perhaps nowhere else in the world has one river reclaimed so much from the ocean for the farmers' use. So the Salt River Valley is, in fact, a delta, formed by the Salt River and its affluent, the Verde, this splendid garden being an immense bed of silt, spread by periodical overflows through the centuries. The Gila, too, has made an oasis, or rather a series of oases, across the entire Territory, as it has swept about from side to side of the valley, leaving its freight of sediment, and building farms, and square miles of rich land clear to its junction with the Colorado.

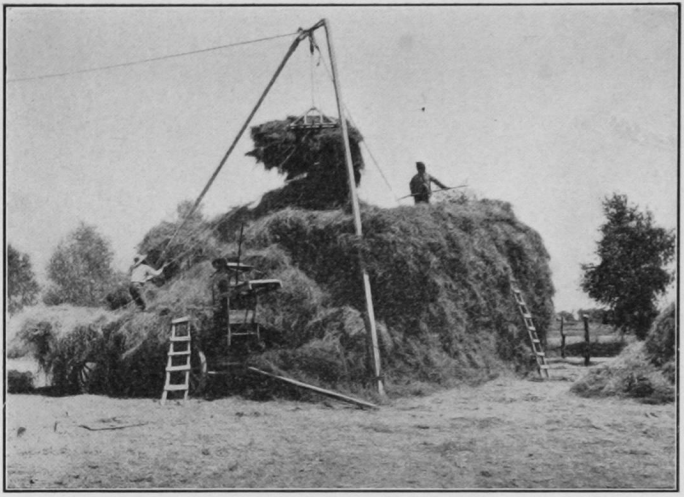
The San Pedro and the Santa Cruz are smaller streams in narrower valleys, but they have carried rich farms from the borders of Mexico and dropped them all along their way to the Gila. The San Pedro Valley was once a lake, extending from a point near the Mexican border to beyond Benson on the Southern Pacific Overland. The clays of this old lake bed are here "cut through by the river to a depth of 600 feet or more. An

artesian boring in the bottom of the valley penetrates these sediments 500 feet deeper, proving the deposit to be over 1,000 feet deep."

Riding over the plains near Casa Grande, we crossed the Santa Cruz again and again, spread out like the fingers of one's hand, flowing sluggishly through the soil it had deposited. Formerly it ran throughout the year on top of the land. Now it sinks and disappears for a part of the season, able only to run on the dead level its own silt had made when pushed by floods.

Now these are literally "fat valleys," and good farmers in them can live on "the fat of the land." There are prosperous

Field of Barley, near Yuma.

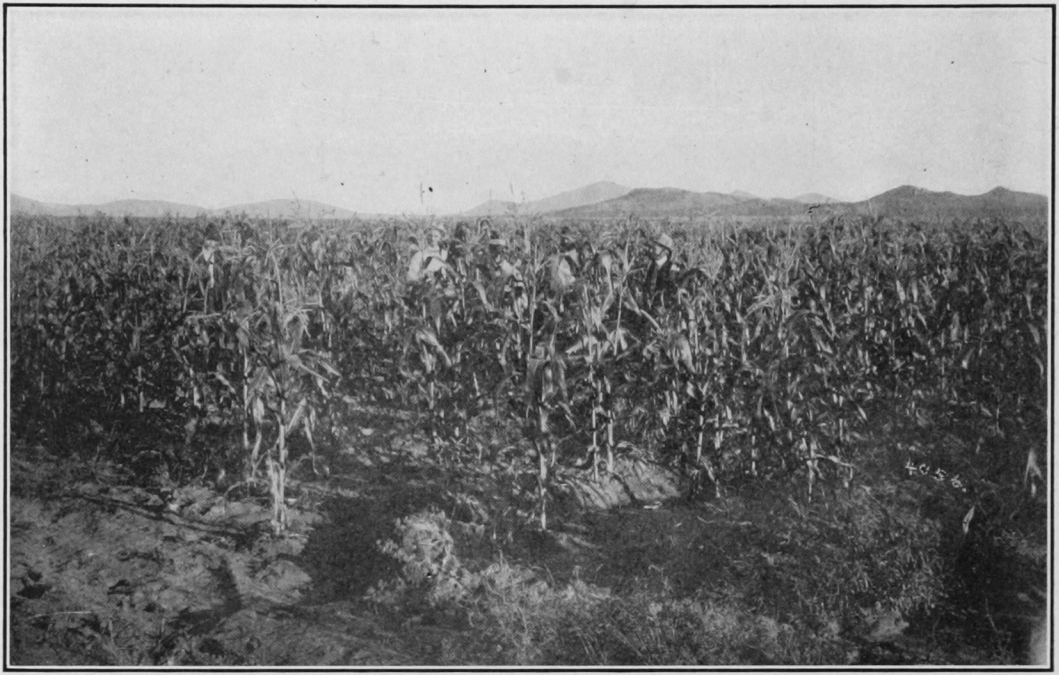


Third Crop of Alfalfa Hay, Yuma Valley

farms all along these streams, wherever an irrigating ditch can be made to carry a "head" of water. Here are settlements, with their towns, their schools and churches, and old-fashioned farms with their wheat and barley and corn and hay, their cattle and hogs. If one wants to see alfalfa at home—alfalfa in its glory, falling before the mower six and seven times a year, and green with luscious pasture the first of December and cows feeding on it with great content, let him traverse the Gila Valley, the Yuma, the Salt River or the valleys of the Santa Cruz and San Pedro, as I did. He will see the farmer's side of Arizona, and will see the promise and possibility of a land that only wants good farmers and lots of them.

WHAT THE VALLEYS PRODUCE.

Crops are marked by great variety. This is one of the advantages of the climate. It sets no sharp limitations, as in colder countries. Given fertile soil, few sharp frosts in winter, a long growing season and seventy per cent. possible sunshine,



Cornfield, Yuma Valley

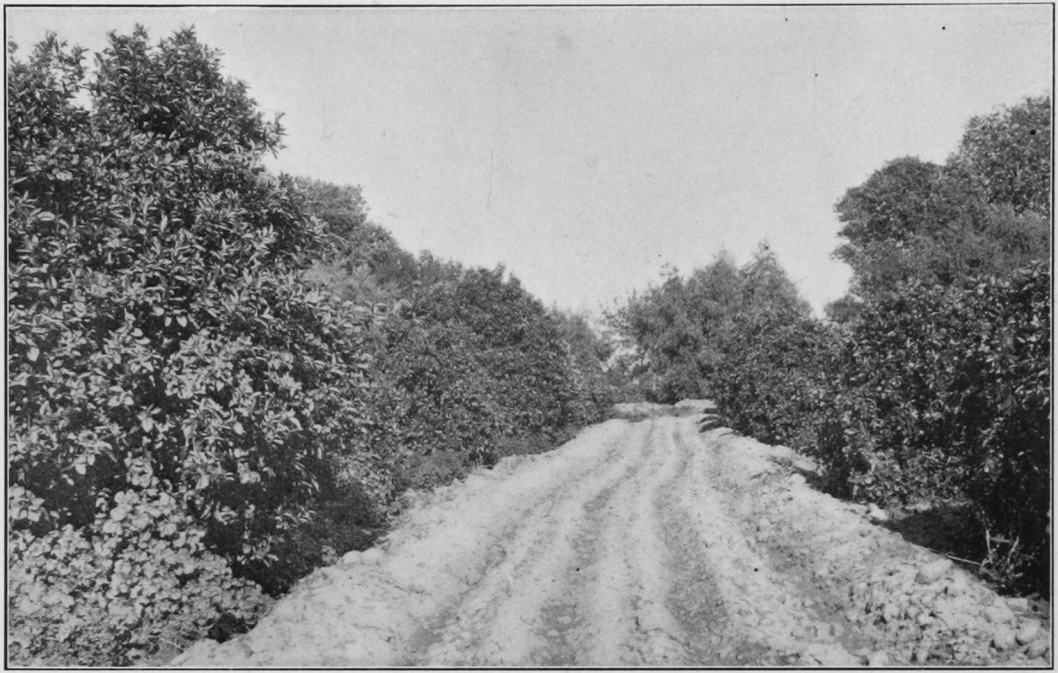
and it is easy to guess that there will be a great variety of crops. Both the temperate and semi-tropic zones will be represented in the product of the fields.

Cereals and Grasses.

Wheat is grown both for grain and hay, and is sown for either a winter or spring crop. There are large flouring mills at several points, as at Phœnix, Tempe, Tucson, Solomonsville, Thatcher and Safford, and much wheat is shipped from California to supply these mills. From forty acres of wheat hay 205 tons were cut; grown for grain, the yield is from thirty to thirty-five bushels to the acre. Barley produces from four to five tons as hay and from thirty to fifty bushels as grain. Both these crops can be pastured in winter and then allowed to mature as a grain crop, paying all their own expenses by the green feed furnished. Corn is planted in July, and often follows a crop of wheat. I saw in the Yuma Valley a fine field of corn ripening in mid-November that was planted in August. Fine crops of improved varieties of corn are grown wherever water is plenty in the late summer. Kaffir and Egyptian corn is grown also and sorghum is a profitable crop. But the great forage crop of the Southwest is alfalfa. This "Mexican hay" was long known to the army mule. It yields abundantly, and is often cut seven times a year. In the Salt River Valley the hay harvest lasts from the middle of March to November, and in the Gila Valley I saw the seventh cutting being made about the 18th of November. Eight cuttings have been made in the Yuma Valley. It is worth from $5 to $15 per ton, the higher price being commonly paid after the first of December. It is a specially valuable crop in this country on account of the humus and nitrogen which it adds to the soil, while for hay and direct sales, for the dairy or as a stock fattener, it is very profitable.

Sugar Beets.

There is a sugar factory at Glendale, near Phœnix, with a capacity of 800 tons daily. A crop of 3,500 tons and an average of twenty-five tons to the acre has been grown. One grower



Orange Grove, Salt River Valley

produced forty-two tons to the acre, perhaps the largest yield ever known. The yield on the Experiment Station grounds has not exceeded eighteen tons to the acre and a little more than 18 per cent. sugar. A per cent. of 16 will make the rate per ton at the factory very satisfactory to the grower and a probable net return per acre of about $70. A very large acreage in many sections can be profitably given to beet culture.

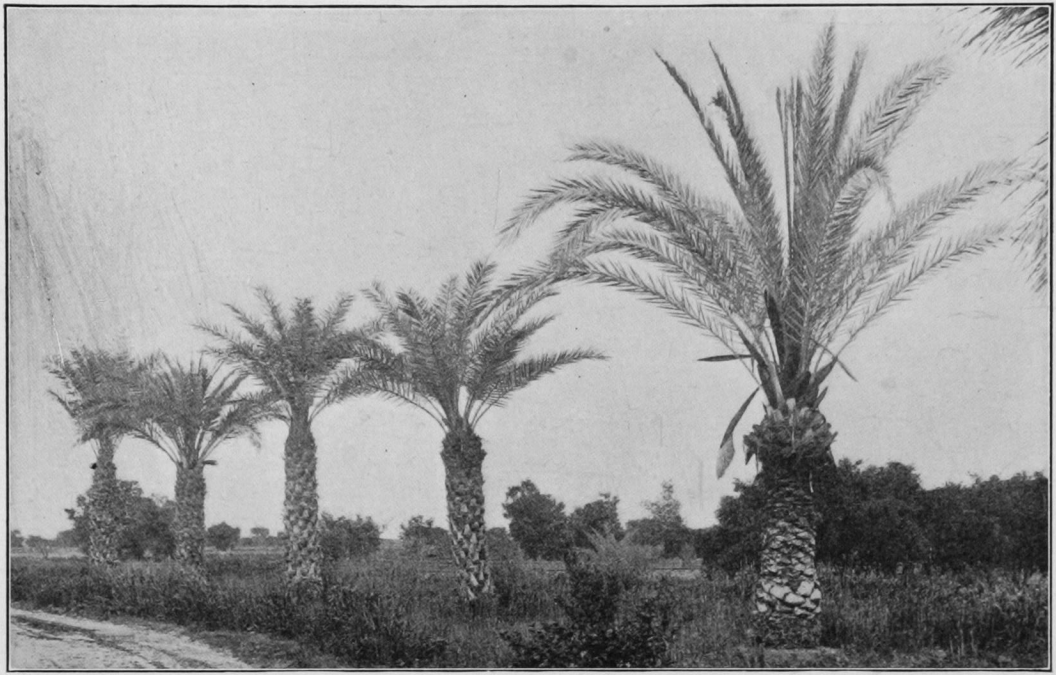
Other Root Crops.

The common potato needs a special soil, but does well in many places, yielding 4,000 to 5,000 pounds to the acre. Two crops are grown, so that one can have "new potatoes" twice a year. The best results come from planting in February. Think of that, when the blizzards are blowing and the ground on the old farm is frozen a foot deep. The less valuable crop is planted in August.

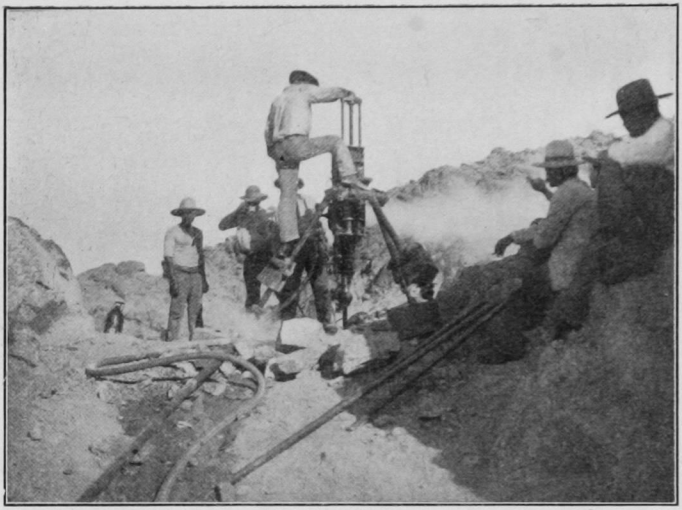
Sweet potatoes are a profitable and staple crop, producing well and of fine quality in suitable soil. Field beets, carrots, parsnips, peanuts, turnips and radishes do well. The whole catalogue of vegetables are at home here. Cantaloupes are as fine as any ever grown, and equal to the famous Rocky Fords of Colorado. They are very profitable.

Deciduous and Citrus Fruits.

In the higher valleys apples of a superior quality are grown, and plantings can be greatly multiplied with profit. Cherries, pears and peaches are also grown, and apricots, prunes, grapes and raisins are adapted to most of the sections. Everywhere the home orchard may be grown, and in many places fruits of various kinds may be grown commercially with profit. Oranges and lemons will grow almost anywhere in the valleys we have mentioned, but in the Salt River and Yuma valleys they not only do exceedingly well, but ripen very early. A carload of oranges from Phœnix was marketed in New York as early as December 8th, having been shipped November 25th. They netted close to $7 a box. Pomelos or grape fruit are produced of fine quality and bear the fourth year after planting.



Date Palms, Experiment Station, Salt River Valley



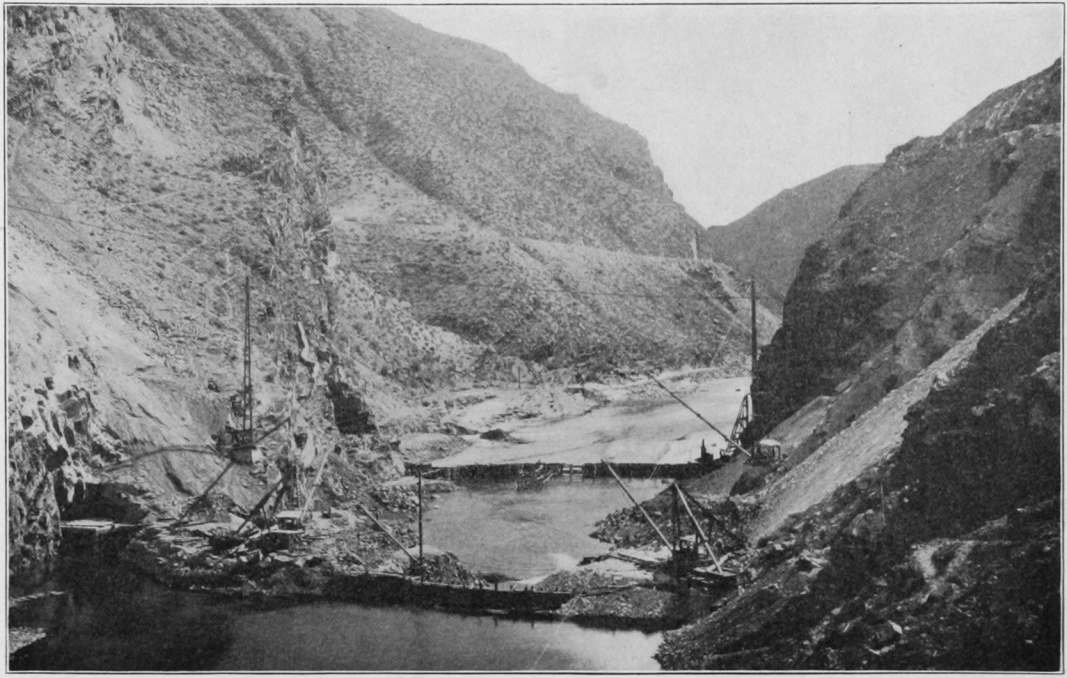
At Work with Steam Rock Drill, Laguna Dam

The season runs from November to May. Around Yuma is a large region where, when water is provided, citrus fruit will be largely grown, and without trouble from smut or scale insects. Figs grow luxuriantly, and olives are wholly at home.

The Date Palm.

That this is to be a commercial success in Arizona is beyond a doubt. The experimental orchard of the Government, three miles south of Tempe, has met all expectations, and eleven acres or more are doing surprisingly well. About eighty varieties are being tested, and it will not be long before the best ones for the region can be determined. It is believed by experts that a new industry will be established in the Southwest. The bottom lands of the Colorado are especially looked to for good results, the season being long and the conditions more nearly approaching those of Asia Minor.

Among miscellaneous products honey holds a good place,



Construction of Tonto Basin Dam, near Phoenix.

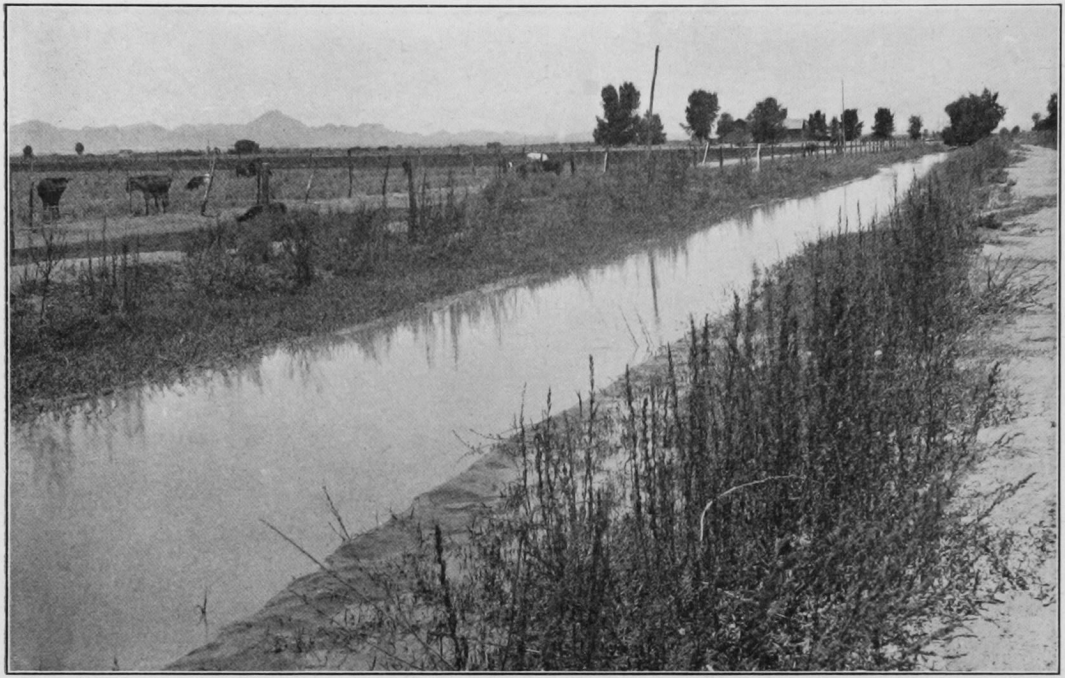
and one notes with interest the colonies of bees in the desert under their rude screen of brush—the "remudas" of the Mexicans. It will be seen that the farmer has a wide choice of products, and that the demand in the nature of things is for men of intelligence, who can take up new industries, or adjust themselves to conditions of climate and methods of culture which are new and wholly different from those of the North and the East. Soil, irrigation, live stock, methods of farming, involve something outside of the average experience.

THE PROMISE OF IRRIGATION.

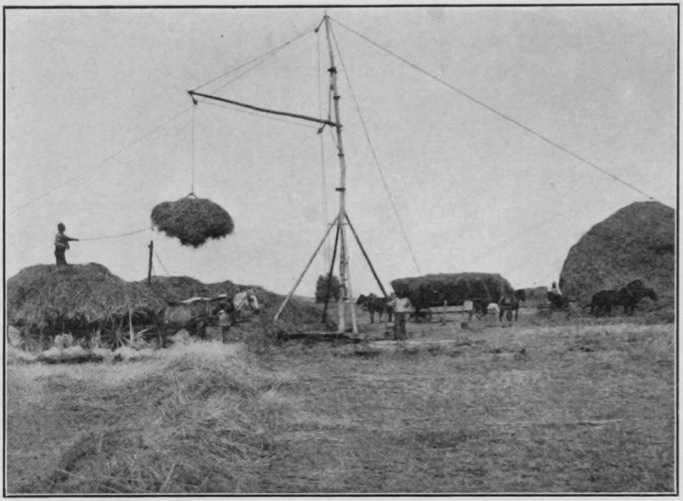
There is no "dry farming" in Southern Arizona. Without artificial irrigation no crops are grown. With sufficient water there is no failure of crops, and there are probably 10,000,000 acres of tillable land in the Territory, of which but little more than half is privately owned, and only about 300,000 acres are actually irrigated. This, not because water is not available, but because the cost of providing it has been too great for private enterprise. The Government has, therefore, undertaken to provide water for large areas, after expert examination, and, where once giving away its public lands, is now spending millions of dollars to make some of them productive.

THE FAITH OF THE GOVERNMENT.

Two of the grandest irrigation plans of the Reclamation Service are now being carried out in Arizona. These are known as the Yuma Project and the Salt River Project. Both are immense, and involve much time and great expense in construction. The Yuma or Laguna dam on the Colorado River is of the weir type, such as are in use in India, and it is located on a river as interesting, if not as famous, as the Nile of Egypt, which it resembles. The Salt River or Tonto Basin dam will turn back the combined flow of the Salt River and the Verde, forming a reservior twenty-five miles long, with an average width of one and a half miles. This will impound 1,100,000 acre feet of water, or water enough to cover 1,100,000 acres of land one foot deep. And the land actually covered by this vast artificial lake was once cultivated by the cliff dwellers, the out-



Irrigation Canal, near Yuma



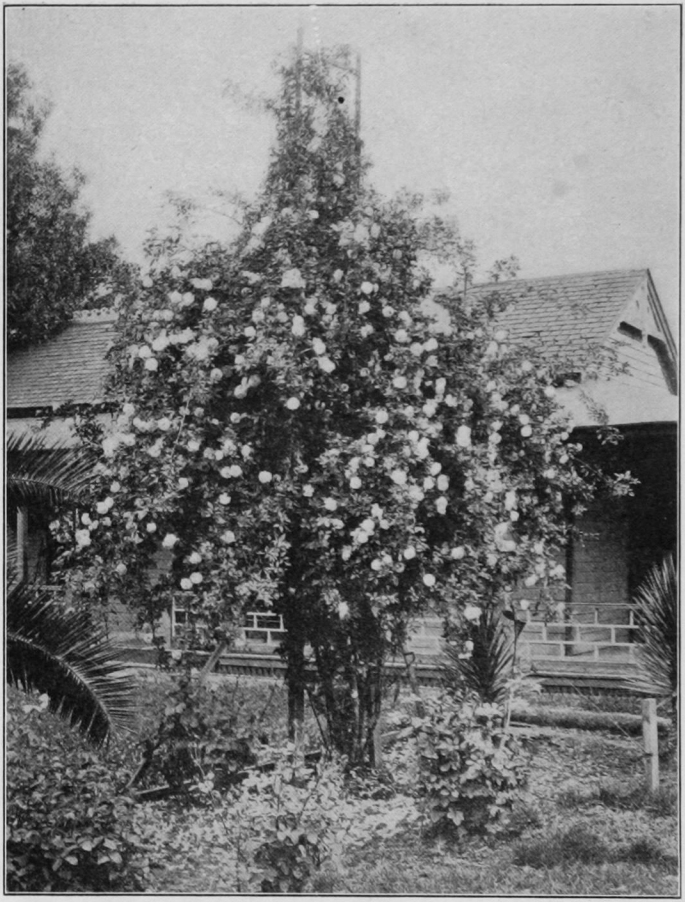
Harvesting in Yuma Valley

lines of their long-abandoned fields being clearly visible when the first white farmers penetrated to this secluded valley.

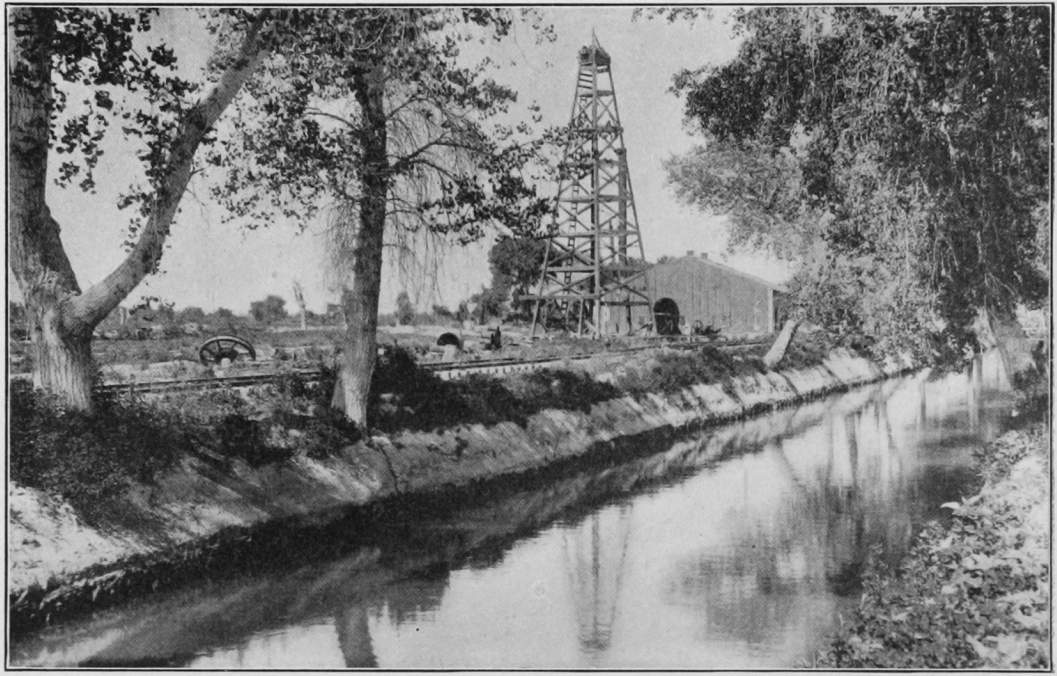
THE YUMA LANDS.

These are on both sides of the Colorado, in California and in Arizona. There are about 83,000 acres in the latter and 14,000 in the former. The Yuma Valley is largely under cultivation, but a water users' association has been formed which has entered into contract to accept and use water under the Government system. As water will not be supplied to more than 160 acres held by one individual, owners of larger tracts will offer the surplus for sale. The tendency will be to reduce the 160 acres, smaller tracts being more profitably worked under irrigation. In communities where irrigation is the established order, eighty acres is considered too large a holding and forty acres ample to support a family. Only a few persons will care to irrigate the full limit allowed by law, and this will put many acres of valuable lands on the market.

There are other lands here which are not occupied. Where the Gila River approaches the Colorado we rode for fifteen miles over magnificent land, seeing no houses or signs of ownership save a cabin or two. The land is covered by mesquite, ironwood, willows and cottonwood trees and shrubs. It is easily cleared, the wood largely paying the cost of removal, and water will make it exceedingly valuable for all kinds of crops. It will all be under canals and protected by levees, both from the overflow of the Colorado and the Gila. The levees will be substantial, constructed for permanency, five feet above high-water mark, and planned to include a complete system of drainage. Some of the richest lands in the world are here, but have not been occupied on account of periodical overflows. The great expense of providing at once for irrigation and protection is being assumed by the Government, and will be charged back to the land and returned in installments for ten years. Payments will not begin until after the first delivery of water. The cost of water has not yet been fully determined, but will be about $35 per acre. There will be an annual charge for maintenance and supervision, probably less than $1 per acre. Lands can be bought cheaply if purchased before water is ready for delivery. Raw lands can now be bought for $20 to $50 and cultivated lands for $75 to $100, with a strong upward tendency. If the cost of water and land seems high, it must be remembered that the quality of the land is high and the irrigating system not a speculative one, in which a profit is to be made out of the water user, but is an ideal system, the cost of water based upon the actual expense of providing it, and providing it under conditions which insure an ample flow at all times. There will be no favoritism. The man above you will not get more than his share, the man below you will not get less. A Government official will have charge of the distribution. There need be no concern about change of ownership, nor anxiety about low stages of the river. The reservoir will take care of that, and the driest season will find ample water for all uses. The farmer will have no concern save about his laterals and the proper distribution of water on his own fields.



December Roses, Mesa, Salt River Valley



Tempe Canal and Pumping Plant

Ex-Governor Alex. Brodie of Arizona says:

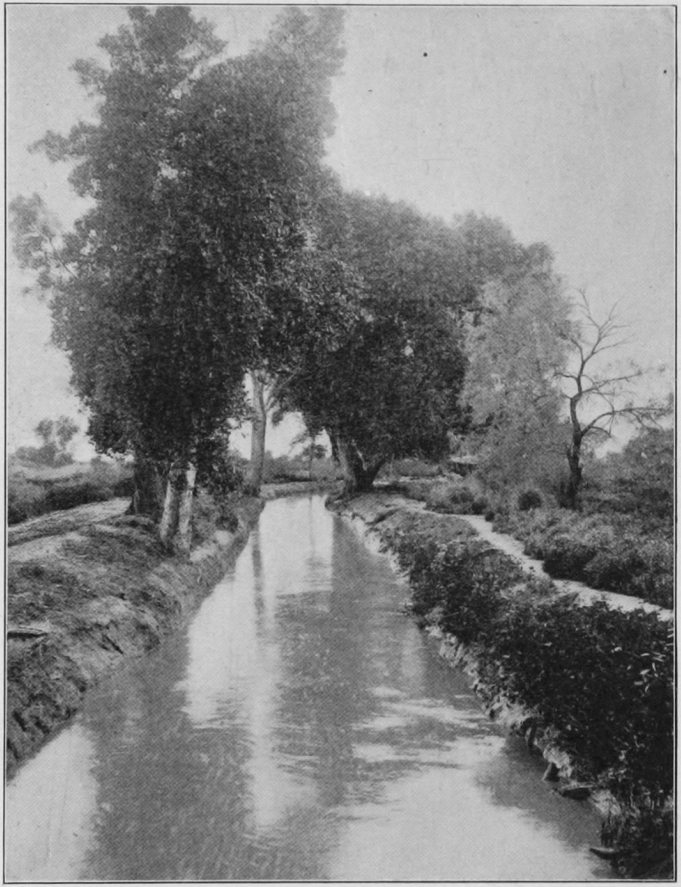
"Under water-storage conditions in a climate as mild as that of the Arizona valleys the yield of crops per acre will be very large. Seven crops of alfalfa can be harvested where four are now produced. Small ranches will be the rule under such conditions, and the population will be greater per acre than in the Middle and Eastern States. More will be expected of a man by each separate acre, and the capacity of each acre to produce will be from five to seven times greater than under natural conditions."

To this may be added the statement of Governor Jos. H. Kibbey, that "300,000 acres" here "will fully equal 1,000,000 acres of the best farm land in the Mississippi Valley," a statement not extravagant when it is remembered that irrigation more than doubles the productive capacity of land. It is certain that under irrigation this will become one of the richest agricultural sections of the world, and the faith of the Government is pledged to provide a complete and adequate water supply and protection from floods.

THE SALT RIVER VALLEY.

Here is the largest body of cultivated land in Arizona, and the most highly developed. It is an oasis of palms and fountains, of orange groves and orchards and green meadows set in the midst of the desert. The Salt River and the Verde flow from the north, and the valley they water is about fifty miles long and will average fifteen miles in width, so that here are nearly a half million acres of delta land.

Not all is irrigable, and at present only about 125,000 acres are in cultivation. Other lands have been reclaimed, but water has not been sufficient for their cultivation at all times. The remedy again was storage reservoirs, but these were too costly for private enterprise, and the Government is simply doing what private capital was unable to do. The reservoir which is being provided will not only supply all deficiencies, but irrigate an additional 75,000 acres. It is believed that the reservoir, once filled, will provide for three years' needs, if no more water should be added from the natural sources. This will make an

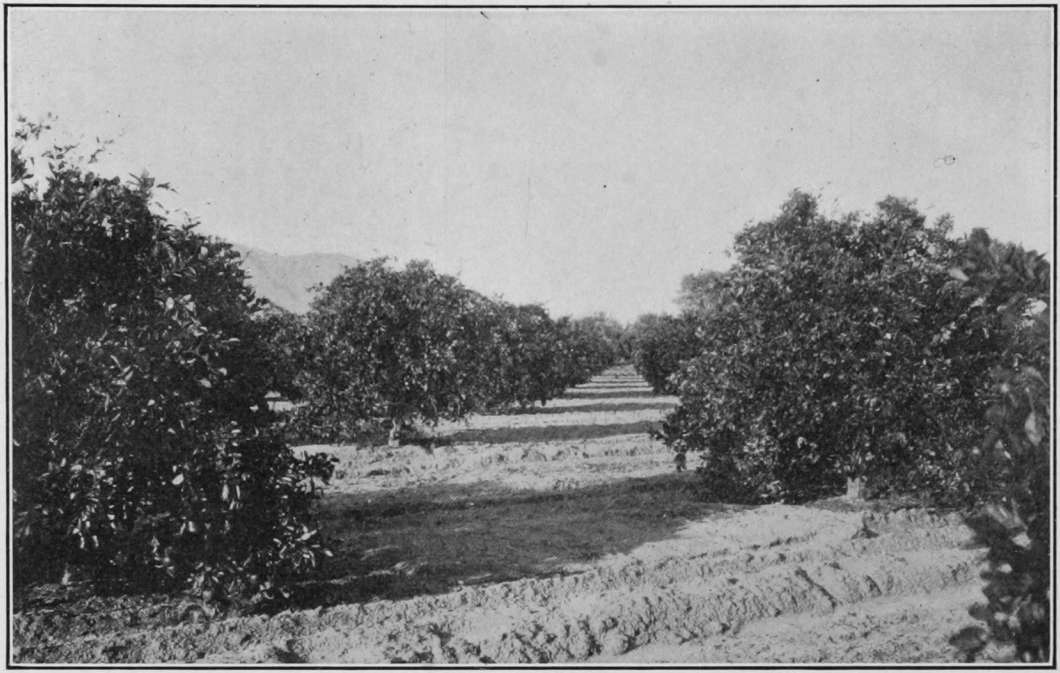


Grand Canal, Salt River Valley

Onion Garden, Salt River Valley

almost ideal condition, and, as under the Yuma system, water will be supplied for but 160 acres to each owner. This again will lead to subdivisions, and land will be for sale to outside parties. It will be higher in price than the Yuma lands, owing to the surroundings and the proximity of a larger city, but new settlers will find room and the opportunity of a lifetime.

This valley has been cultivated for forty years, and before that time by some prehistoric people from time immemorial. They made it the granary for an immense population, and the lines of their irrigating canals are still to be traced. Experts say that the fine sedimentary soil of this valley has been spread by irrigation hundreds of years ago. But whatever the history of this valley, it is today one of the beautiful and productive



Orange Grove, Salt River Valley

gardens of the Southwest, and the full supply of water now assured will greatly add to its population and its prosperity.

Here you may see what irrigation does. You may see the wild lands—the lands we call desert—on one side of the road, and on the other the fields made fair by cultivation. The canal by the roadside is the dividing line for some distance between the barren, desert waste on the one hand and the luxuriance of a semi-tropic garden on the other. It is worth going far to see the change wrought in the desert by the turning on of water.

The great irrigating works of the Reclamation Service will be completed within two years. The cost of delivering water under the Tonto Basin system is not yet determined. It will be paid, as at Yuma, in ten-year installments, and in the meantime, while the great dam is being finished and canals and tunnels provided, the perfection of the system and the natural attractions of the valley will tend to advance the price of land. Lands can now be bought for as low as $65 an acre, but prices depend upon location.

WATER AS A FERTILIZER.

The intelligent farmer will ponder the situation here and at Yuma. He will properly emphasize the value of the system provided by experts, unhampered by questions of cost and backed by the Reclamation Service of the Government. He will consider, too, the character of the soil, and he will remember that such soil, irrigated by silt-bearing streams, never wears out. This is the testimony of the most ancient nations—the Egyptians on the Nile, the Babylonians by the Tigris and Euphrates, the Hindoos by the Ganges and the Indus, the Chinese by the Hoang-ho and the Yang-tse-kiang, and the mysterious people who farmed the plains of Arizona. It is calculated that four average acre-feet of Colorado River water at Yuma will add about one-quarter of an inch of soil each year. The Salt River carries less silt, but sufficient to constantly enrich the land. A deficiency of the desert soil is nitrogen and organic matter, except under irrigation. The rivers supply this without expense to the farmer, a summer flood of the Gila being known to carry 172.3 pounds of nitrogen in the alluvium contained in

Almond Trees in Arizona, near Mesa

an acre-foot of water. Different observations have shown that the amount of nitrogen in sediments has ranged from 4.8 pounds in an acre-foot in the Colorado to 5.5 pounds in the Salt, to 28.1 pounds in the Gila.

"These facts," Professor Forbes, of the Arizona University, says, "merely serve to give definite form to the knowledge, as old as human history, that river irrigating sediments increase the productiveness of the land."

The cost of fertilizers in the Southwest is thus eliminated, and no severity of cropping will wear out the land. Indeed, the Laguna dam is constructed so as to eliminate a part of the sediment. This dam is 4,750 feet long, 250 feet wide, and but 19 feet high. It is an overflow weir dam, and its great length is desirable in order to pass the waters of the Colorado over it in a broad sheet of shallow depth. The accumulating sediment will be sluiced out at the ends of the dam and not allowed to pass into the canals. The great dam creates a broad reservoir, which acts as a settling basin. But the sediment which no en-

gineering device can arrest, and which is wanted upon the land, sediment rich in decomposed granite, rock-dust and storm-sweepings from grazing districts,—this the practical farmer and orchardist will keep in mind in buying these lands. He can work them a lifetime, bequeath them to his children, and they can pass them on unimpaired. The farmers will wear out, but the soil never. How much is such land worth?

IRRIGATION AND THE PIONEERS.

It is worth something to a man's peace of mind to be under the irrigating systems now being provided by the Government in the two great valleys of the Territory. But if one wishes to see how the early settlers have managed, or came to locate in some of the smaller valleys, where land may be purchased at lower rates, it will pay to visit some of the older communities in the Gila, the San Pedro or the Santa Cruz valleys. In the Gila Valley, in Graham County, we found five or six towns wholly supported by the agricultural settlements around them. The valley here is about forty miles long by from two to ten miles wide. The soil is the usual sandy alluvium, the deposit of the rains and the river, and we have never seen finer fields of alfalfa or more thrifty orchard trees. From Solomonsville we rode to Safford, Thatcher, Layton, Pima, seeing all along the road broad, level, green fields and promising orchards. The staple crop is alfalfa, and at one point the road led through a dozen miles of it, broken only by an occasional orchard. Landowners, agents and merchants alike assured me that here alfalfa land was worth $100 an acre as an investment, and that, where all the labor was hired, it would pay 10 per cent. per annum. It rents for $10 an acre cash rental, or for one-half of the crop. The pasture, after cutting six or more crops, carrying the harvest up to November, will pay taxes and water rates.

OLD-TIME FARMING.

Barley, wheat and corn are raised, the last named following a crop of barley the same season. Sweet potatoes are very

Thoroughbred Stock — an Important Industry in Salt River Valley

profitably grown; and poultry, the dairy and hogs here make a good combination. The mining towns afford a good market. Apples do well here, the elevation being about 3,000 feet, which will generally secure a superior apple in this climate.

Horse-raising is followed; graded cows are being introduced; and a creamery is being established. "The only place I ever saw," said one to me, "where all of the farmers have money all the time." It is a tribute to the wisdom which produces a variety at once for home and market—corn, pumpkins, apples, squashes, sweet potatoes, barley, wheat, alfalfa, fat cattle, horses, milk, pork, dairy products and honey. The water in the irrigating ditch and the almost uninterrupted growing season, mean something always maturing to turn into cash.

The Santa Cruz is a smaller valley, but with similar conditions. It heads in Old Mexico and reaches up beyond Tucson. Here, close by the city, is a large ranch, watered from the little river, and devoted to the production of milk and butter and

graded stock. The waters of the Santa Cruz mostly disappear before reaching Tucson, but are easily reached by wells, and pumping plants will make an extensive acreage available at various points. On the train, as I went up to Nogales, I got into conversation with a young man—almost a boy—who had been "taking in" the cities of Phœnix and Tucson, and who confided to me that he had a hundred tons of alfalfa to sell. It was worth $15 per ton in any of the markets. Here, too, corn and barley were raised, but this young farmer said that he could always get about 7 and 10 cents per pound for his hogs alive and dressed. Given alfalfa for pasture and a little corn to harden the porkers for market, and there is "good money" in such farming. Prosperous farmers are scattered all along the narrow valley, and the mining towns near by make the best home market in the world.

The Santa Cruz is a mission valley, and the old church of San Xavier del Bac, built by the Jesuits in 1678, stands near

Palm Drive, Blaisdell Ranch, near Yuma

Mission San Xavier del Bac, near Tucson

Tucson, still in good repair. Mission valleys were always chosen with an eye to their beauty and advantages, and this one deserves the attention of the home seeker.

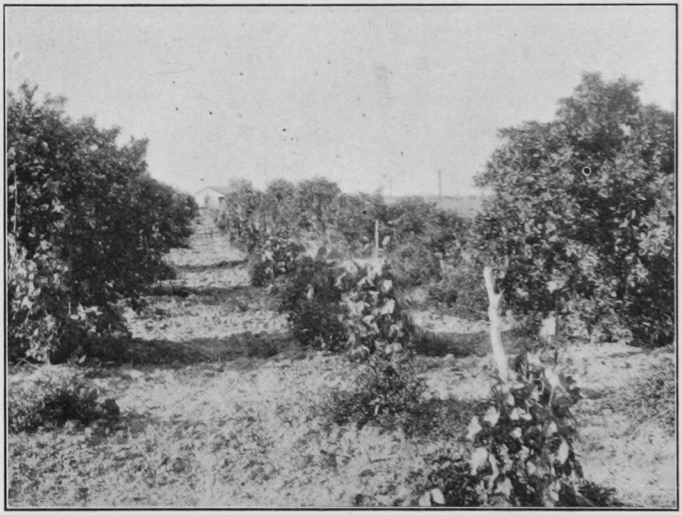
Here are numerous traces of former occupancy and evidences that the ground was cultivated. The bottom lands are very rich, and it is believed that 30,000 acres can yet be irrigated from the sunken waters of the river.

The Rillito Valley merges into the Santa Cruz just north of Tucson. It skirts the foothills of the Catalina Mountains for many miles, and has a good many substantial homes. Hay, grain, fruits, vegetables and other products are supplied to the Tucson market. Strawberries and melons are unsurpassed.

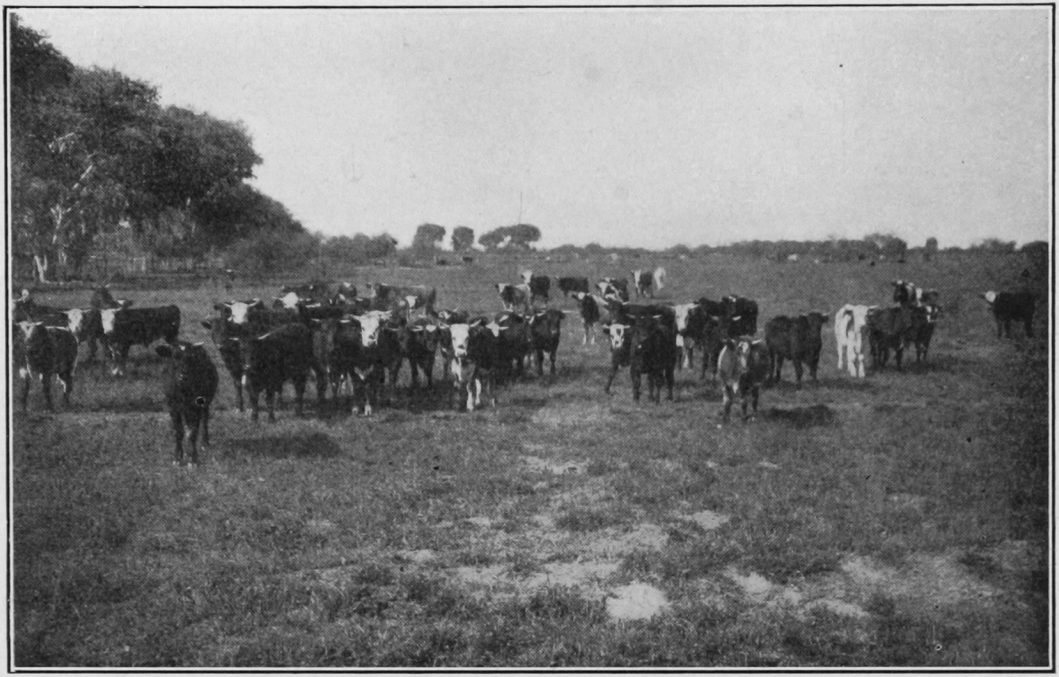
The San Pedro is another southern valley, quite in the

southwestern corner of Arizona, but stretching north even to the Gila. It is forty or fifty miles long, but wide only in spots. It is well settled, chiefly by Mormons from Utah, whose energy and push have made them substantial farms. Irrigation is provided from the river and from artesian wells. The valley has created and supports St. David and San Marco, and furnishes supplies to Fairbanks, Tombstone, Bisbee, Waco and Douglas. Little has been done in planting orchards, but the indications are that fruit and nut trees will do well. Potatoes and beans, melons and berries, all kinds of vegetables, wheat, barley, corn and alfalfa are products of the valley.

Other small valleys are the Buckeye and the Arlington, southwest and west of Phœnix, and irrigated from the Gila. The community at Buckeye is prosperous, raising cattle and hogs and feeding alfalfa. Only about 11,000 of the 17,000 acres



Oranges and Vines — Typical Scene in Salt River Valley



Beef Cattle in Alfalfa Field, Salt River Valley

under the canal are in cultivation. Arlington cultivates a much less acreage, and feeds cattle and produces hay for market.

A REORGANIZATION.

The Casa Grande Valley irrigating canal has been enlarged, after long disuse, and there is good prospect of returning prosperity. A new intake has been built into the river through solid rock, and water will be stored in a reservoir covering 1,940 acres. About 25,000 acres can be irrigated under the system, and to this extent we believe the supply of water to be adequate. The purchase of land will include a water right, and it is proposed after five years to turn the entire stock of the corporation over to the purchasers of land, who will thereafter own and control its property and affairs. Meantime the cost of water per year will not exceed the cost of maintenance and operation. The valley is rich, and, with a good water system, properly administered, will again be properous.

These are examples of irrigation in private hands, and they cover the agricultural lands available under present water supply. But water can be developed and much land reclaimed. It is chiefly a question of personal energy and of being on the ground and familiar with conditions in order to create a productive farm where none now exists.

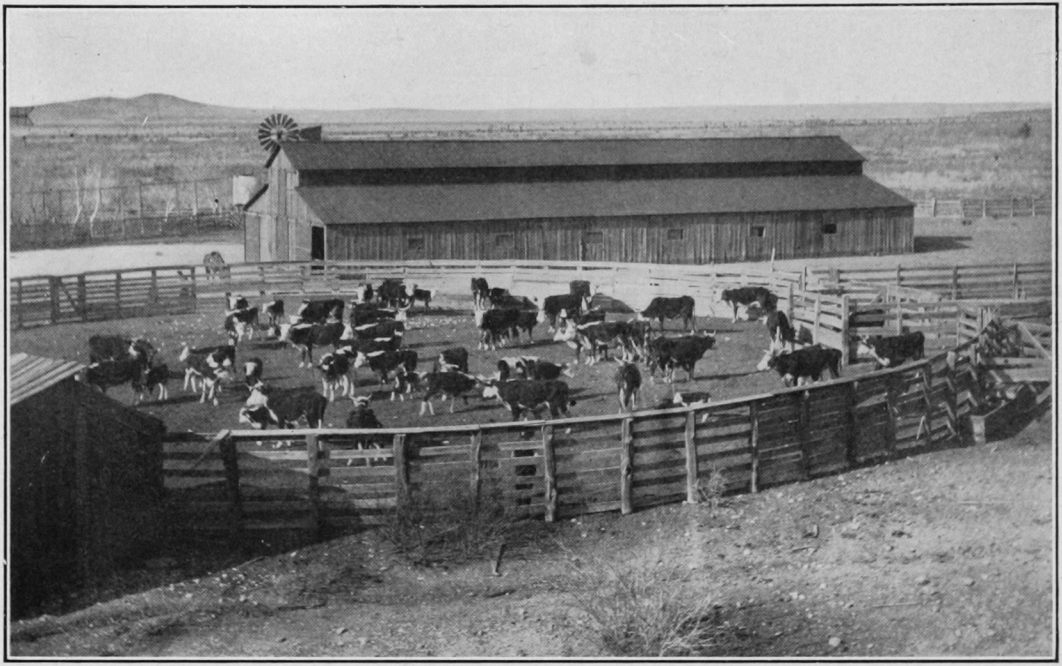
WHAT IS IN IT FOR ME?

Most men must first debate the situation from a distance, but the real opportunity is for the man on the ground. That is to say, some time should be given to "looking around." Every man on a good farm in Arizona today has a good thing, and he got it for the most part by being able to "jump at the chance" when it offered. In a general way it may be said:

There are public lands here and there that can be irrigated.

There are opportunities in the Yuma and Salt River valleys, never to be repeated.

There are large holdings to be broken up, under good water rights.



Cattle in San Simon Valley

There are artesian belts to be extended by new borings and pumping plants to be installed wherever sunken rivers can be reached.

There are dissatisfied and unsuccessful men to be bought out. Mexicans, who only half cultivate the tract they own; restless people, who will sell because they "want to move."

These are but hints of chances, opportunities, invitations, which meet the wide-awake man who is on the ground and in position to accept them.

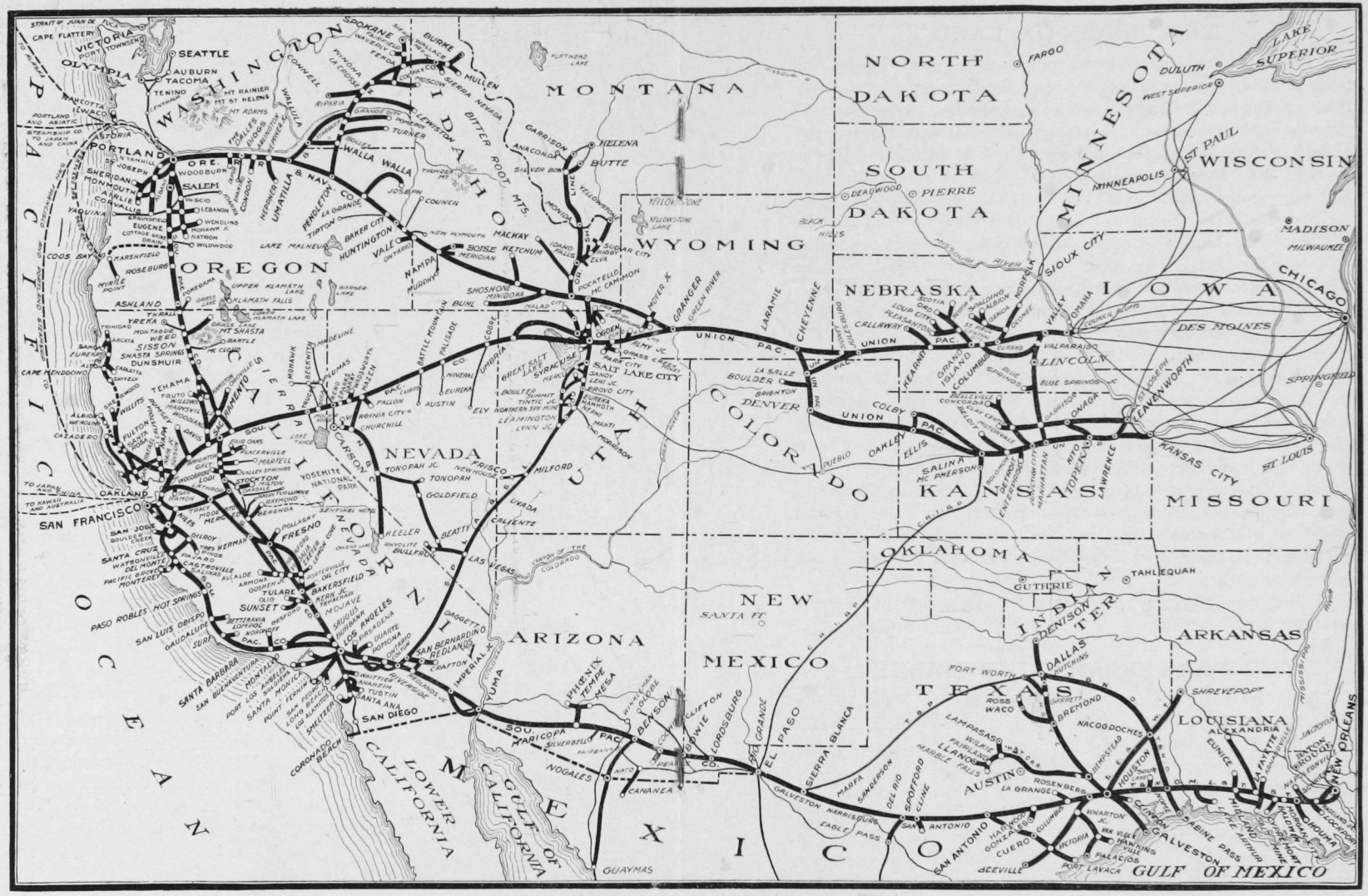
To be a little more definite:

The sunken streams furnish opportunities. They have in them homes, farms, whole communities. They can be dammed, or wells can be sunk and the water lifted to the surface in a hundred places. Neighbors can unite in this, and the cost be divided. A pamphlet published by the Arizona University, and for free distribution, gives details as to cost of pumping plants and the expense of lifting water, so that no man need experiment or risk losing his money in a field with which he is not familiar. On the Santa Cruz near Casa Grande, on the San Pedro and the Middle Gila productive farms can be made in many places at small cost. The land to be so irrigated can generally be had for a few dollars per acre.

Along the foot of the Graham Mountains many—perhaps a hundred—farms have recently been located on public land and irrigated from artesian wells. The region is not all occupied.

At Fort Thomas there is excellent land that can be put under a ditch already built, but fallen into neglect. The energy necessary to clear up the brushy land and reorganize the water company is the chief thing. The land is rich, but low in price—$25 to $35 per acre—and the town will take on new life as soon as the farm lands are put under cultivation.

Near Thatcher a small stream can be impounded and several hundred acres watered. It is a proposition that an energetic man could develop with small capital. In both these cases, for more specific information, the agents of the railroad at Fort Thomas and Thatcher will, I am sure, answer any inquiries.



Southern Pacific and Related Lines

THE PRICE OF LAND.

But little satisfaction can be given those who inquire the price of land. So much depends upon the location, the improvements around it, its income-producing capacity, the promise of growth in the community, that the inquirer at a distance is not able to determine whether the price is low or high. If it be thought that, after paying the cost of water to the Government and paying the price asked for land, the newcomer has paid well for his farm, the answer is that that depends upon what it will produce. Land that seems high may have a high-producing power. One acre, as we have pointed out, may equal in value two or three acres in unirrigated regions and under harsh climatic conditions. How much would you be willing to pay to have your crops guaranteed every year against failure? Yet this is what irrigation does. How much would you pay for "good growing weather" protracted from March to December? Yet land in such a climate is worth more than land where the vagaries of the weather are often the farmer's worst enemy. Here the growing season is practically all the year, and with water in a land where water is precious and the land to be irrigated is limited in amount, it is difficult to determine the values that may be put on such land. Land gets its value because somebody else wants it, and with an increasing demand from a growing population somebody always wants it. There is not enough to go around.

Then, too, where land is cheap the opportunity to earn a living is usually small.

THE FARMER AND THE MARKET.

This is a short chapter, but an important one. The Arizona farmer has a good home market. It is a market often directly at hand. The middleman is left out. Here are the mining camps, the mining towns and cities, located in every instance among rugged surroundings where nothing can be grown, nor even a cow and chickens be kept with profit. Large numbers of people who are well paid must be well fed. The miner pays, and pays in coin. These mining towns want all that a farmer can produce. They are fairly permanent, often large and grow-

ing, accessible by roads and railroads, and a farm within reach of one of them insures a good income. It is only a question of intelligent management.

This is the supreme advantage of the farmer in Arizona. In the nature of things his numbers are limited; there is no danger of over-production while his markets are at the door and are steadily growing. Farmers in Arizona will get better prices and come nearer having a monopoly of products than in almost any other section of the Union.

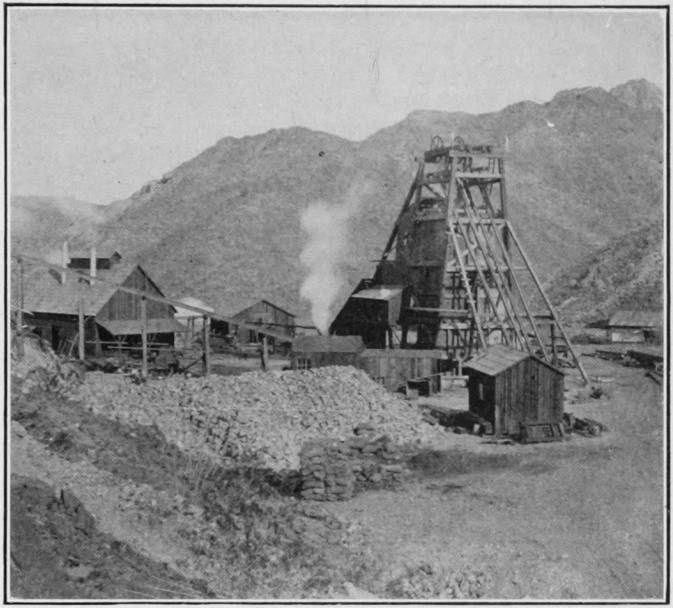
ON THE RANGE.

Stock raising is a large industry in Arizona, but the man who follows it on a large scale or on the open range must understand his business and know the country. It is both a profitable business and a perilous one, and the man who essays it without knowing the game usually gets more experience than money.

Over wide areas in Arizona the range has been overstocked, and the native grasses killed out. Now, whatever grass there is must grow each year, and this leaves the range at the mercy of the seasons.

Practical men recognize that the days of large herds on the open range are numbered. The range today is almost wholly occupied, and while the cattle industry is still a large one, the tendency is to have smaller herds, better stock, better care, and, perhaps, later on, enclosed pastures. The alfalfa field will be a large partner in the business, and the farmer will keep more stock, feeding the hay he raises and turning off fat cattle instead of baled hay. Save in this way, there is not much room for expansion of the cattle industry.

There is room in localities for sheep growing, and the Angora goat is said to be profitable, but cattlemen are the traditional enemies of sheep and goats. The breeding of high-grade horses is engaging attention, and is a profitable industry in the valleys. The climatic conditions favor it, alfalfa and barley are easily grown and no shelter is required, save the slightest. In the higher localities, at from 2,500 to 4,000 feet, alfilaria, the "filaria" of early California, is getting a footing, and will sup-



La Fortuna Mine, near Yuma

ply much feed. It is easily sown, and a rancher with some untillable land could soon supply good feed for a flock of sheep, and carry these profitably as part of his stock. The sheep themselves will soon spread this particular pasture, and it supplies nearly continuous feed from February to June.

There are good openings in all these lines for the men who know how, and a paying industry can be built up in a hundred localities with little capital at the start.

THE LAND OF THE MINER.

The mining industry holds first place, and Arizona's vast mineral resources show no signs of exhaustion. Apparently mining is a permanent feature of the industrial life of the territory, and is still in its infancy. It is not our purpose to dwell upon

this part of Arizona's wealth. Her fame rests on it, and it needs no exploiting. Miners deal so directly in the precious metals that they need no advertising. We make use of them here as a background for presenting the advantages of Arizona to men who till the soil. If some one says that Arizona is not an agricultural country, we reply that any country is agricultural which has a fertile soil and people with sense enough to cultivate it. Here the work of the farmer, the fruit grower and the stock man has behind it a well organized and highly prosperous industry.

Gold and silver mines surrounding the old missions were worked as early as 1736, but the European rush did not begin until 1853. In less than thirty years, in the face of hostile Indians, Arizona had reached third place in the list of gold producing States, and in 1882 put nearly $10,000,000 into the commercial veins of the world.

A party of early prospectors dug out $1,800 in nuggets with their knives in one day, and the "pocket" finally yielded half a million dollars.

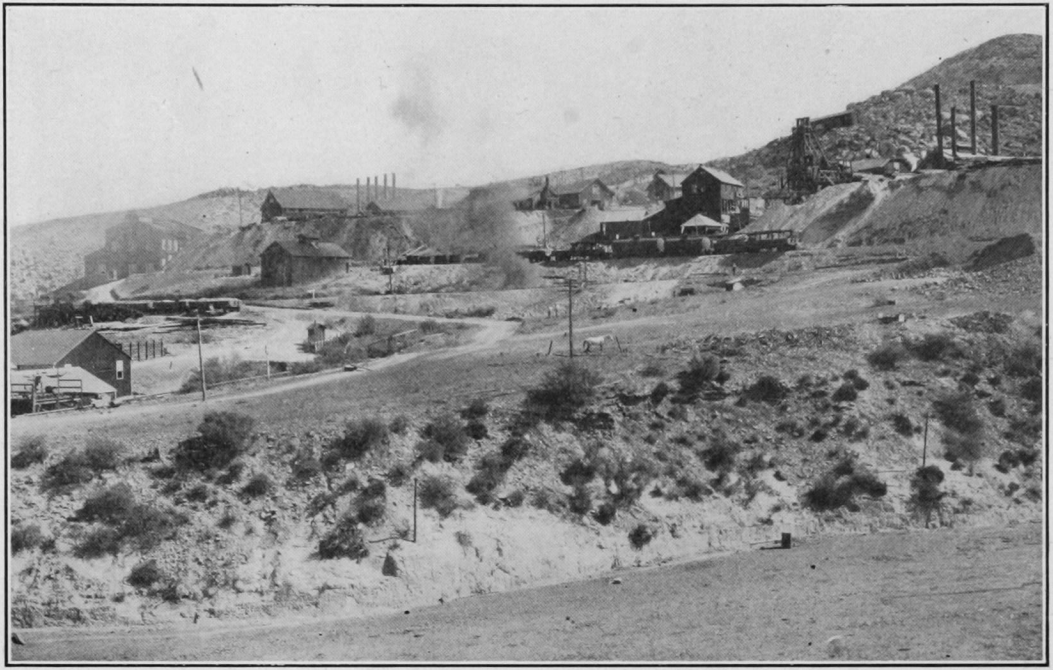
The Weaver and Lynx Creek districts yielded a million dollars each in a few years, and the ore of one famous mine was so rich that the miners were required to strip and be searched before leaving the mine. Its total product was about $16,000,000.

Gold is found here both in quartz and in placers, and is very generally distributed.

Silver was early found in great masses. One piece is said to have weighed 2,700 pounds. Between 1870 and 1875 wonderful deposits of silver were uncovered. Practically on top of the ground, silver ore was found rich enough to bewilder the finders, and in a few years produced millions of silver dollars. One mine alone gave up $11,000,000 before its day was done. Tombstone yielded in all more than $30,000,000, and is yet rich, the gold content of the ores increasing as greater depth is reached.

COPPER MINING.

Some of Arizona's copper mines are among the greatest in the world. It is estimated that in the last twenty-five years



Mines at Tombstone

Arizona has produced more than $160,000,000 worth of copper from her larger mines.

The Copper Queen of Bisbee is one of the mines with a world record, as also the Calumet and others. The United Verde at Jerome, is another of the world's great producers. The Old Dominion of Globe is equally famous, while Clifton, Metcalf, Morenci and Imperial are great copper centers.

The output as a whole is increasing steadily, and a copper mine, with copper at twenty cents, is something worth having. It may be more valuable than a gold mine, in that its output is regular and apt to be lasting. Copper camps become cities and are reckoned in Arizona as among the permanent industrial centers. Clifton, Morenci, Globe, Bisbee, Jerome are all important towns in the midst of vast deposits of copper, the veins of which run deep and wide.

Great mines are not located with an eye to human convenience. The miners have a saying that "it is no use wasting time to break rock on a ledge that is handy to wood, water, grass or level land," and the great copper mines are no exception. They are here amid wild and rugged surroundings and wholly dependent upon supplies from without—market towns for the small valleys and the farms of the Territory.

The counties of Southern Arizona all have considerable mineral deposits, and some of them are good producers. Yuma County shows mines in all parts of it, some of them very rich. There are a number of districts and many camps, all of which must be fed from without.

Maricopa is more distinctly agricultural than any of the other counties, but has a good many mines in active operation. Within sight of Phoenix are mineral treasures yet to be exploited, and the city is a distributing point for all classes of supplies going to established mining camps and settlements.

Pinal County has mines of great value, the Mammoth being a large producer of gold. There are more than forty patented mines in the county and considerable activity. Pima County has also patented mines, and a good many new claims are being recorded. The deposits include gold, silver and copper. The

Main University Building, Tucson, Ariz.

placers at Greaterville are extensive and are being profitably worked.

Graham County is rich in minerals, and the great mines of the Arizona Copper Company, the Detroit and Shannon companies, are located in this county. These are copper camps, but there are also mines of gold and silver. The rich agricultural section along the Gila is everywhere within reach of mining camps.

Cochise County has Bisbee for the center of its mining activity. It is a rich district, with enough farming and grazing lands to furnish supplies for the mining towns if properly developed.

Santa Cruz is the smallest county in the Territory, away down on the border of Sonora, in Mexico, and its undeveloped resources are quite extensive. Notable for its large cattle ranches, its mineral wealth is considerable, and Nogales and other towns in the county are centers for supplies of all kinds for the nearby mining districts.

This is but a rapid sketch of a great industry and is not meant to be full and complete. The first industry of the Territory is here purposely subordinated to other interests which are not so well known, but which lie at the foundation of things. The farmer is closely related to the development of the Commonwealth, and we have wanted the Eastern man, or the man from the States who is to come to Arizona to farm or raise fruit or stock, to see this background of rich mines and prosperous mining towns—a multitude of hungry people who must be fed and who prefer to be fed from the farm rather than from the factory—with fresh food rather than with canned goods.

There is a vast mineral realm yet to be prospected and developed in Arizona, and every new mining town will want about it a zone of farms. The mines will make the farmer's work more profitable, and the farmer will make the miner's life a little easier and more enjoyable. The miner wants to get away from the perpetual menu of everything canned, and hankers not so much after the flesh-pots as fresh vegetables and farm produce to put into his own pots and give a little zest to the monotonous round of a prospector's career.

University Building, Tucson

SOCIAL CONDITIONS.

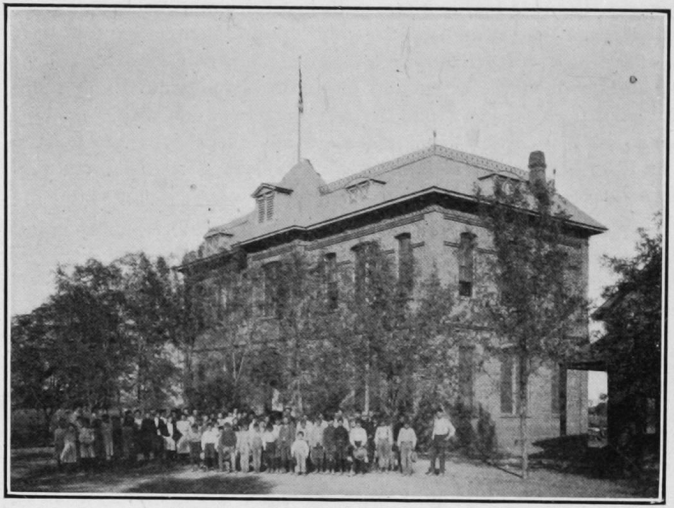
What society shall we find in Arizona? Is it not a rude country in which to bring up a family? These are questions which you will ask and ought to ask, and they should be answered with great frankness. I will not dodge it by saying that one generally finds the kind of society he wishes to find in any community, though that is true. "Birds of a feather" is a proverb based on observation and experience. But if you ask: "If I want to find good society, that is to say, people of good morals, quiet, cultivated, refined in manners and opinion, can I do so in Arizona?" Certainly. As readily as in the average community in the older States. Take the more pronounced features of community life, those which relate to social or moral order: Governor Joseph H. Kibbey says in his Annual Report: "I think I can safely assert that life and property are safer in Arizona than in many, if not in most, of the States. Nowhere, I am sure, can a man who respects himself and his neighbor and his neighbor's rights, with reasonably strict attention to his own business, go

about with more freedom and with greater confidence of personal safety than he can in Arizona. Locked and barricaded doors are in most parts of Arizona a novelty. The professional thief, as he is known in the older and more thickly populated communities, is almost unknown in Arizona." This is probably an outcome of the earlier days, when crime and all offenses against social order were discouraged by a very swift and sometimes irregular justice. Miners are not apt to stand upon ceremony nor to tie their hands with forms. Society had to make itself in the old but unforgotten days, and the law was written in the market places as well as elsewhere, and life quickly took on the nobler qualities.

Then, too, the people who came later, and who have left their impress upon the Territory, are of the Middle West and the South, from the stock that made the civilization of a vast region. Do you imagine that they have "turned themselves loose" in this free country? If you look to find "degenerate sons" you will be disappointed. Ten years ago Hon. Whitelaw Reid, now our Minister to England, said of Phoenix, a community then of 10,000 people employing in the daytime only one policeman and hardly requiring him: "During my winter there I did not see a single disturbance on the streets or half a dozen drunken men all told. And of the country as a whole, he said that one would find as many churches as in towns of corresponding size in Pennsylvania or Ohio, and probably more schoolhouses.

Dr. J. A. Munk, of Los Angeles, familiar with ranch life in Arizona, says of the people: "They will, as a class, compare favorably with those of any other community. There may be small surface polish, as the world goes, but there is much genuine gold of true character that needs only a little rubbing to make it shine. Men from every position in life, including college graduates and professional men, are engaged in ranching, and whoever takes them for a lot of toughs and ignoramuses is egregiously mistaken."

Dr. Munk's observation that "the favorite haunt of vice and crime is not in a sparsely settled community * * * but in the centers of population," is absolutely correct, and the Eastern settler who begins by suspecting his Arizona neighbor, will end



District School, Maricopa

by watching himself. The quality of the home life we bring into this new country is important, and if we care for the best things we shall find plenty who will agree with us.

A "pointer" of some value is the Women's Clubs. The Arizona Federation has a considerable membership and twelve clubs are included in it, distributed through ten towns and cities. Their object embraces town improvement, self-culture, domestic science, literature, art, music, history, civics, philanthropy, current events—a wide range of studies and all related to the development of society. You can count upon the silent steady influence of this club life. Constancy to an ideal—the steady pursuit of the avowed objects of club life are making women's clubs everywhere a power for good, and their strength in Arizona shows the quality and ambition of the population. You can safely trust your family in the midst of such society.

THE SCHOOLHOUSE.

The home seeker will find as much interest in education in Arizona as among the average communities of the East. The Arizonians have an efficient school system and are proud of the fact. Make a note of this, for it proves the quality of the citizenship. Both school and church are fostered in the towns and villages, as well as in the cities of the Territory.

"There is scarcely a hamlet, no matter how isolated," Governor Kibbey says of Arizona, "which does not enjoy the facilities of a public school." The severe examinations which the teachers are required to pass and the high salaries uniformly paid, help to secure the best talent.

The law requires parents to send their children to the public school between the ages of eight and fourteen years, and it is generally observed. There are a few church or parish schools, and these are patronized by a portion of the Mexican population, who cling to the Spanish tongue and the traditions of their race. Practically the only illiteracy to be found in Arizona is among the Mexicans.

THE UNIVERSITY.

The Territorial University is at Tucson. In addition to the usual studies and provisions for scientific and classical courses, instruction is provided in agriculture and in the mechanical arts, and in mining and metallurgy.

For the student in mining engineering the University offers great advantages as, while carrying on his studies and experimental work, he can see the actual operation of great mines or the development of new mining enterprises. The School of Mines offers a complete four-year course or a short two-year course in mineralogy and assaying.

The Agricultural College includes the departments of botany and chemistry, which are located in the University buildings. The Experimental Station has the departments of agriculture, horticulture and animal husbandry, and some work is done in the study of the weather and of insects, that is to say, meteorology and entomology.

School Building, Tucson

A palm grove is located south of Tempe and near Yuma, where it is proposed to demonstrate the adaptation of soil and climate for the production of dates on a commercial scale.

Near Tucson is a range station where the department of botany in co-operation with the United States Department of Agriculture is studying certain native grasses with a view to reseeding portions of the range country worn out by over-stocking.

Sugar beet plots are also maintained in the Upper Gila. The results of study and work on these stations are made known in bulletins and in "Timely Hints for Farmers," put into plain language and issued at a time when they will be most useful, making this a very practical "farmers' college"; and as the Experimental Station is a department of the University it keeps that institution closely related to the public in interest and welfare.

The University has a good agricultural library, a seed collection, greenhouse and gardens for experimental purposes, containing rare and interesting plants. A tract of forty acres constitutes the site of the University, about a mile from the city.

Tuition is free to all students residing in the Territory. The faculty consists of a president and twenty-five instructors.

NORMAL SCHOOLS.

Both the north and the south have Normal Schools, one being at Flagstaff, the other at Tempe, nine miles from Phœnix. The interest in the work of the Normal School is considerable and the attendance has steadily grown from the first. The one at Tempe was opened in 1886. Diplomas are issued to graduates which entitle them to teach in Arizona for life. These diplomas are accepted in California and other States.

High Schools are organized under a special law, one being at Phoenix, one at Mesa and one at Prescott. These are well accredited, graduates being admitted to colleges of high grade on their certificate.

Much attention is given to the education of the children of the Indian tribes, both by direct action of the Territorial Government and by religious societies. The Indian of Arizona is peaceable and industrious and no part of our common country has so many native farmers "from away back." They are farm hands and house servants, quiet, faithful and respected. Whole tribes have their children in school and are proud of their advancement.

Altogether the situation is full of cheer, and the newcomer will find the educational atmosphere very much like that of "home."

CLIMATE AND SOME OTHER THINGS.

If you ask an Arizonian about the climate in his "land of little rain," he will tell you that "it is sure fine." He knows. Those who have been longest there are the least inclined to find fault. The combination of elements which make the climate of the Southwest are unusual, and cannot be duplicated anywhere else. There is more sunshine, greater aridity, more rapid evaporation and, as a consequence, more electricity in the air.

It is hot in mid-summer, but so it is in New York. There are three months of uncomfortable weather, but you sleep nights. The sun scorches but you do not steam; you do not swelter; you

Indian School, Phœnix

are not parboiled; you do not become limp as a dish-rag; your clothes are not saturated. The disagreeable feeling of moist and sticky garments which accompanies profuse perspiration is here changed to something approaching coolness. It is due to rapid evaporation. That blue vault above you is dry. White harmless clouds may sail over the sun without obscuring it, and they can rarely muster enough moisture to produce a shower. Rain may even start to fall, but it evaporates in mid air often, none of it reaching the earth.

The percentage of sunny days is about 70. That means 256 days in the year that are sunny, while the sun shines some part of nearly every day. The winter sometimes shows less than a week of days altogether when the sun does not shine brilliantly during some part of the day.

The rainfall occurs both in mid-summer and in the winter. Showers may occur every month in the year, but never do in any one year, and the actual number of rainy days is very small. The ground freezes a little now and then during the night, and white frosts occur. Occasionally light snowfalls occur, but in the valleys, it remains but a few hours. Arizona weather is mostly sunshine. There are places in the Territory where the percentage of sunshine is greater than anywhere else in the United States and greater even than Egypt.

The winters are full of charm. The temperature averages

about 57 degrees from November to April, inclusive, the lowest being seldom below 36 degrees. An overcoat is rarely needed, and the nights are made for open-wood fires and blankets. You will not find in many places in the world an atmosphere so singularly clear, so tonic and dry or a sky so blue.

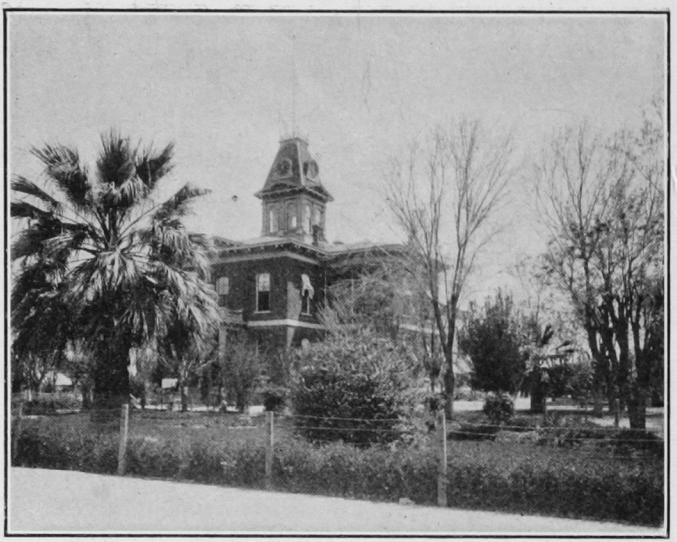
A LAND OF HEALTH.

Southern Arizona has so much that is climatically desirable and so little that is disagreeable that it has become widely known as a health resort. Every winter both the cities of Tucson and Phœnix have an addition to their population of from three to five thousand people who come here for the sake of the outdoor life that is possible. An increasing number of these from every quarter of the Union remain, explaining in part the rapid growth of these two cities, and testifying to the quality of the air they find. There is no malaria. Rainfalls are sometimes violent, but there are no hurricanes, cyclones nor tornadoes. An occasional dust storm is almost the only disagreeable feature of the climate.

Travelers say that the air of Southern Arizona has the same exhilarating qualities as the air of the great Sahara in Northern Africa, or of the deserts about Mt. Sinai in Arabia. It is much drier than most of the Nile Valley, or the parts of Morocco, Algiers or Tunis usually visited, and is vastly better for the larger part of the year than Nice and Mentone in the South of France.

HOT SPRINGS.

We visited the Indian Hot Springs of Alexander Brothers in Gila Valley, finding a good hotel, with dining-room and bath house apart, but convenient. The hotel is of stone and brick, three stories high, and has private baths. There are ten mineral springs close by, both hot and cold, furnishing a million and a half gallons of water daily. The temperature of most of the springs is 124 degrees. and analysis shows bromide and sodium carbonates, iron, etc. These springs were widely known among the Indians, who came long distances to use them. A mud bath, an outdoor swimming pool of large size, a fish pond, shade trees,



Court House, Phœnix

lawns, tents and cottages, saddle ponies, game—black tailed deer —in the immediate vicinity, make the place attractive as well as physically profitable to visit. Competent attendants are employed, and the waters are said to be highly beneficial in cases of rheumatism, gout, dropsy, liver and stomach troubles and affections of skin and blood.

The altitude is 2,800 feet, and overlooks the Gila river and valley. It is reached from Bowie, on the main Southern Pacific line, the traveler taking the Gila Valley, Globe and Northern Railroad to Ft. Thomas, or being dropped at the crossing, a flag station two and one-quarter miles from the hotel. Patients will be met at either place.

The Aqua Caliente Springs are also well known and highly valued. They are in the southwestern part of Maricopa County, one and one-half miles north of the Gila River, and twelve miles north of Sentinel station on the Southern Pacific, with which the

Springs are connected by stage. The springs are numerous and vary in chemical constituents. The resort is patronized for rest and recuperation, as well as for relief from various forms of disease.

These springs have the advantage of being set in the finest air for the invalid, and life for the most part can be passed in the open both day and night.

PREHISTORIC RUINS.

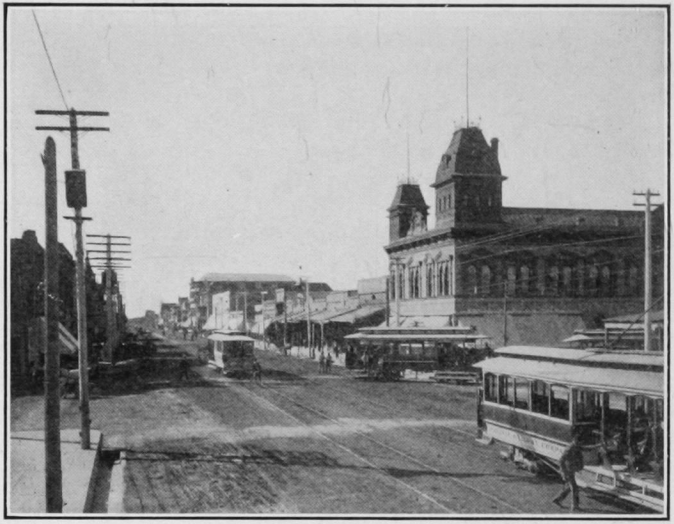
About eighteen miles from Casa Grande, on the Southern Pacific, are the ruins of the same name. The ethnologist of the Smithsonian Institute at Washington, Dr. J. W. Fewkes, under appointment by the Government is, at this writing, with a corps of helpers, uncovering the walls which surround the "grand house," a portion only of which is still standing. It is not known how old this house of four stories is. The wall around it is about 400 feet long, a rectangle, and inside it were many rooms. The once irrigated fields of the mysterious people who lived here spread away for miles. Originally there was a town or village here. The ruins are well worth a visit, and this can be cheaply made from the station.

ARIZONA TOWNS.

This booklet is occupied with the country-side, the soil and the products, and the opportunities and advantages of agricultural life. We have space for but brief mention of the principal towns. Generally these publish folders or booklets of their own, presenting in an attractive way the facts which people seeking information wish to know. A card sent to the Chamber of Commerce or Board of Trade will be glady responded to, and promptly. Yuma, Tucson and Phœnix publish attractive booklets. Send for them.

Phœnix.

This is the Territorial capital and the county seat of Maricopa County. It is a city of 15,000 inhabitants, and has a transient population of from 3,000 to 5,000 tourists who



Washington Street, Phœnix

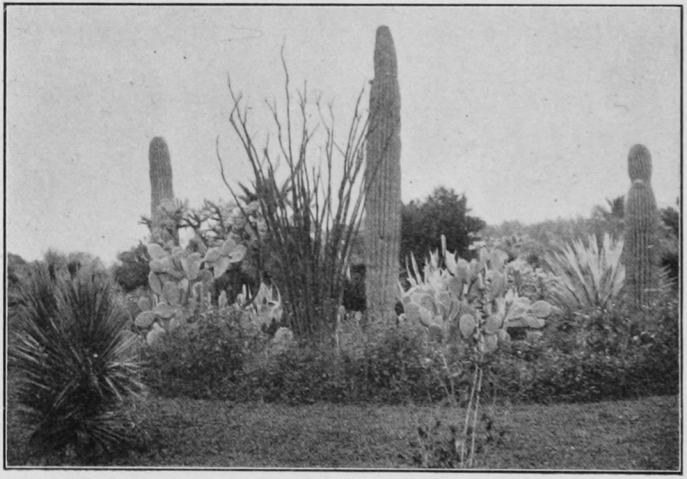
spend the winter here. It is the metropolis of Salt River Valley, the most beautiful and extensive irrigated body of land in Arizona. Phœnix is, therefore, in the midst of a farming and fruit-growing district, and its "back country" is both productive and attractive. The irrigation of larger areas, now possible by reason of the great Tonto Basin, will increase the productive countryside now tributary and insure the growth of the city. It is laid out with wide streets; residence avenues are well shaded; and public buildings stand in the midst of parks.

Five lines of trolley cars make access convenient to all parts of the city and suburbs. Telephone, electric light and power, gas, ice factory, creameries, machine shops, three daily papers and several weeklies, a well-equipped public library, high, grammar and ward schools, private and parochial schools, an industrial Indian school three miles out, three

theatres, a country club, twelve churches and many fraternal organizations represent the city's varied features.

The Capitol building is substantial and attractive, surrounded by fine grounds full of characteristic trees and shrubbery. Five acres are laid out and planted to trees. Phœnix has an elevation of 1,080 feet, and its encircling hills and southern exposure give it an attractive winter climate.

Phœnix has a deserved reputation as a health resort. Here is a warm, dry air, comfortable hotels and boarding-houses, good society, luxuries of many kinds, the freedom of all-out-of-doors—the charm of the wilderness with the refinements of civilization. Many come here for health, find it, and stay on. The attractions of the climate alone will make Phœnix a city of importance. The Board of Trade and the Commissioner of Immigration for Maricopa County issue excellent folders and pamphlets which give all necessary information. They will be sent on application.



Cactus Garden, near Phœnix

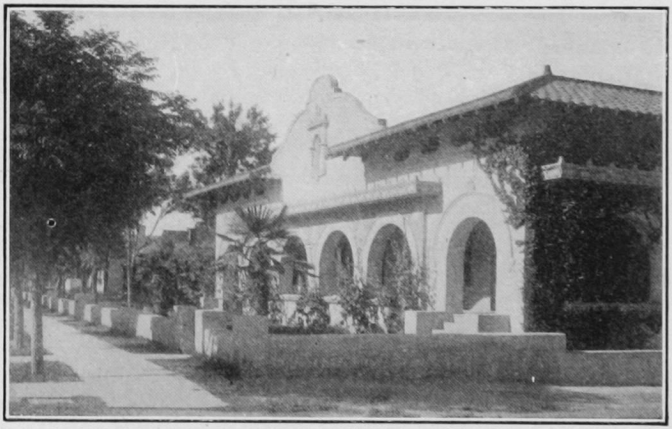
General View of Tucson

Tempe.

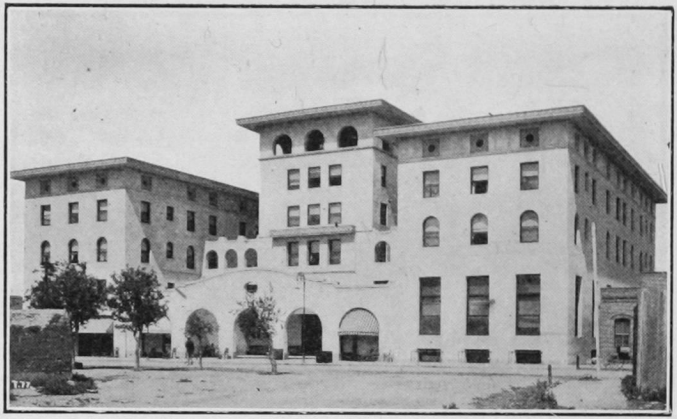
This is a pretty little town of 1,500 inhabitants, nine miles from Phœnix, on the south side of Salt River. It is the center of a rich agricultural district. A twenty-acre date orchard has been set out by the Government near Tempe, and more than a score of varieties imported from Morocco have been brought into bearing. A Territorial normal school is located here, with a group of commodious buildings and well-laid-out grounds. Tempe is already a prominent community and one which is rapidly advancing.

Mesa City.

Is sixteen miles from Phœnix and is the nearest railroad point to the dam site in the Tonto Basin. A road has been constructed from here to Roosevelt, the construction camp in the basin, and furnishes sixty miles of fine mountain scenery. Mesa has a population of 1,200, and over 700 children are enrolled in the schools.



A Tucson Residence



Santa Rita Hotel, Tucson

Tucson.

This is at once the oldest and the newest of Arizona towns. "The ancient and Honorable Pueblo" of the sixteenth century has become a modern city, and is growing rapidly. It is the seat of Pima County, located on the main line of the Southern Pacific about 500 miles east of Los Angeles and 300 miles west of El Paso. Great building activity has marked the past two years. The natural resources of the region and the attraction of the climate will keep up the growth which has begun.

Here are both agricultural and mining resources and an educational center of consequence. The Territorial University is located here, and excellent public schools. Tucson is also a railroad center of considerable importance. The general offices of the division superintendent of the Southern Pacific are here, and large machine shops. The pay-roll calls for the distribution of over $100,000 every month. An extensive passenger depot is being erected and a club house for railway employees has been completed. A new freight depot of immense capacity will soon

be completed, with city delivery tracks. A direct line south from Tucson to connect with Southern Pacific extensions is now being built into the richest States of Mexico and on directly to the capital city itself.

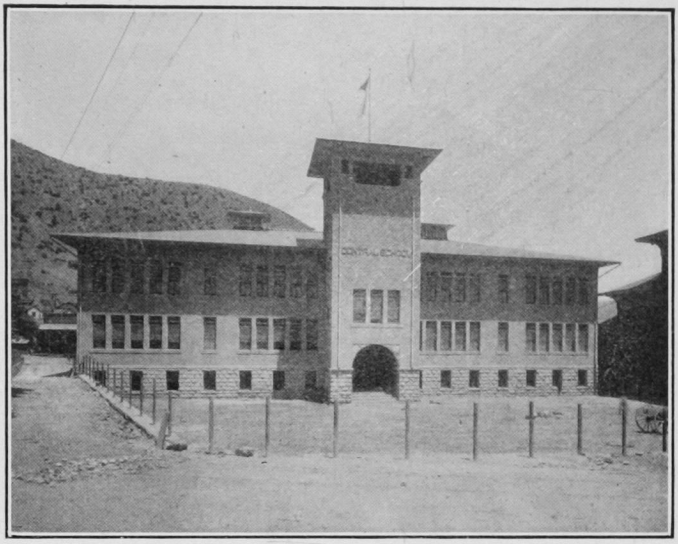
The climate attracts the health seeker. The people of Tucson claim that the climatic conditions are unequalled. During the warmer months of summer the mountains are cool, easily reached, and have several attractive resorts. The streets of the city are well shaded and some of the best hotels of the Southwest are here. The invalid can find luxurious quarters or pleasant yet inexpensive boarding-houses, but many live for the most part in the open air and not a few find tent-life wholly comfortable. A desert laboratory, devoted to the study of desert plant life, attracts much attention from scientists. A Carnegie library is also here.

For those wishing good schools or the advantages of the university where a mild climate is desirable for some member of the family, nothing in the West is more promising or interesting than Tucson. It disputes with San Augustine and Santa Fe the palm of seniority among cities in the United States, but is so new and modern as to surprise the visitor. It is a place of elegant residences and fine hotels, and the characteristic vegetation of the country affords them charming settings.

The assured growth of the city makes it a place of opportunity commercially, while the climate of this elevated plateau will always attract those who wish to escape from cold and storm to where life can be passed largely in the open. The value of outdoor air is one of the latest discoveries of modern civilization. Tucson has a population of about 17,000. Write the Chamber of Commerce for publications.

Yuma.

This is the western gateway to the Southwest. It is the capital of the county of the same name, and lies on the banks of the Colorado River on the main line of the Sunset Route of the Southern Pacific. It has considerable commercial life,



Bisbee Public School

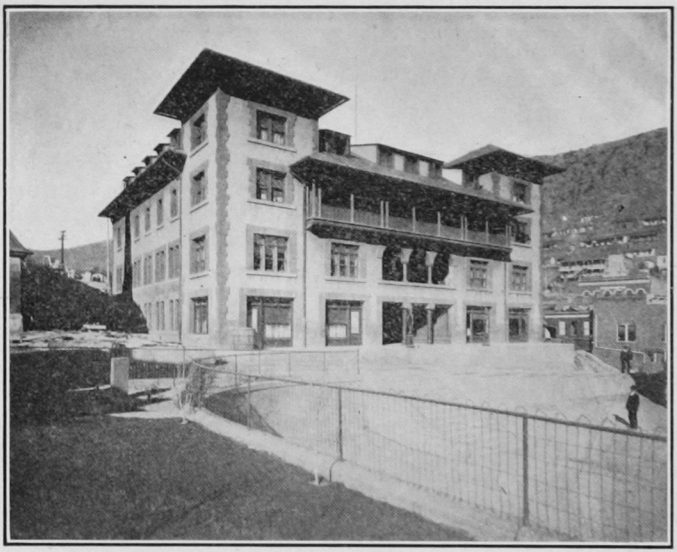
and the prospect of a greatly enlarged growth. The irrigation work of the Government, providing for the development of large tracts of land and a dense rural population, will make of Yuma a good-sized city. There are now substantial brick and stone buildings, comfortable residences, hotels, schoolhouses and good public buildings, with a present population of 2,000. The climate is full of health, and will call many here for the sake of the dry air and the charm of the rainless winters. They are as delightful on the nature side as any that can be found on the globe.

Yuma will be famous some day for its fruits, its oranges, lemons, figs and dates. That the latter will be grown here successfully seems beyond question.

The completion of the great Laguna dam will call many settlers here and insure the prosperity of Yuma. A vast country will be tributary to it, and the rich lands immediately about it, once under the ditch, will produce amazingly.

Yuma's climate has been maligned for a generation by a rude joke. Having the temperature of the desert in general, the heat is mitigated by a grateful air current which daily moves up the river, and by the deep green foliage of palms and orange groves. It will steadily be affected by tree planting and wide fields of alfalfa. Only one-quarter of the year is hot. The other summer months—for spring and fall merge with summer—are pleasant, and six months are wholly delightful.

There are no finer winters in the world than those on the Colorado, and, if summer days are warm, there are no prostrations from heat; men work in the fields as a matter of course, the dry air producing rapid evaporation from the surface of the body. Besides, we cannot grow oranges and ripen the fruit of the date palm without heat. The climate of Yuma is full of health and will not stand in the way of its growth when the waters of the Laguna dam are ready to



Copper Queen Hotel, Bisbee

be turned on the waiting lands. There is back country enough here to make a city, and the extraordinary growths that will be produced here will make the place famous.

Bisbee.

This is the wonderful copper town of the southeastern county of Cochise. It is fifty miles south of the main line of the Southern Pacific, on the line of the El Paso and Southwestern Railroad, in a rugged region, not far from the Mexican border. It has a population of nearly 16,000 people, and is distinctly a mining town. Its only industry is mining, and Bisbee is credited with being the greatest producer of copper in Arizona. The town occupies the steep slopes of a canyon, the bed of which forms the main street. Roads are carved out of the hillsides, comfortable dwellings climb tier upon tier to the very top and reach down into every little nook and corner, while handsome business blocks are erected as if there were plenty of room. Level land is scarce and front foot prices are almost metropolitan.

The copper output of the Warren district, of which Bisbee is the hub, is 12,500,000 pounds per month. The Copper Queen alone produces 8,000,000 pounds of blister copper monthly. More than 4,500 men are employed in the two great mines, the Copper Queen and the Calumet and Arizona, and many of these men are married and own their own homes. Water is piped in across the valley from Naco, ten miles away.

The Woman's Club owns its club house, and this has become a center in the social life of the town.

Manual training is part of the regular course in the schools, and there are four churches.

Douglas.

Recently the smelters of two of the largest copper companies of Bisbee have been removed to this point. Douglas is twenty-seven miles from Bisbee, and is near the inter-

Dominion Hotel, Globe, Ariz.

national boundary. It is a thriving town of about 5,000 people, and, following the location of the great smelters, has grown up with great rapidity. The ores from Bisbee, Nacozari and other points are reduced here. Douglas is on the El Paso and Southwestern, at its junction with the road running from Nacozari in Sonora, and called the Nacozari Railroad.

Tombstone.

This famous camp with a peculiar name is on a branch of the El Paso and Southwestern, a short distance from Fairbanks, the junction point. Once the largest mining camp in the Southwest, Tombstone is again becoming a place of importance. For ten or twelve years mining has been prevented below the 600-foot level by a flood of water. This is being controlled now by powerful pumps, and shipments of

ore are made regularly. Tombstone is a silver camp, but gold increases as lower levels are reached, and free gold in handsome specimens is not uncommon. Tombstone is twenty-seven miles north of Bisbee.

Naco.

This is a boundary town between Mexico and Arizona, with the dividing line running through the middle of a street. Naco, Arizona, and Naco, Mexico, are thus close neighbors. The Arizona side of the town is in Cochise County, and as Naco is the junction of two important railroads—the El Paso and Southwestern and the Cananea, Yaqui River and Pacific Railroad, and on the international boundary, it has considerable importance as a port of entry. It is but thirty miles to the great copper camp of Cananea, about the same distance to the smelter city of Douglas, and eight miles from Bisbee.

These represent an aggregate population of about 40,000 and provide a stable market for all products of the soil at top notch prices. There is an abundance of water and thousands of acres of idle land immediately contiguous to Naco can be easily and profitably reclaimed. The soil is fertile, all kinds of crops and many kinds of fruit do well. Occupied with the treasures underground, the land that will grow everything has been neglected. Naco can be made a garden spot.

Globe.

This prosperous mining town is the county seat of Gila County and has a population of 8,000 people. It has electric lights, an ice plant and cold storage, four banks, three hotels—one, the Dominion, of superior character—three schools and four comfortable church buildings. There is also a public library. Many new buildings are in course of construction, and the monthly disbursement of about $300,000 in

hard cash by the mines is the secret of much of the prosperity of Globe. Credits are safe and collections easy because incomes are regular and the population is fairly permanent.

Globe is a copper camp and has many valuable mines, of which the Old Dominion is the oldest and best known. The Phelps Dodge Company has large interests here, and is energetic, liberal in its policy, strongly organized, with great resources and perfect equipment.

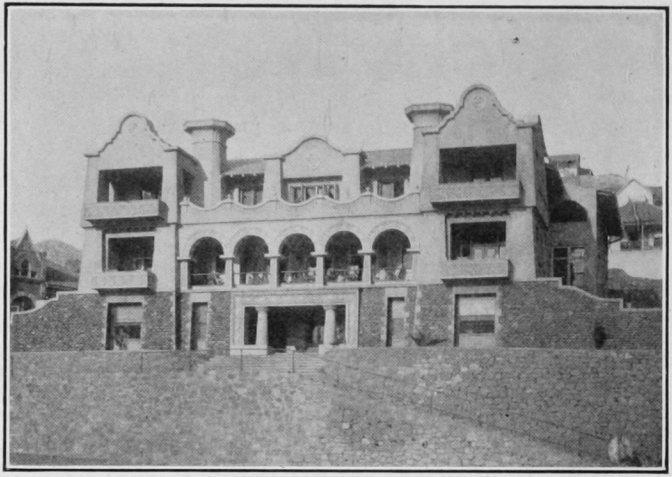
While mining is the principal source of revenue for the town, stock-raising cuts considerable figure, and in the district tributary to Globe there are about 37,500 head of cattle. Horses and goats are also raised.

The Tonto Basin, where the great reservoir is being constructed by the Reclamation Service, is distant about thirty-five miles. Some fine scenery lies along the route.

The town is a terminal point for the Gila Valley, Globe and Northern Railroad, which leaves the main Southern Pacific line at Bowie. Points beyond Globe are served by stage line. A lively town, it has a promising future. Its citizens say that "today is good enough, and tomorrow will be better."

Clifton.

This great copper camp is reached from Lordsburg, New Mexico, via the Arizona and New Mexico Railroad. It has vast underground fields of ore, and the works of the Arizona Copper Company are said to be the largest in the Territory. The works are located at Clifton, with the exception of a large concentrator, which is operated at Longfellow. This pioneer camp of the Territory is a prosperous town of 5,000 people, confined chiefly to two streets. Half a dozen companies operate here, and the active development work now being done promises much for the growth of the place. The Arizona Copper Company is known far and wide for its fairness in its dealings with employees, and the library which it provides is the gathering place of hundreds of men, for whom books and magazines and newspapers are supplied.



Hotel Morenci, Morenci

The town is picturesque, and has some good residences, school buildings and churches.

Morenci.

This prosperous camp is in the Clifton district and but a few miles distant from the older camp. It is reached by a short spur from the Arizona and New Mexico Railroad. The town has a novel situation, being built at the bottom and around the sides of a great bowl, with no outlook save where the rim is broken somewhat at a single point. Here are more than 9,000 people, and the bottom of the hill is pierced with doorways which lead to the ore-bodies. The mines are dry, clean, cool, free from damp and fumes, and the town has a good many handsome buildings. The Morenci Hotel is elegant, in the Moorish style of architecture, and has the air of an aristocratic club house. The great emporium of the Detroit Copper Company is a department store, 75 feet

wide by 150 feet long, finely fitted up and filled with all kinds of goods. The company has built and now maintains a comfortable clubhouse, and the public schools are housed in a handsome brown-stone building.

Industrial Townships.

Sentinel, Maricopa, Casa Grande, Arizola, Red Rock, Vail, Benson, Dragoon, Cochise, Willcox and Bowie are stations on the Southern Pacific main line; several of them do a large business.

Willcox is the center of the cattle industry for Eastern Arizona, and Cochise is the junction point for the Arizona and Colorado Railroad, which runs to Pearce, seventeen miles, a mining town in Cochise County.

Maricopa is the junction point of the Maricopa and Phœnix and Salt River Valley Railroad, and Bowie is at the junction of the Gila Valley, Globe and Northern Railroad.

Commercial Centers on the Gila.

Solomonsville, Safford, Thatcher and Pima are all of them rapidly growing centers, catering to the commercial needs of a rich and still developing agricultural region along the Gila River. They are provided with hotels, schools and churches, and have a population ranging from five hundred to a thousand people. Fort Thomas and Geronimo are stations further down the valley.

The Gila Valley is a farming region and these are typical country towns, the social and commercial centers of the prosperous farming communities of the valley, each enjoying the steady growth which comes with the development of the country.

Here is a land of much promise, capable of sustaining and enriching the agriculturist who comes westward to a broader and more generous field, where the earth, lying fallow through the past years, needs but small encouragement to yield its riches in abundance. Water, the magic of the modern colonist as of the peoples who once built the great canal which once turned the desert into a vast harvest field, will once more reclaim Southern Arizona to its original use and intention, a vast agricultural area.

NEW MEXICO.

The southwestern corner of this large Territory is a part of the farmer's empire of the Southwest. The time has come for a fuller development of its resources, and, as in Arizona, the Government is engaged in the development of water on a large scale.

The Territory as a whole has 300 acres of land to each inhabitant and only one acre out of every 300 is under cultivation. Yet there is a vast acreage of rich land that can be irrigated, and the climate of the southern section is half-tropical. The three counties which we briefly sketch are large, about equal in combined area to that of New Jersey, Connecticut and Rhode Island.

Grant County.

This borders at once on Arizona and Mexico, and is the largest of the three counties. In the northwestern part, the Gila River Valley offers some good land, and in the eastern portion the Mimbres River adds to the farming and grazing lands. Perhaps 150,000 acres could be cultivated, though only about 66,000 acres are now actually productive.

Lordsburg is the principal town, situated on the Southern Pacific at its junction with the Arizona and New Mexico and the Lordsburg and Hachita railroads. It is a division point on the main continental line and stands in the midst of much good grazing land. Nearly 400,000 acres in this county are still subject to entry under the land law, and not far from Lordsburg the sunken waters of the Mimbres can be raised and a considerable area irrigated. Apples in the mountain valleys will do well.

Luna County.

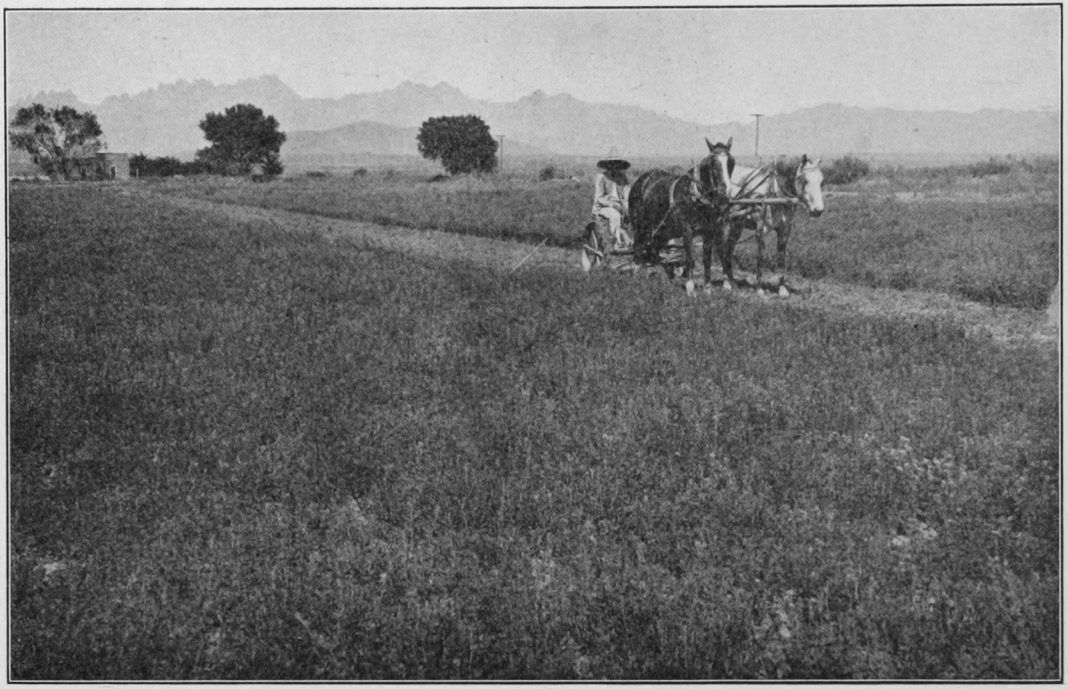
For the most part this county is an elevated tableland, producing bunch grass and other pasture, and in the season is a vast flowery plain. Four-fifths of the area is said to be public land.

Deming, the county town, has a population of about

Pumping Water on Desert, Deming, N. M.

3,000. It is situated on the main line of the Southern Pacific, is the terminal point of the Santa Fe from Rincon at the north, and has also a branch line forty-eight miles to Silver City. The El Paso and Southwestern Railway also connects Deming with Southwestern Arizona and Sonora. The Mimbres at and south of Deming is an underground stream, and small truck farms are irrigated from wells. The unappropriated land in this vicinity is being taken up; pumps and windmills will raise the submerged river for purposes of irrigation. Along the upper stretches of the river a good deal of land is under cultivation.

Deming ships many cattle and the cutting of hay on the plains brings the farmers large returns.



First Cutting of Alfalfa, near Las Cruces

Dona Ana County.

This is called the Garden of New Mexico, and, as it is about twice the size of the State of Delaware, it is seen to be something of a garden. About 1,750,000 acres are still subject to entry under Federal laws. Much of the county lies within the basin of the Rio Grande, and water is abundant to make an Eden of this region. At present the means of irrigation are inadequate and the methods of culture primitive. Lands have descended by inheritance and been divided up until they lie in strips with but a few feet frontage on the river. Much water could be developed by sinking wells, as there is a tremendous underflow.

The Government by its Reclamation Service has completed the preliminary work for a great dam at Elephant Butte and a diverting dam at Penasco Rock, by which 110,000 acres will be reclaimed.

Mesilla Valley represents the largest body of cultivated land within the Territory and Las Cruces is the chief town.

The valley of the Rio Grande is tributary to El Paso, Texas, which here occupies the extreme western part of the State, where the river separates Mexico and New Mexico from Texas. It is a city of about 30,000 inhabitants, and mining, live stock and agriculture make it an important center.

The region is one of opportunity, the price of lands low, the climate delightful and the market at hand. El Paso will become a large city. Around it is room for a population that will live by the soil. The cost of storing water here will impose a charge of $40 an acre, but the farmer who knows the situation welcomes the cost, which, as elsewhere, is distributed through a period of ten years, and will then cease. Under irrigation the farmer will have the advantage of good climate, a sure crop and large yield.

SONORA AND BEYOND.

Southern Arizona has a rich neighbor on the south. Commercial intercourse is already provided for by three gate-

ways which open into Mexico. These are the El Paso and Southwestern Railroad, connecting with the Nacozari Railroad at Douglas, and with the Cananea, Yaqui River and Pacific Railroad at Naco. From Tucson regular trains run to Nogales on the Mexican boundary line, connecting there with the Sonora Railroad to Guaymas, 260 miles. This is a branch of the Southern Pacific, and is being extended to Mazatlan and Guadalajara. From El Paso the Mexican Central reaches southward to the great cities and ports of Mexico, putting the heart of an immense and immensely rich and densely populated region in direct connection with the Sunset Route and the cities of the Southwest.

The Southern Pacific line down the west coast to Guadalajara will put Tucson and other cities of Southern Arizona in close touch with the City of Mexico. One of the richest sections of the Mexican republic lies along the Pacific Coast and the Gulf of California. This coast region includes the western slope of the Sierra Madre and a strip of lowland a hundred miles or more in width between the foothills and the sea, and is comparatively little known, even to the rest of Mexico. It is sparsely settled and its very great natural resources almost undeveloped. Supplies of mining machinery and agricultural implements, food supplies, and many other forms of merchandise will be drawn from across the border of Arizona.

CANANEA.

The great copper camp of Cananea is but forty miles below Naco, on the border, and is but in its infancy. Already 6,000,000 pounds of refined copper are sent to market every month, the production of which supports more than 15,000 people. Cananea is less than seven years old, yet is a substantial and well-built city. The agricultural wealth of Sonora is very great, to a great extent indeed unsuspected, the valleys of Magdalena, San Miguel, Sonora, Moctezuma, Sahuaripa and other rivers including much valuable land, while there are wide savannas where vast herds of cattle may graze or broad grain fields wave. and an abundant water supply at the lower end of the Sonora and San Miguel valleys.

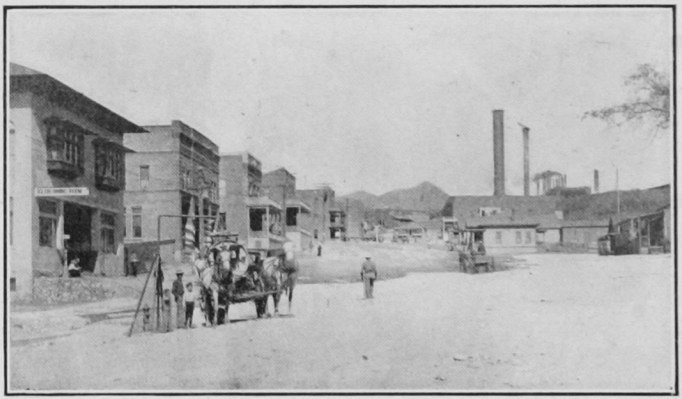
A FARMER'S REGION.

The great agricultural region of Sonora, however, is the Yaqui River Valley and the valley of the Mayo, in the southern part of the State, where broad alluvial plains, embracing several million acres, have the waters of two great rivers for irrigation. A principality is included in these two valleys and their deltas on the shores of the Gulf of California.

In many cases Sonora and the regions beyond are directly tributary to Arizona, and the border towns find their commercial relations with the south very profitable. Nogales enjoys a large trade with the interior of Sonora, with mining camps and commercial cities. There is a large trade in live stock, and several of the heavy banking houses in the interior of the republic have agencies at Nogales.

GUAYMAS.

The commercial metropolis of the State of Sonora is the seaport of Guaymas, a place destined to great importance in the world of commerce and to great popularity as a winter



Cananea, Mexico

resort. The rainy season in Sonora comes in midsummer, and the winters are said to be "unbroken successions of balmy days and delicious nights."

The fishing at Guaymas is rapidly attracting the attention of angler-sportsmen from East and West. Big catches of albicore, giant sunfish, jewfish, tuna, yellowtail, barracuda, bonito, kingfish, and other game varieties of the finny denizens of southern waters, never fail to be registered, even by those who do not rate themselves experts with the hook and line.

The entire southwest region holds much of interest to the tourist. Aside from the balmy climate, the tropical character of the foliage, the picturesque life of the natives, there are many examples of fine mission architecture well worth more than a casual visit. The remarkable progress along commercial and industrial lines is making travel for the globe-trotter more extensive and more enjoyable every day.

With the extension and development of the lines of transportation already established, the Southwest, from Nogales to El Paso, will have increasing intercourse with Mexico, and will profit by all the remarkable progress which that country is making. The period since May, 1905, when Mexico passed from a silver to a gold basis, has been the most prosperous in the history of the country. The business of the railroads has greatly increased, as fast, in fact, as they could handle it, and every railroad in Mexico has been forced to add to its equipment.

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