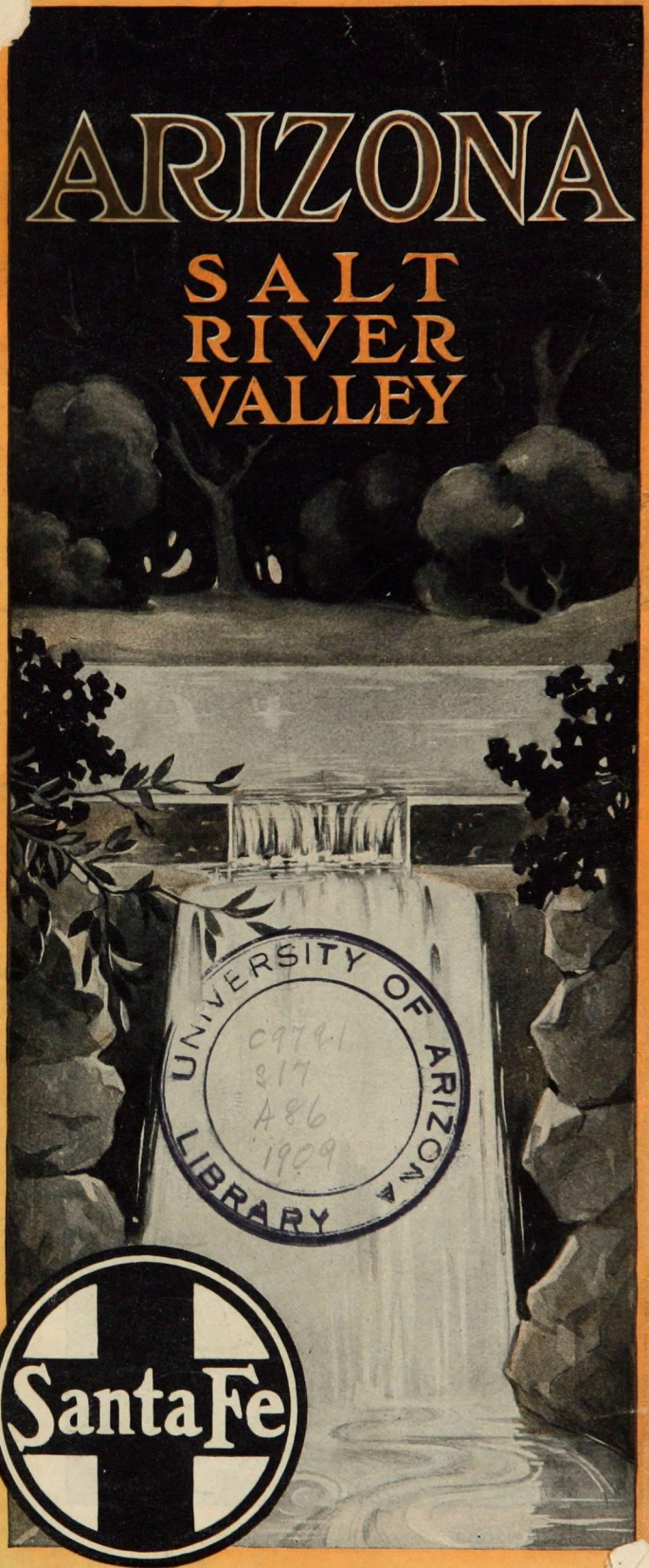
ARIZONA

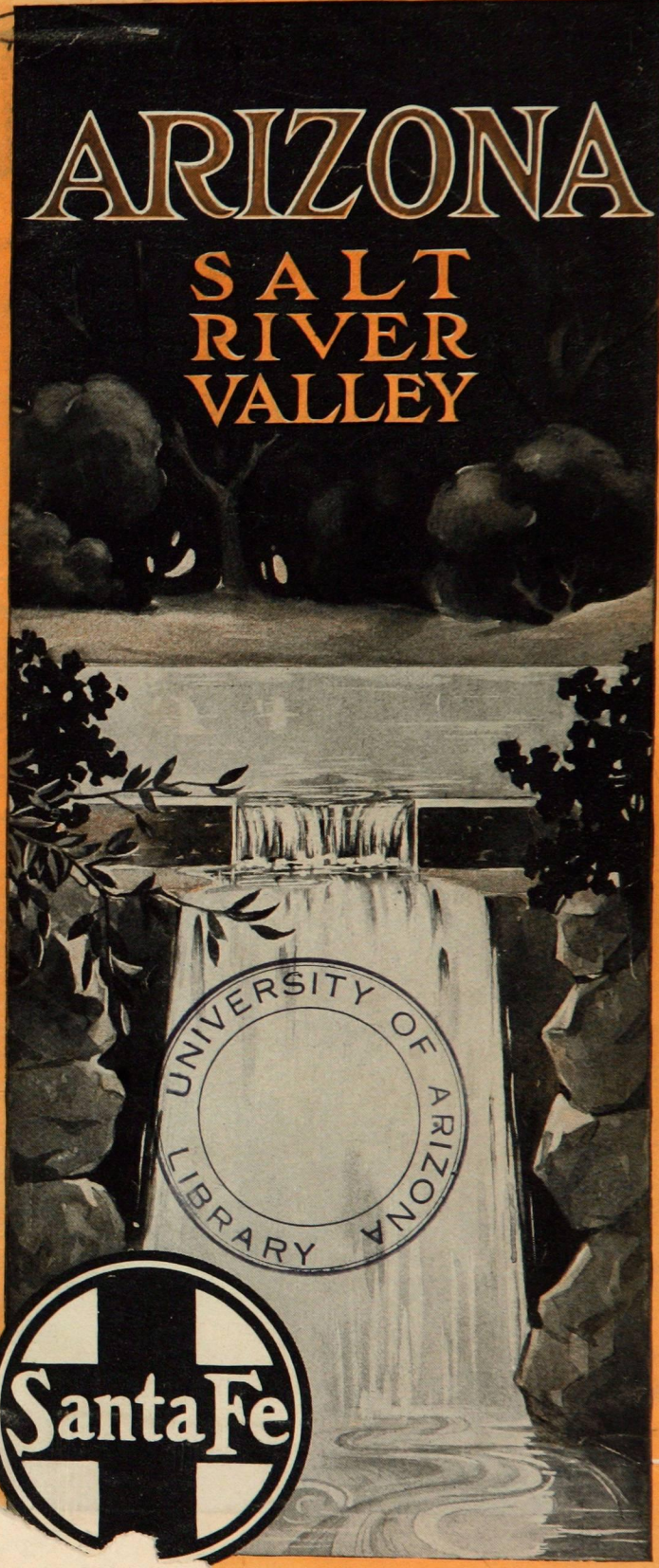
SALT RIVER VALLEY



Santa Fe

ARIZONA

SALT RIVER VALLEY



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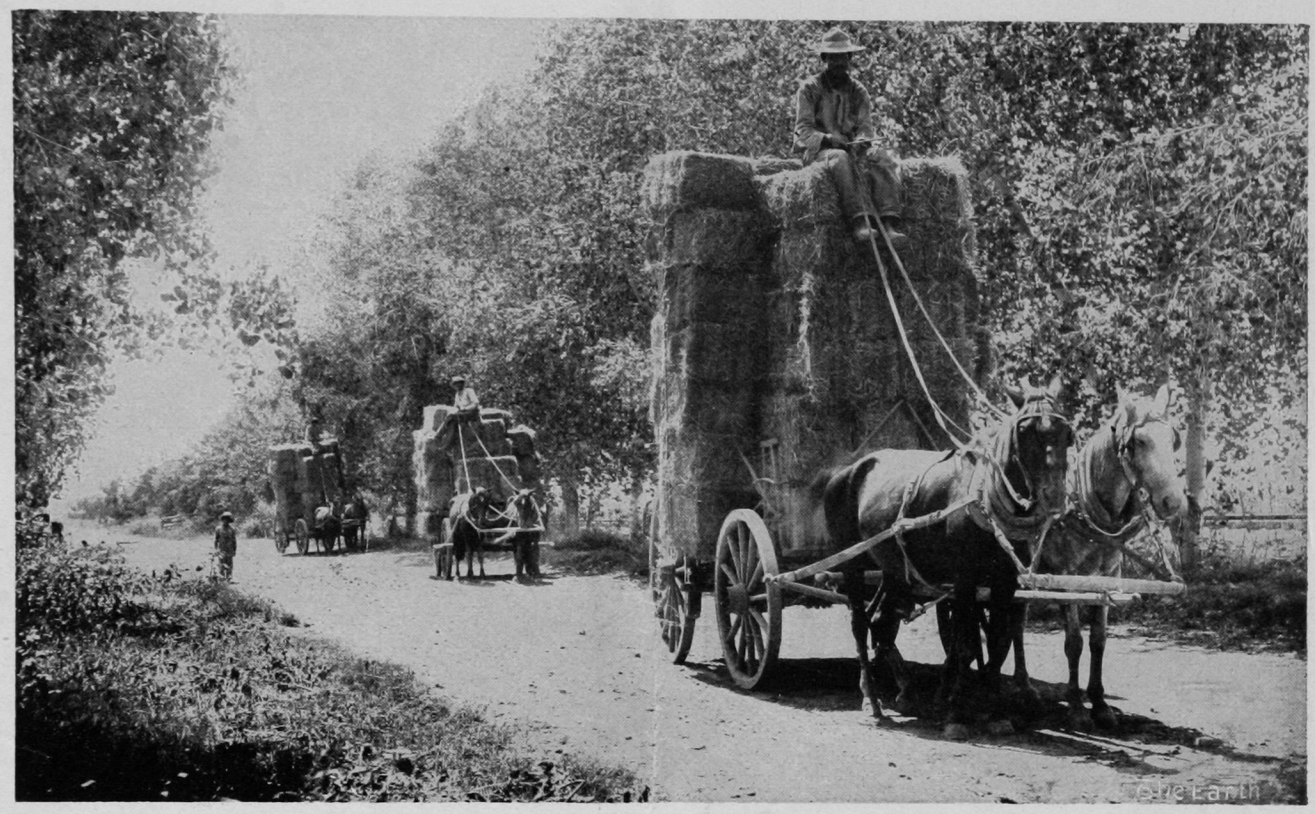


How Tons of Dollars Are Made in the Salt River Valley of Arizona

Ostrich F[illegible] Phoenix, Arizona

A FOREWORD

This folder is practically a reprint of the August, 1908, number of our journal, "The Earth," which was devoted exclusively to the Salt River Valley of Arizona.

It was thought that the edition of 50,000 copies would be sufficient to satisfy all demands for some time to come. But in a little over two weeks from the day of publication every copy had been taken, and every mail brings a host of inquiries for information. To satisfy this demand this folder is issued.

It has been found necessary to cut out a few paragraphs from some of the articles in order that needless repetition may be avoided, but care has been taken to so edit the text as not to alter the facts.

The whole has been so arranged as to make a continuous narrative. Unlike most publications of this kind, each subject is dealt with by the person who is best qualified to speak with authority, and the reader may depend upon the absolute accuracy of each statement made.

If greater detail is desired, I will be more than glad to answer any question that may occur to you.

Yours very truly,

C. L. SEAGRAVES,
General Colonization Agent.

1115 Railway Exchange, Chicago

ARIZONA

The main purpose of this folder is to acquaint prospective settlers with the resources and possibilities of the Salt River Valley. But the resources of Arizona are not confined to this wonderfully fertile valley and a story of the Territory would be incomplete if it did not give an account of the uncounted riches lying hidden in the hills and the immense values of its lumber.

The area of Arizona is so vast and the proportions of its valleys, mountains, and plains so great that the wealth of its resources are but imperfectly appreciated, even by those who have some little knowledge of the Territory. To the stranger, whose ideas of the country have been gathered from newspaper stories, dealing largely with the conditions that prevailed twenty years ago, when Geronimo and his maurauding Apaches made life for the occasional settler one round of excitement, the truth comes as a distinct surprise.

The Territory contains 113,020 square miles and has a present population of about 200,000. Its bank deposits aggregate $17,000,000. There is no official estimate of the value of the private property of the Territory at present available. It has a school system as complete as any state in the Union; all its public schools being graded from the primary rooms up to and through the splendid Territorial University at Tucson. By the latest census there are 35,000 school children being instructed by about 600 teachers.

Arizona is one of the most highly mineralized regions in the world and while even now it is taking a leading, one might almost say commanding position in the mining world, its great veins of copper, silver, and gold have scarcely been scratched.

The richest and most valuable mines so far discovered in the Territory are located in Yavapai County, of which the city of Prescott is the county seat. This energetic little city is one of the great trade centers of that part of the country. The altitude of the city is 5,432 feet and its population is about 5,000. It has all

the modern comforts and conveniences of a city, and its homes are far superior to most eastern cities of its class. Close by are Whipple Barracks, an army post. The Santa Fe Railway connects the city with the outside world.

There are 1,500 patented mining claims in the county, and the number is increasing. Many of these are producing, and the ore is smelted here. In this county is the famous Jerome copper mine, which produces about 4,000,000 pounds of ore a month, with considerable gold and silver as a by-product. There are other mines near by, and in the Jerome district about 2,000 miners are employed. Mayer, Congress, Verde, Poland, and Humboldt are other prosperous camps. The Yavapai Commercial Club of Prescott has issued an interesting pamphlet telling of the resources and attractions of the county and city. Yavapai, however, is not the only county of rich mines in the Territory. It is the richest, but there are others fast developing.

Arizona is fast taking the lead in the copper production of the United States, and the ore is widely distributed over the Territory. The chief and best known centers of production are Bisbee, in Cochise County Jerome, in Yavapai County; Clifton and Morenci, in Graham County; and Globe, in Gila County. Large quantities have been produced also in Pima County, and lately Pinal County is uncovering large deposits.

The most widely distributed ore in the Territory is gold. It occurs in nearly every mountain range.

The gold mines usually carry silver and lead. There is only one mine in the Territory which yields silver without gold. The principal localities where lead and silver occur in paying quantities are Yuma, Mohave, Yavapai, and Pinal counties.

Iron ore is abundantly distributed in the Territory and there are also some valuable zinc deposits as well as large deposits of coal. In Coconino County there is a coal area of 400 square miles.

The copper, gold, and silver mines now being worked and developed are valued at $300,000,000.

The Lumber Industry

Probably the largest unbroken forest in the world lies within the San Francisco Mountains and Black Mesa forest reserves, in Coconino, Yavapai, Navajo, and Apache counties. Its area is estimated to be more than 6,000 square miles. This timber is usually found at an altitude between 5,000 and 7,000 feet. The most valuable timber (pine) is found within the reserves mentioned but the timbered area of the northern portion of the Territory stretches, with more or less extended interruptions, to and beyond the Grand Canyon of the Colorado to the north, to Bill Williams Mountain in the west, and southward to the great rim where the Colorado Plateau breaks down to the southern plains. Easterly, in the higher ranges of the White Mountains, there is a dense growth of magnificent trees. Long arms of forest areas also exist in the mountains immediately south of the Colorado Plateau. The ranges in the southeastern portion of the Territory are also timbered above the altitude of 7,500 feet. In the Mogollon Mountains, in addition to the yellow pine, there are large bodies of oak timber, but until penetrated by railroads the region will be practically inaccessible.

But as was stated in the opening sentence of this story, the main object of this folder is to furnish information on the Salt River Valley, and what follows admirably fulfills that purpose.

Government Water Storage

By Dwight B. Heard

With its present system of irrigation the Salt River Valley has been justly regarded as one of the best irrigated sections of the West, and when the immense works, now under construction by the United States Government, are completed, the Salt River Valley will easily rank first among the irrigated valleys of the world.

The government works now under construction include the huge Roosevelt Dam, the power canal and power plant at the dam, a transmission line to Phœnix, several auxiliary power plants, a system of electrically operated pumping plants, the Granite Reef Diversion Dam and head works, and a complete, remodeled, and government-owned canal system.

The cost of these government works aggregates over $6,000,000.

The great Roosevelt Dam, located in the canyon of the Salt, about seventy miles northeast of Phœnix, will, when completed, rise from bedrock 276 feet; it is built in such a substantial manner, and so tied into the walls of the canyon, that it becomes part of the everlasting rock. It will contain over 300,000 yards of solid masonry, and in its construction about a quarter of a million barrels of cement will be used.

This vast structure now rises seventy feet above the water level in the canyon of the Salt, and work will now go forward uninterruptedly until its completion; 12,000

yards of masonry are being laid per month, and the engineers in charge estimate that the structure will be entirely completed by the fall of 1910, although, within one year from date, the Salt River Valley will receive considerable advantage from the water stored by the rapidly rising dam.

This massive structure creates the Tonto or Salt River Reservoir, which will form the largest artificial lake in the world, covering an area of 16,329 acres of land.

The water in the power canal, which follows the south side of the reservoir for nineteen miles, is dropped through a penstock cut in the solid rock at the dam, 220 feet, operating huge turbines. This water power, together with that utilized directly from the water in the reservoir, develops at the magnificent power plant, now nearly completed, 6,500 horse power. Two other supplemental power plants in the valley, to be immediately constructed by the Government, will add 5,000 horse power to that developed at the dam, and still more power can be very economically developed later.

This power feature of the Roosevelt project is one of the most interesting and valuable. About 4,000 of the 11,500 horse power first developed will be used in raising the underground water, which underlies, within reasonable pumping distance, about 100,000 acres of the Salt River Valley. The balance of the power will be sold, first for the purpose of developing industries within the reservoir district, afterwards to those mining interests outside the district, which are ready and willing to pay good prices for this power. The power transmission line, from the dam to the Salt River Valley, is now rapidly nearing completion, and in the fall a series of government pumping plants will be installed.

For several years, on the south side of Salt River, a number of privately owned pumping plants have been successfully pumping this underground water to the surface for use in irrigation; over 3,000 miners' inches already having been developed in this manner, so that the practical success of the government pumping plants is assured.

At Granite Reef, about twenty-eight miles northeast of Phœnix and two miles beyond the junction of the Verde and Salt rivers, the Government completed, on the 13th of June, 1908, an immense concrete diversion dam and headgates; and on that date, accompanied by the cheers of thousands of Salt River Valley farmers, the water was turned into the main north side government canal by Governor Joseph H. Kibbey of Arizona, who for many years has been one of the leading advocates of national irrigation. The event marks one of the important milestones of progress in the Salt River Valley.

This diversion dam stretches across the river from the natural granite abutments about 1,100 feet, with sets of huge headgates on each side, forming a very valuable and much needed auxiliary to the reservoir.

This great diversion dam, which takes the place of seven more or less temporary dams, formerly diverting

The Salt River Valley Owner of This Oat Field Challenges the World to Beat It

the water of the river, comprises the largest, most modern, and most substantial diversion works in existence, excelling some of the world-famous structures of this character in India.

One gets an idea of the splendid water supply of the Salt River Valley when one considers that the drainage area, tributary to this diversion dam, includes 12,000 square miles, or an area greater than the combined states of Massachusetts and Connecticut. Much of this area lies high in the mountains, a large portion of which are covered with pine forests, thus retaining the snows which fall in winter. In fact, the advantages and certainty of the water supply of the Salt River Valley are fourfold: First, about 90 per cent of the drainage area is now included either in Indian reservations or national forests and is under government inspection and control, which prevents overgrazing and perpetuates the native grasses which act as the natural regulator of the run-off of the water. The second main feature in the assured water supply is the huge reservoir created by the Roosevelt Dam which stores, for beneficial use in the valley below, the flood waters from the mountain streams, with a capacity when full of 1,300,000 acre feet, an amount sufficient to cover a tract 40 miles wide by 50 miles long, one foot deep with water; third, and very important, the diversion dam, which, supplied from the natural flow of the Verde River and the regulated flow of the Salt River, assures a permanent and unquestioned water supply to the Salt River Valley; and fourth, the hundreds of miles of well-graded and scientifically operated canals owned and operated by the Government.

On the north side of the river, under which lie about 150,000 acres of land now under a canal system, the

Government has acquired the entire distributing system, and is greatly simplifying the same, reducing the number of canals and bringing them on to a basis of the most systematic and economical distribution of water, so that under government distribution the uncertainty as to the receipt of his water, which at times has troubled the irrigator, is now a thing of the past.

The water from the north side of the river is taken out by a huge trunk canal at Granite Reef Dam, and on the south side of the river a similar canal takes out the water for the use of the south side, dropping it into the present existing canal systems, which cover an acreage on that side of the river of about 100,000 acres.

This great work of government construction is going forward under the direction of the Reclamation Service, a branch of the Government, which is making a record for square, efficient, and thorough work of which the country may well be proud. Many of the men in direct charge of the work were in similar charge of the huge Wachusett Dam, supplying the city of Boston with its water, and bring to this work the great advantage of their practical experience in the East. The supervising engineer, Mr. Louis C. Hill, backed by the unlimited resources of the Government, has overcome engineering problems which seemed impossible, and by his skill, energy, good judgment, and fine personal qualities has won, not only the devoted loyalty of his assistants, but the absolute confidence, appreciation, and good will of the people of the Salt River Valley.

Among the many efficient assistants of Mr. Hill, to whom the people of the Salt River Valley are especially grateful, are Mr. Chester W. Smith, and Mr. J. W. Martin, the former in direct charge of the construction

of the Roosevelt Dam where his energy and ability is bringing splendid results.

The money for all this work, about $6,000,000, under the provision of the National Reclamation Act, is being advanced by the United States Government, and will be paid back by the owners of the lands under the reservoir, in ten annual payments, beginning with the completion of the reservoir. It is estimated that at first about 200,000 acres will be served. If practical, this acreage may later be reasonably increased. If there were no credit from the sale of power, the above acreage would mean a total payment on the part of each acre of about $30, but it is now very conservatively estimated that the sales of power will be sufficient to reduce the payments made by the land owners to about $20 per acre.

When these great works have been paid for they become the property of the water users of the Salt River Valley, who, for the purpose of carrying on the necessary negotiations with the Government, and arranging for that coöperation, which is so necessary for all large works of this character, have organized themselves into the Salt River Valley Water Users' Association. This association is run along strictly business-like lines and acts as agent between the individual water users and the Government.

With the ample, assured, and permanent water supply furnished to the man farming under the Roosevelt reservoir, exactly when he needs the water, for the best and most scientific cultivation of his particular crop, the returns which can be obtained per acre from our marvelously productive soil are almost incredible.

Pear Orchard near Phoenix, Arizona

It should be remembered that the Salt River Valley is by no means a one-crop country, as there are conducted here, to-day, over forty successful agricultural industries. We are fortunate in having an unlimited market, largely furnished by the rapidly-growing mining sections of the Territory whose natural source of supplies is the Salt River Valley.

When you come to the Salt River Valley you will find literally a "land of milk and honey," an inspection of which is its best advertisement, and last, but not least, you will find an enterprising, vigorous and self-respecting people who have infinite faith in their country and are glad to welcome you to a land of prosperity and enterprise.

Soil and Climate

By Dr. John W. Foss

The two basic factors in the economical life of a nation as well as in the successful development of a section, are SOIL and CLIMATE. The growth of the United States is not so much due to the notorious over-shrewdness of the Yankee, as to the fertility of the Middle West, which forced the eastern man of affairs to utilize in manufacture the vast amount of raw material produced by the West, and to seek a market for these goods, as well as for the food products filling his stores.

The United States grew to be a power, not through the might of the field soaked with blood, but through the ever-waving fields of grain, through the supply of necessities of the human race, necessities of a superior quality. Still, the world, and even our own country, depended mainly upon Europe for delicacies, especially citrus fruit, nuts, and anything and everything out of season. Barely a score of years has passed since California was unable to supply the home demand for these dainties. A little over a decade has rolled on since California was unable to ship its early crops to the frozen East. To-day these luxuries have become necessities and the markets are calling for the same products of a finer flavor, of a greater delicacy. The time when an orange was an orange has passed. Not only are certain kinds of fruit demanded, but certain brands command fancy prices, when other brands of the same fruit go begging. There is no limit to the

improvement of any fruit or vegetable, but the higher breeding of plant life demands finer soil, better climate, greater care. The care can be controlled by man's own will; but the soil must be made, which is expensive, or it is supplied by nature, which is difficult to find; and climate is entirely the gift of the Creator.

To find virgin soil endowed with every desirable ingredient favorable to plant life in a semi-tropic climate seems to me the acme of good fortune. This is exactly the condition the settler meets in the Salt River Valley. It is easy to make such a sweeping statement, and it is made a thousand times without the least chance to prove its truth. Not so in regard to the Salt River Valley. The question of irrigating the desert land forced the Government to analyze the soil all over the territory to be covered by water, and the result was not only a surprise to the Government, but even to the people that had lived here for nearly a generation; so much a surprise, in fact, that to this day there are many that do not believe it, lacking the education to understand what the chemical signs and figures of the governmental reports mean.

Alfalfa Makes Stock Raising Profitable

As I am writing for the benefit of the practical farmer and horticulturist, I shall not give these hieroglyphics, but shall keep myself to the strictly practical data in common, everyday language.

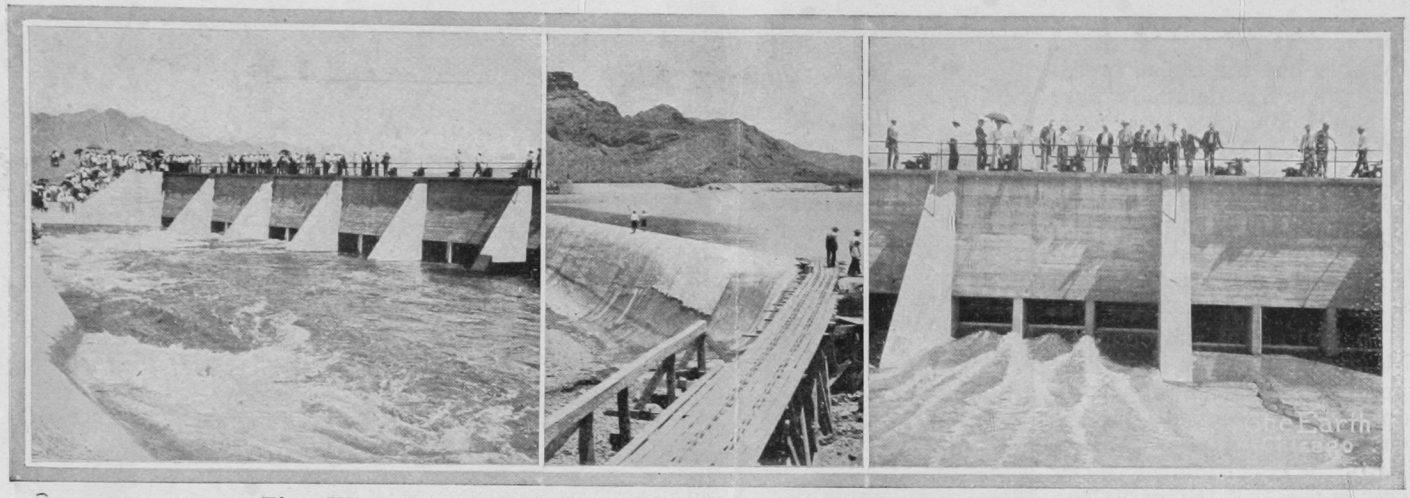
The soil of the Salt River Valley is to a great extent alluvial, that is, it is washed down from the mountains and heavily mixed with gravel or sand. It is accordingly named Maricopa sandy loam and Maricopa gravely loam, and reaches from a few feet to 1,305 feet in depth. The hardpan, locally called "calichi," never approaches the surface to a detrimental proximity except in the sides of cuts and washes.

The question of fertility of soil depends exclusively upon the percentage of soluble matter which plants can absorb. In the Salt River Valley the soil contains, practically, no soluble matter that is detrimental to plant life, or even matter soluble but neutral. Therefore, when I state that the Maricopa sandy and gravely loam contains 25 to 30 per cent soluble matter it means that every hundred pounds of surface soil stand ready to produce twenty-five to thirty pounds of vegetable matter, or in other words more than the valley could raise in a hundred generations, not being able to plant any grain, vegetable, or fruit thickly enough to utilize all of the surface soil. This is the soil that made Mesa famous for its cantaloupes; that attracted the attention of the manufacturers of Lily Brand milk, who quickly realized that Tempe would become the center of the valley's dairy business.

One can only form an idea of the fertility of this soil, when he recalls the fact that millions of acres through the United States are advertised as enormously fertile, that can't show more than 15 per cent soluble matter; that New England is cultivating land of only 7 per cent and Europe forces land of only 3 per cent soluble matter into service.

There are about 200,000 acres of this land in the Salt River Valley and it can be bought from $100 to $200 per acre. Every inch of it will be under irrigation in less than two years, then the rush will begin, and the land values will grow like mushrooms after a warm autumn shower.

Great as this must look to the toiling, tired farmer of the East, it is not the best that the Salt River Valley has to offer. There are about 30,000 acres, around the little town of Glendale, under the Arizona Canal, which, on the 13th of June, was filled with water from the new Granite Reef Dam—never to run dry as long as there is water in the Salt River. This land is purely alluvial, that is, it is a deposit of thousands of years from the overflow of Cave Creek. This soil contains the most wonderful proportion of soluble and insoluble matter in the world, excepting no place, not even the valleys of the Nile or Ganges. From 6 to 600 feet deep, the government tests show an average of 46 per cent soluble matter with, practically, no neutral or injurious substance and such an admirable per cent of fine sand in the soil that makes it, with its fabulous fertility, especially susceptible to irrigation, as can be found in no other locality. The only thing lacking in this soil, necessary to make it absolutely perfect for plant food, is nitrogen, but here, too, has nature lavishly provided, as the water in the Salt River



First Water Entering Gates at Granite Reef Diversion Dam, June 13, 1908

carries sufficient of this very important substance to supply all that can possibly be needed. In the center of this marvelous soil is a million-dollar sugar factory ready to begin work as soon as a beet crop can be raised, and the beets that grow here contain from 6 to 8 per cent more sugar than any that have ever grown in any soil. This "Glendale loess" will produce, with less work, more crops of a higher quality than is known to science or statistics. There is no doubt that the 30,000 acres around Glendale are the world's hub of quality as far as soil is concerned. Whatever will grow in a semi-tropic climate will grow here. It is the garden-spot of the world by predestination, and the opening of the water gates on June 13th has taken it out of the hands of fate, or chance, and placed it on as solid a base as the United States Government bond. This land will bring 15 per cent net on an investment of $1,000 per acre. This land would have been sold in small tracts years ago, but the uncertainty of the water supply held it back. Now this last obstacle is overcome. The land can still be had at prices ranging from $150 to $300 per acre, and it is safe to predict that not an acre of it will be on market in less than three years. People, nowadays, are too eager to get much for little. The farmer is growing tired of working 160 acres earning only one-half of what he can make on a 10 or 15 acre tract, and now, with the water assured, and the land-prices laughably low, the influx is already foreshadowed by the stack of inquiries that every mail is bringing.

So much for the land. Now the second very important factor—climate.

Climate of the Salt River Valley

The climate of the Salt River Valley can justly be called ideal. No severe storms, no cyclones, and the so-called four seasons are in reality reduced to two, spring and summer. Quoting from an article of L. N. Jesunofsky, Director U. S. Weather Bureau at Phœnix, I repeat:

"Not being within the path of storm frequency, the sequence of weather is more uniform than in more northern latitudes. The rainfall is small; there is an absence of clouds; insulation by day and radiation by night are both strong and rapid; the range of temperature from day to night is large, from 25 to 35 degrees; the winds are light and the evaporation is usually high."

Following a few comparative readings of minimum and maximum temperature:

Stations	July 15, 1904.			Jan. 15, 1905		
	Max. Deg.	Min. Deg.	Range Deg.	Max. Deg.	Min. Deg.	Range Deg.
Chicago	86	66	20	2	6	8
Denver	86	52	34	18	8	10
El Paso	100	74	26	52	26	26
Flagstaff	82	42	40	36	2	34
Kansas City, Mo	88	72	16	12	2	14
Los Angeles	76	60	16	74	50	24
Memphis	90	72	18	26	10	16
New Orleans	90	76	14	44	28	16
Oklahoma	90	74	16	12	2	14
Omaha	84	64	20	8	6	14
PHŒNIX	**104**	**76**	**28**	**66**	**49**	**17**
St. Louis	92	64	28	10	0	10
Santa Fé	84	60	24	34	10	24
Yuma	104	80	24	66	52	14

And now I shall quote again Mr. Jesunofsky:

"This leads us to another and more important subject not heretofore taken into consideration. I refer to the sensible, or wet-bulb temperature, or the effect of heat upon the body. The definition of 'sensible temperature' is that temperature which is felt at the surface of the body, notably upon the face and hands. The body is constantly furnishing moisture to the skin, which in cases, exudes and stands in drops, commonly called perspiration. This moisture is evaporated by the air, hence the cooling of the skin. This effect of cooling by evaporation is a safeguard against the injurious effects

of extreme heat. The cooling of the skin subjects the body to the direct effect of the sensible temperature. This temperature is obtained from what is known as the whirling psychrometer, consisting of a dry and wet-bulb thermometer. The wet-bulb thermometer is a thermometer wrapped in muslin of fine texture, which is moistened by a small receptacle of pure water. The dry and wet-bulb thermometers are fastened upon an iron frame which is whirled rapidly by means of an attachment to the iron frame. As the instruments are whirled around a given space, rapid evaporation from the wet-bulb thermometer ensues. During the process of whirling the wet-bulb thermometer is read a number of times to note the lowest reading, and the lowest depths to which the mercury sinks at the time of observation, which is the temperature shown by the wet-bulb and is the sensible temperature."

STATIONS	JANUARY			JULY		
	Air Temperature	Sensible Temperature	Difference	Air Temperature	Sensible Temperature	Difference
Atlanta	41	38	3	76	70	6
Boston	26	24	2	71	64	7
Chicago	21	19	2	71	64	7
Cincinnati	29	27	2	76	68	8
Denver	28	23	5	72	58	14
El Paso	42	36	6	83	65	18
Ft. Apache	34	30	4	73	60	13
Ft. Grant	41	35	6	78	62	16
Indianapolis	25	23	2	74	62	7
New York City	28	26	2	73	67	6
Philadelphia	30	28	2	75	69	6
PHŒNIX	**52**	**40**	**12**	**90**	**68**	**22**
Portland, Me.	23	21	2	69	63	6
Prescott	34	30	3	72	60	12
St. Louis	26	24	2	78	71	7
Santa Fè	26	23	3	69	56	13
Washington	31	29	2	76	69	7
Winnemucca	31	27	4	..	..	..
Yuma	53	46	7	91	70	21

It is almost a legendary belief that the Salt River Valley is not inhabitable in the summer; but, after realizing that the dry-bulb thermometer is no guide for the heat we feel, I add a table compiled by the Government, which shows clearly that the heat in the Salt River Valley is not only easier to bear than in other places but healthier because inducive to perspiration on account of the atmosphere's extreme dryness.

All these facts and figures have the tendency to assure men of their physical comfort, but this climate, clear, dry, with low wind movement, at an altitude of about 1,100 feet, is an asset in more than one way. The soil in this region is ever productive, not only of ordinary crops, but of such fancy fruits and vegetables as command fancy prices. It is only a question of time when the Salt River Valley delicacies will set the standard for others to follow. Then again as a health resort the Salt River Valley stands unequaled. Nerve, heart, and lung diseases, when taken in hand early enough, disappear as if dispelled by magic in this wonderful climate, and this unequaled atmosphere richer in ozone than that in any other place of the same altitude.

This combination of earth, air, and water has stamped the Salt River Valley as the never-to-be surpassed circle of health, wealth and prosperity in the entire known world, and the center of this magic ring, in my opinion, undoubtedly, is Glendale.

Progress and Possibilities

By Gov. Jos. H. Kibbey

The Salt River Valley in Arizona includes all that territory from the confluence of the Verde with the Salt River, down that stream to its juncture with the Gila. It is wholly situated within Maricopa County. In extent it is about forty miles long by from two to fifteen miles wide. The one hundred and twelfth (W. Greenwich) meridian intersects the valley nearly midway from east to west, and the latitude is almost exactly thirty-three degrees and thirty minutes north.

The average altitude is about twelve hundred feet. Its arable area is approximately 400,000 acres.

Continuous with the Salt River Valley is the valley of the Gila, known locally as the Buckeye Valley Country and the Arlington Country, making, practically, one valley with an area of nearly half a million acres of arable lands. The floor of the valley is an even plane, so slightly interrupted by undulation or other inequality as to be hardly appreciable to the eye. The axial inclination with the river is eight or ten feet to the mile, and

Drying Fruit in the Salt River Valley

on either side the land inclines toward the river at the rate of fifteen or twenty feet to the mile.

The climate is semi-tropical and very arid. The average annual rainfall being but six or seven inches, the greater part of which falls during the months of January and February. The relative percentage of humidity in the air is always low, sometimes reaching as low as 4 or 5 per cent. The summers are very hot, yet the extreme aridity makes the sensible heat much below that indicated by the thermometer. This actual heat is, however, one of our chief assets for it, together with the aridity of the air, the almost continuous sunshine and the wonderfully fertile soil, adapts the valley to the production of valuable crops, when there is the greatest demand for them.

The winters are mild and delightful, unrivaled by those of any region in the world.

Of course it will be understood at once that the cultivation of the soil is only possible by irrigation which in many respects is the ideal method. The water can be applied when the crop needs it, in just the quantity necessary, and withheld when its presence might be detrimental.

The very fact that water may be withheld, so that the highest degree of cultivation may be practiced, enables the farmer to engage in a more intense cultivation, with consequently larger and better crops, giving a distinct advantage over those regions where rains are irregular and frequent, and so often interfere with proper cultivation. There is that great additional advantage of being able to apply the water when it is best calculated to promote plant growth and properly mature it.

The chief source of water supply for irrigation in the Salt River Valley is the Salt River with its source in the mountains of eastern Arizona and western New Mexico, and the Verde with its head waters in central and north central Arizona. The Verde affords about 40 per cent of the aggregate supply of the two rivers. These rivers are subject to great variation in the volume of the water carried. They have been known to carry as much as a million cubic feet per second, and as little as one hundred.

The obstacle to the more rapid development of the valley, heretofore, has been in the failure of the proper regulation, control, and diversion of this variant flow. To construct proper diversion or impounding works, involved a cost beyond the ability of private enterprise.

Those diversion and distributing works that had been undertaken by private enterprise proved unequal to the control of the river. They were being constantly broken or destroyed by floods, which are normally of semi-annual recurrence, and when finally restored, the volume of water had so diminished as to be inadequate to the demand for the crops.

In 1902, Congress enacted a law providing for the use of the proceeds from the sale of public lands, in the arid states and territories, for the construction of reser-

voirs and other irrigation works. Under the provisions of this law the Government has undertaken the construction of an irrigation system for the lands of this valley. This system will consist of an impounding dam at Roosevelt, which will make a reservoir of the Tonto Basin; of a canal and other works for the development and transmission of electrical power for pumping subterranean water for irrigation; a diversion dam in the Salt River, and distributing canals and ditches and conducts.

Of these the diversion dam has just been completed.

The climate and the soil of the valley are adapted to the production of nearly all of the sub-tropical fruits and most of the staple crops of the temperate zone. Forty or fifty thousand acres of the valley land is admirably adapted to the culture of the orange, lemon, and grape fruit. Figs, apricots, olives, and grapes yield profitable crops. The cantaloupe and sugar-beet contribute an important product, while wheat, barley, oats, sorghum, alfalfa, etc., are prolific sources of profit.

The market is an increasing one. For oranges and other citrus fruits, and for cantaloupes, grapes, etc., there is a demand all over the country far in excess of the supply.

The mining districts of the Territory are being rapidly developed. The production of copper is the leading industry of Arizona. This promises to be a permanent industry, and will afford a steady, permanent, and constantly increasing market for the surplus products of the valley at prices that will yield a handsome profit.

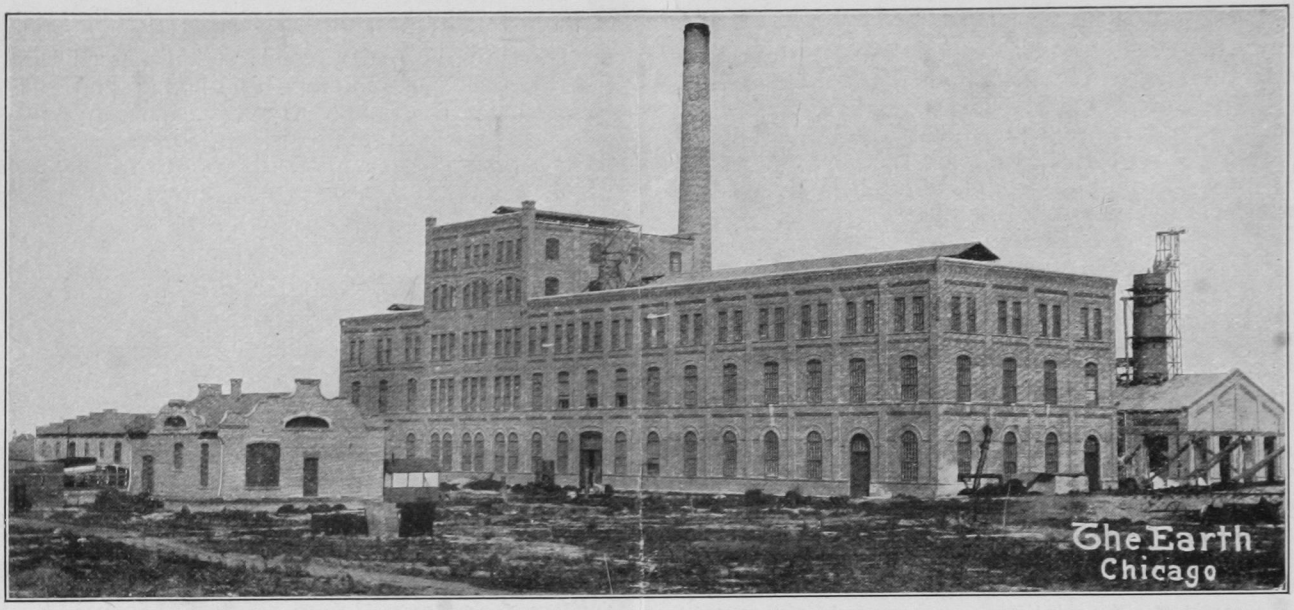
Story of an Auto Ride

By E. J. Bennitt

"I wonder if, after all, it will prove a fool's errand?"

Thus Jacob Harris queried himself, seeking, yet expecting no answer, as he seated himself comfortably on a plush cushion and looked out of the car window. Of mature years, spent mainly in the Middle West, he had acquired a modest competence for his family. But the long, cold winters, during which he suffered exposure in the protection of what he was able to acquire in the fruitful summer seasons, were sapping his vitality. He dreaded the inclemencies and chances of crop failure that, any season, might reduce his savings to a minimum. He had seen some literature of the Salt River Valley and had been induced to spend a few dollars in personally investigating the seemingly fairy-tale claims. "I will never be a rich man anyway," he mused, "and perhaps I ought to let well enough alone."

"Phœnix," announced the conductor, and an hour later Jacob Harris was in conversation with a Phœnix real estate dealer to whom he had been recommended. A tour of the valley was arranged to begin the next morning, and the rest of that day was devoted to sizing up the city, visiting the Phœnix board of trade, examining



Beet-Sugar Factory at Glendale, Salt River Valley of Arizona

the maps of the county and Territory, the exhibits of fruits and products, and inquiring of those he met concerning the crop returns of the many products raised in the valley. He had read all this in the literature, but knowing the world pretty well, knew that what the Arizona people wanted was the investment of his money. He did not doubt their honesty, but he knew the vision of the immigration agent is sometimes distorted. He wanted to know what others, who had been enticed to Phœnix before him, had to say about it. And what they said fully verified what he had read. In the afternoon he climbed the court house tower where he secured a panoramic view of the valley. Spread around him lay a modern city of 18,000 inhabitants, and beyond, stretching away over an area of 100,000 acres were green fields, comfortable farm houses and miles of tree-lined country roads, a community that, with Phœnix for its center, numbers approximately 23,000 people, served by the Phœnix post office and its 100 miles of rural routes. Northwest some ten or twelve miles, are Glendale and Peoria and surrounding farms, numbering several hundreds of inhabitants. To the east, and across and up Salt River, beyond the line of vision, lay Tempe and Mesa City, nine and seventeen miles away, respectively, the commercial centers of another 100,000 acres of land, equally as rich and as well suited for agriculture as that before him.

Jacob Harris noted that the general form of the valley is a parallelogram averaging 20 miles wide and 40 miles long, hedged in by mountain ranges that rise abruptly from the valley plain. Entering at the northeast corner, where the Granite Reef Diversion Dam is located, Salt River winds sinuously in a generally direct course to the

southwest corner of the valley, and thence onward a hundred miles further to its junction with the Colorado. Crossing the river diagonally the river leaves Phœnix, Scottsdale, Alhambra, Glendale, and Peoria, on what is known locally as the "north side," and Tempe, Mesa City and surrounding lands on the "south side." Looking toward the site of the Granite Reef Dam again, twenty-three miles away, he learned that fifty miles further up the river, through an impassable canyon, is the site of the Roosevelt Storage Dam, now building, at the junction of Tonto Creek and Salt River. This dam will form a storage basin, making the largest artificial lake in the world.

It would take too long to tell what Mr. Harris saw in the foreground—the city of Phœnix. It is all told in the literature of *The Phœnix Board of Trade & County Immigration Commissioner*, which is supplied for the asking. The story is of a modern city of brick houses, churches, schools, railroads, parks, the territorial capitol, and all public utilities. Mr. Harris returned to the hotel, tired and hungry, his head already crammed with information that was rolling in on him like a tidal wave. At the hotel that evening he met an engineer of the reclamation service, who is chiefly responsible for this materialization of a fairyland picture. Before he knew it he was listening to an outline of the reclamation plan and irrigation system, as follows:

The fundamental feature of it is the Roosevelt Dam which will store water enough to guarantee an ample supply for every acre the government accepts as signed to the Water Users' Association, approximately 200,000 acres. In addition to the river, flow water will be developed by pumping from the underground currents beneath

the valley lands with electricity generated by water power at Roosevelt, transmitted to the valley and furnished to the farmer free, if he finds it to better suit his needs than stored water. The stored water, when released at Roosevelt, runs down Salt River to the diversion dam at Granite Reef, built by the Government at the cost of a half million dollars, where it is diverted to the canal systems on either side of the river, as needed; this dam supplants the functions of the numerous old-fashioned, inadequate, and insecure dams built by the early settlers. Through government administration of the canal systems, which are being remodeled on economic lines, every gallon of water will perform its greatest service. There can be no water quarrels and the days of litigation that have darkened the early history of every irrigation State, have passed forever from this valley.

The Salt River Valley Water Users' Association was incorporated at the request of the Government, and its membership comprises the owners of every acre to be irrigated with stored water or furnished with electric power. Every acre represents one share of stock and has one vote in the association, no owner being permitted more than 160 votes, or water for more than 160 acres, after the Roosevelt Dam is completed and the allotment of water to lands is made. At present, owners of large tracts are permitted to sign their entire acreage but they must dispose of all in excess of 160 before water is allotted to it. This enables them to forestall the speculator and make it a valley of home builders. The function of the association is that of agent for the people on the one side and the Government on the other. Every acre signed is mortgaged to pay to the Government its prorata share of the cost of the reclamation project, which may total $6,000,000, in ten equal payments, though through the sale of surplus electric power for industrial purposes, the project may eventually cost the farmers little or nothing, there being no interest charge on the money invested by the Government. The association is to collect the annual payments which begin when the reservoir is completed, turning the money over to the Government.

The association is simply, but comprehensively, organized on the pattern of a State Government. The reservoir district is divided into ten smaller districts from which representatives are elected to the two branches of its law-making body. For literature of the association I refer you to the secretary, Charles A. Van der Veer, and bid you good night, assuring you that the Government is just as much interested in this project as are the people, for it means the success or failure of the reclamation policy.

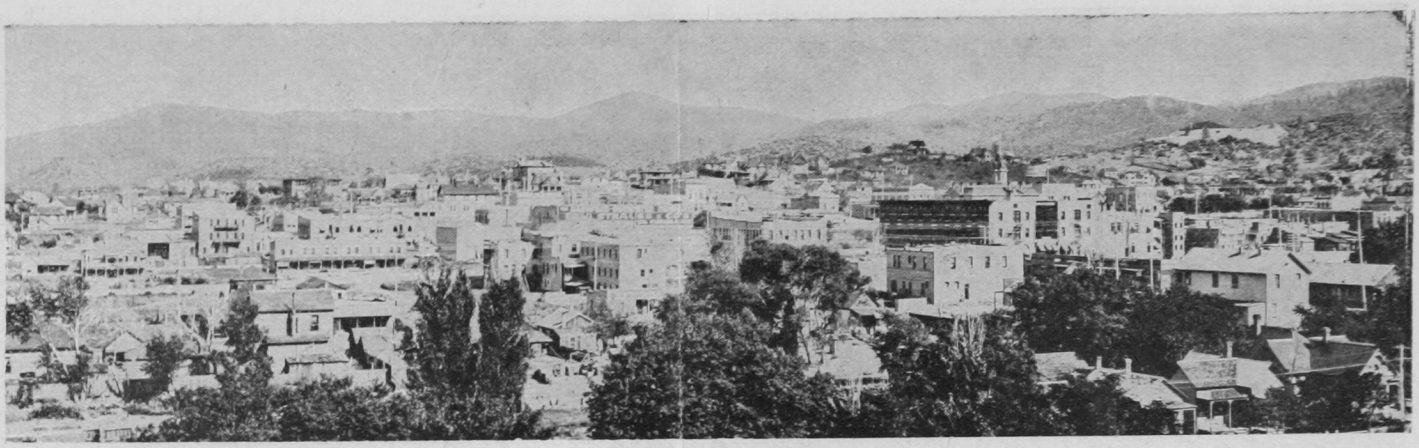
Jacob Harris went to bed also, impressed but still doubtful. He wanted to see some of that "desert" land. This was all "town talk" and it seemed too good to be true. He yearned to hear an inharmonious chord and even a "knocker" would have been welcomed.

Early next morning he was whirling away in an automobile with the realty agent. They passed the seven fine brick school buildings in Phœnix and the territorial capitol costing $130,000, without suspicion of a penny of graft, standing in the midst of a beautiful park of green lawns and thousands of varieties of shrubbery. Continuing, they speed through the residence sections of the city, fronted by attractive street parks, and then—to the country. Out Grand Avenue a mile and a half they came to the Territorial Fair Grounds, where three annual exhibitions had been given, equal to the big eastern State fairs. The corporation has a balance in the treasury and the best mile track west of Memphis. They traveled straight west ten miles, passing small ostrich farms, finally arriving at the largest one in the United States, containing about 1,900 acres, where hundreds of these valuable birds are grazing in alfalfa pastures. Mr. Harris learned that the valley has three-fourths of all the ostriches in America and they are money makers.

Seven miles north found them in the Glendale-Peoria country, as rich a sugar-beet and general farming soil as can be had anywhere. Half of it is cultivated; all will be soon. Thence east through the town of Glendale and to the big factory of the Arizona Sugar Company, that cost approximately a million dollars to build and that will be running by 1909. Straight east, for six miles more, the party traveled through equally as rich a country until Central Avenue was reached, that being a boulevard that runs ten miles due north from Phœnix to the Arizona Canal. Down the avenue with orchards, grain fields, and farm homes all around, at three miles of Phœnix they arrived at the government Indian school, a collection of fine buildings that would put many state universities to shame, where are being fed, clothed, and educated in grammar courses and manual training, a thousand native children. From this point the auto turned east for seven miles, through farms and orchards to the heart of the orange belt.

Thence the machine was headed for the "south side" crossing the river at Tempe, a beautiful city of 1,500 inhabitants, with the territory's chief normal school and grammar and high schools. Adjacent is the Lily Brand condensed milk factory, affording a fine market for dairymen. Six miles east of Tempe is the town of Mesa City, about the same population, also with fine homes, stores, banks, churches, schools, and high school, creamery, vineyards, orchards, etc. Lying directly south of a line through Tempe and Mesa is an agricultural area ten miles square, all titled land and as good as any in the valley, but only partly in cultivation, merely for the want of sufficient settlers. Its possibilities are every thing agricultural and horticultural and the prices are lower, as it is the latest section of the valley to be settled.

After a 10-mile spin through that region, the machine went flying Phœnix-ward, the most notable institution passed on the way being the territorial asylum for the



Prescott, Arizona

insane, three miles from Phœnix. After traveling through seventy miles of orchards of citrus and deciduous fruits, olives, alfalfa pastures, oat, barley, and wheat fields, corn, sorghum, cantaloupes, watermelons, and other acreage crops, strawberries and truck gardens, by country and city creameries and public institutions, Mr. Harris was set down at his hotel.

He had marveled from the first at all the good things he saw but the question on his mind was: "What is there for the poor man and where will he find his 'desert' land for homesteading?" Long before his trip was over he learned that there is no "desert" land as the easterner speaks of it, and no possibilities for homesteading within the reservoir district, but that there is plenty of titled land, unimproved, at $50 an acre. It is not a "cheap-land" country, except relatively speaking, but it is a "good-land" country whose produce pays interest and big profits on a high valuation. He was reminded that half the ranches he had passed had from 100 to 300 acres in them, and he needed no telling that twenty acres is ample for any man to farm who does his own work. The secret of it is that the Government builds reservoirs for settlers, not for speculators. The poor man's opportunity is to buy a farm from the excess holdings of some earlier settler, in an ideal climate and community, with the advantages of the most modern and comfortable surroundings, and take up life not as a pioneer but as a country gentleman, moderately well-to-do and independent.

Jacob Harris is now an enthusiastic Salt River Valley rancher and can testify that he did not come here on a "fool's errand."

Electric Power Possibilities

By W. B. Twitchell

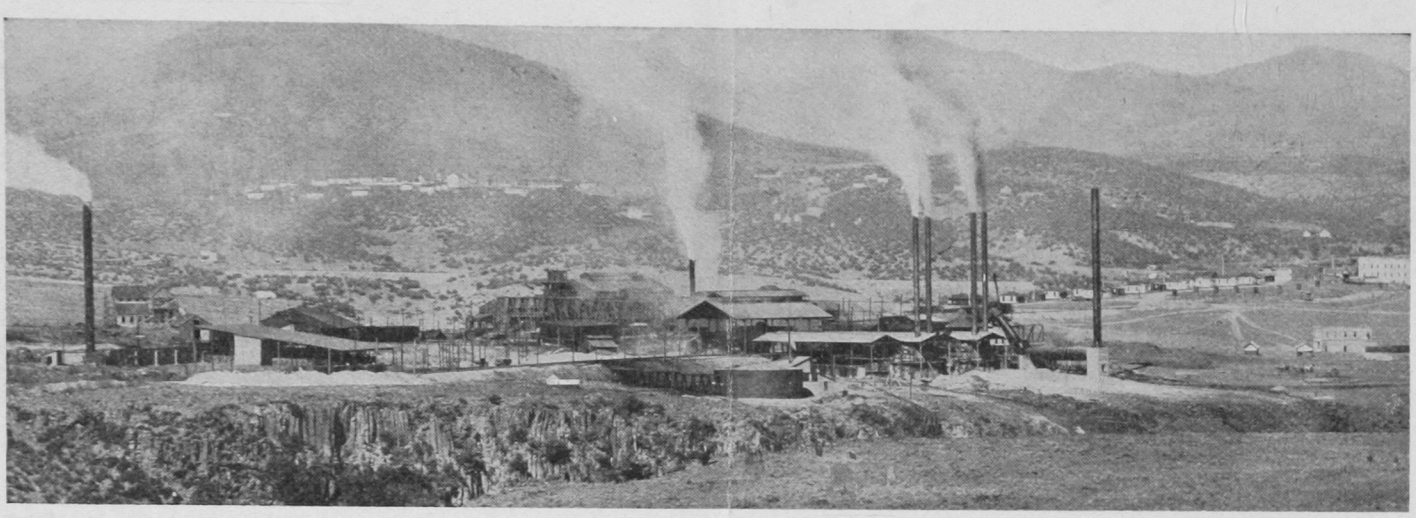
The question often arises as to the proper disposition of the electrical power generated at and near Roosevelt Dam. At first glance there seems no doubt as to how such a valuable asset should be disposed of, the answer is simply this: Sell it and get all that it is worth. But just whom to sell to, and how to distribute such valuable rights is the vital question. We can offer inducements to manufacturing enterprises to locate here and help create a commercial municipality by making it possible to produce the finished article at a less cost than it can be made elsewhere.

It is true that all rights and privileges appertaining to this power will belong to the Water Users' Association of the Salt River Valley, but it is also true that it would not have materialized for many years had it been up to the people of the valley to construct the reservoir. Now, this being true, is it not logical that this gigantic enterprise should be given the privilege of distributing its assets where the best results will be obtained?

I think that it is and I anticipate no objection to the contention that this authority should be vested in the representatives of the United States Government. They will see that transmission lines are so placed that they may be tapped and the power utilized so as to make play of such household work as ironing, cream separation, sewing, lighting, and rocking the babies to sleep.

The beautifying of this wonderful valley will certainly be one of the first steps taken after the claims of the United States Government have been satisfied, and it will be a wise policy to lay our plans as far as possible in advance. We have an absolute assurance as to how the funds necessary for this work may become available by selling a portion of the electric power generated at the Roosevelt Dam.

We have right at our door a mining district ready, to purchase 10,000 horse power at a remunerative rate. The income derived from the sale of this power will, to a large extent, satisfy the claims of the United States Government against the lands of the Salt River Valley, and when all such claims are satisfied, there will continue to be a magnificent income with which this already beautiful valley may be made the garden spot of the world.



Smelter, Prescott, Arizona

Within fifty miles of the generators is the Kelvin mining district where such properties as the Ray Consolidated, Kelvin-Calumet, Arizona-Hercules, Sultana, Sullivan and Renfro, Troy-Manhattan, Mayflower, and the Walter Scott group; while a short distance beyond is the London-Arizona, the Saddle Mountain, and the properties operated by the Phillips Exploration Company —all of these companies stand ready to benefit themselves, even though at great first cost if this power is made available. The sale of this electric power will create an asset, for the farmers of this valley, that will be almost incalculably valuable.

The pay roll of the Kelvin district will, in the near future, be nearly $200,000 monthly, and a major portion of this amount will be spent in buying the produce of the Salt River Valley. The merchants of Phœnix have had a taste of Kelvin trade and fully realize its value, and they will no doubt be glad to assist the mining community in securing as much of the power developed at Roosevelt as seems wise to sell.

Dairy Business Profitable

By Elliott Evans

Are you interested in dairying? Have you a herd of thoroughbred milk cows, or have you just a lot of common grades or natives? In either case you can make no mistake in coming to Phœnix, the center of the most typical dairy country of the whole United States. Do you have to build barns to house your cows three to six months of the year? If so, come to Phœnix. We hardly know how to build a barn. Have your cows tuberculosis, causing a loss of one to five per cent a year? Try Phœnix. Tuberculosis is not in our catalogue.

Do you have to feed grain, concentrated foods, cotton seed hulls, etc., to balance your corn fodder ration? Phœnix farmers feed nothing but a little hay in winter to eke out their continuously green pasture. No food fattens like alfalfa, and no food gives an equal quantity of milk, and no country grows an equal amount of alfalfa during the twelve months as does the valley surrounding Phœnix.

Will your cows give you a profit of $60 to $75 a year on pasture and hay for a ration? I think not, for I have closely read *Hoard's Dairyman* for four years—creamery patrons' returns of $5 to $25 profit is the utmost reported. Can you make a living for your family on a 10 to 20 acre farm from a few cows and chickens? Hundreds are doing so here.

If we charge the cow with $30 per year for milking and feed, we are well within the cost, and to her credit we have creamery check returns from $60 to $86, a difference of $30 to $56, net profit—this, if you please, does not include the yearly calf or two or three hogs you can raise on her skim milk.

For milk and butter purposes, the Holstein and Jersey predominate, of which some fine examples are shown at our territorial fair held each November.

The demand for milk, butter, and cheese is far greater than the supply, and there is no fear of overcrowding the business.

Mr. Farmer, do you want to live a third to a half of the year snowbound? Are you not tired of milking while your toes and fingers are frosted? Have you not had enough of handling, cold, icy pitchforks during feeding time? Try this land of sunshine and find out what it is to live gloriously. We have room and land and water for you.

I have handled a dairy herd and creamery proposition for the last ten years and know whereof I write.

The Cattle Raising Industry

By F. H. Owen

It is scarcely too much to say that a great part of Arizona, and notably the Salt River Valley, presents ideal conditions for the cattle industry. Not only is this true regarding beef cattle, but nowhere else can the dairyman find conditions more nearly adapted to his needs.

The valley has been proven a necessary adjunct to the range, and it is from such valleys as the Salt that the most profitable beef reaches market.

Here, alfalfa is king. Range or native stock goes to market without having known any other food in the fattening process. Some range owners are also alfalfa growers, some drive to the alfalfa fields, while many land owners engage in the business of buying range stock and fattening on their own alfalfa, or growing their own cattle for market.

The price of 3-year-old range steers runs from $22 to $25 per head, and the feeding time is four to twelve months, according to condition of the animal when received. An acre of alfalfa to the head is enough. Many feeders make two acres care for three steers. Considering that the hay is harvested five to seven times a year, and the cuttings run from one and a half to three tons, it can be understood that this statement is not extravagant. In fact, three head to the acre is not unusual. This means economy in the values devoted to the herd, hard to equal anywhere on earth.

The feeder has no rigorous winters to contend with; his stock know not what a barn is and they never need to know. Both feed and climate are inducive to rapid growth and early maturity. As an instance, a feeder the other day, shipped eighty-one under two years that averaged 1,137 pounds each. They were in prime condition and had been fed not a thing but alfalfa.

Native stock at fifteen months will weigh 900 to 1,000 pounds. With this ideal climate and abundant feed and water, the calf grows rapidly, is never stunted by extremes of weather, matures early, and goes to market at the least possible cost.

If the cattle are not gaining they are kept at a loss, so continued progress is essential to success. With intelligent attention to business there is probably no place in the world where the stockman's increase is as great, the returns as quick, the profits as sure.

Dairying

Arizona is not all given up to market cattle for the dairy cow is here everywhere in evidence. The feed that makes fat will make milk, and the market for dairy products is unlimited.

Like the stock grower the dairyman finds alfalfa the full balanced ration. He feeds nothing else and his returns show he does not need to. He requires no barns for the storage of winter feed, no costly stables to shelter

his cows; he simply turns them into the alfalfa to help themselves or feeds hay from the stack according to convenience or necessity.

The mining district of Arizona furnishes an increasing and insatiable market for butter, to say nothing of the cities and towns that are calling for more. Butter prices are always good, and the cost of producing it is far below that borne by the eastern dairyman.

Pure Blooded Stock

While both range and dairy cattle are usually graded, the Arizona grower knows good stock when he sees it, and there are many high-class cattle here. Feeding farms are stocked with high-grade Herefords and Durhams. The range feeder also knows the value of good stock and is constantly improving his herd. Thus the importer is a gainer in every way, for his market is a good one when he wants to sell. At this writing a herd of fifty high-grade Hereford and Durham bulls is being shipped to one range owner and the demand for such stock is increasing. A dairyman near Phœnix, who keeps a strong strain of Holsteins, has a constant demand for his bull calves at a minimum price of $125 each. Being in the milk business he never sells a cow until she becomes unprofitable as a milker.

A Growing Industry

It may well be said that cattle feeding and dairying are in their infancy. However, they are destined to reach large proportions and return great wealth to the Territory.

Briefly, the advantages and inducements this region has to offer the cattle grower are: Abundant and cheap feed and water convenient of access; a mild and equable climate, requiring no housing for stock; no expensive stable feeding; no effort to secure the "balanced ration" so much sought after in many other localities; no rigors of winter to contend with for man or beast; no cattle diseases.

It is acknowledged that Arizona has the wisest live stock laws in existence. They are conscientiously and firmly enforced. To this is largely due the fact that there are practically no diseases among cattle. Because of our mild climate, and that dairy cows are not housed up, the dreaded tuberculosis is unknown here. No diseased stock can enter the Territory.

Sugar-Beets

By W. J. Murphy

The beet seems to have become established as the sugar plant of the world. In 1840 under 5 per cent of the world's sugar supply came from beets, while in 1900 it had reached 60 per cent. Sugar-cane has remained substantially stationary in its percentage of saccharine, science has failed to perceptibly increase its sugar content, but the sugar-beet has increased over 400 per cent

Cabbage Do Well in the Salt River Valley

and the sugar-growing industry has been transferred from the tropics to the temperate zone. About a hundred years ago, grown on the shores of the Mediterranean, sugar-beets contained about 4½ per cent of sugar; now instances are not uncommon of 22 per cent.

This result has been secured by scientific selection and skillful cultivation, mainly in the rain regions. Students of the plant assert that continuing the same developing processes in the desert climate will probably increase its sugar content to a maximum of 30 per cent, possibly to one-third the weight of the beet.

The percentage of sugar depends more on climate than on soil. Sugar comes from the air, not from the soil. The laboratory through which it is collected is the leaf, and the active agent the sun's rays; so that, other things being equal, the sugar in a plant is in proportion to unobstructed sunshine falling upon it. For instance, in the rain sections of Europe and America, where clouds and fogs intervene, the average sugar in beets is about 13 per cent, while in the desert it reaches an average of 16 and 17 per cent. Of course, there must be rich soil to produce perfect conditions for gathering the saccharine, and ample receptacle for storing it.

The Salt River Valley is the most arid of any locality where sugar-beets are now grown, and has the longest season for planting, growing, and harvesting. All natural conditions, climate, soil and water, are exceptionally favorable. The planting season is fall and winter. Our six inches of annual rainfall comes in the winter—the growing season. The three years of government tests made, under the then precarious condition of the water supply, were conclusive of general favorable conditions. Professor McClachie, under whose supervision the tests were made, could never be accused of undue enthusiasm, but, in a letter to the writer, he gave it as his judgment that *It is possible to operate a beet-sugar factory in this valley ten months in the year.* The average season's operation in the rain belt is less than eighty days, and in the arid region about one hundred and ten days.

Before deciding to build the sugar factory, the company made independent tests under Mr. John Johnson of Utah. About thirty fields in different parts of the valley were planted under somewhat adverse conditions, the planting was late and the water supply, then, uncertain; yet Mr. Johnson's report shows an average yield of 19.6 tons per acre and an average of 16.6 per cent of sugar. One field produced forty-two tons per acre; the average in the best land did not fall below twenty-five tons. Compare this yield with the averages in the whole country, which are approximately as follows: Rain section, 9½ tons per acre; arid region, 14.

The Desert and Rain Belt Compared

The following from the pen of a sugar expert, Mr. Alfred Musy of Detroit, Mich., is of interest, and what is said of the climatic advantages in Colorado and Utah may be emphasized as to this valley:

The best sugar men of the rain belt have been astonished, since 1901, at the wonderful reports on the beet-sugar industry in Colorado.

They already knew that sugar-beets had been successfully raised on irrigated lands, in Utah, since 1891, but they had never heard of crops of twenty to forty tons of beets per acre raised in the first season, nor of campaigns of 60,000 and even 100,000 tons of beets showing an average percentage of sugar of 17 per cent.

The rapid development of the sugar industry in Colorado is due to the fact that the farmers have been making money even in the first season. It does not require much work, nor much experience, for a Colorado farmer to raise from fifteen to twenty-five tons of sugar-beets per

acre. The weeding of the beet field, which is sometimes so expensive in the rain belt, is unknown there, as there are practically no weeds. All the hard work consists in the thinning out and in the topping of the beets, which operations are never delayed by excessive rains. The roads are always in perfect shape. Under such conditions it is as easy for a farmer to grow fifteen or twenty acres as to raise five acres of beets in the rain belt.

The most striking advantage to the farmer here is the long season. The planting time for beets is from September tc February, and the harvest from April until the end. Cool nights being necessary for the best results, beets must not be grown in midsummer. But every week-day in the year can be profitably employed in the beet field in preparing the ground, planting, cultivating, and harvesting. A family can cultivate three times the acreage here that is possible in the rainy North; and then get twice the tonnage per acre with a higher percentage of sugar. The northern farmer will appreciate the advantages of the year-long season, with no rain or frost to interfere and with water to irrigate whenever needed.

The Glendale beet-sugar factory has long been coming over a somewhat rugged trail, but it has arrived at last and is one of the finest in the country. Its buildings are for 1,200 tons of beets per day capacity. Its present machinery is for 800 tons, producing over 100 tons of refined sugar daily. Machinery will be added to the full capacity as the business may require.

The location at Glendale, ten miles northwest from Phœnix, on the Santa Fe Railway, is ideal. It is in the center of a belt of soil of rare fertility, an alluvial deposit of from forty to fifty feet in average depth; over 30,000 acres of the choicest garden soil. This land is watered by the Arizona Canal now being enlarged by the Government to a capacity of 80,000 miners' inches, 2,000 cubic feet per second, bringing a sure water supply from the rivers and the great Roosevelt reservoir.

The profits in sugar-beets here, both to farmer and factory, promise to be so generous that this plant will probably be only the beginning of sugar-factory building in this valley.

The Garden Spot of the World

BY CHAS. F. JONES

When United States Senator Tillman passed through Mesa about a year ago, on his way to inspect the government work at the great Roosevelt Dam which supplies this section with irrigation water, he was astonished at the productiveness of the soil, the prosperity of the residents, the unequalled climate and potent possibilities; so much so, that he exclaimed: "This is certainly the garden spot of the world."

Mesa is a Spanish word meaning table, and true to its name, the Mesa section is an elevated plateau situated on the south side of Salt River, and, according to the government soil maps, after a careful and painstaking investi-

gation, there is no more fertile land in the entire valley.

Mesa City is a town of about sixteen hundred population and is located sixteen miles east and south of Phœnix on the Maricopa and Phœnix and on the Phœnix and Eastern Railways.

The school facilities of Mesa are excelled no place in the West. A new joint high school building is now being erected at a cost of $45,000. The building is decidedly practical and modern in every respect. Class rooms have been provided for all the commercial as well as the regular courses, while the manual training department occupies a prominent place. A lunch room has been provided so that the pupils may be served warm meals instead of eating a cold lunch five days out of the week, Particular attention has been paid to the gymnasium. which is fully equipped. The building is on the Romanesque order, artistic in design, and very commodious. These details are given in passing to show the intense interest manifested in the higher education of the children. The territorial normal school is located only six miles from Mesa, which makes it easily possible for children to attend, for there is not a day in the year that the roads are not in perfect condition, and the weather never becomes severe enough in the winter months to keep the first-grade pupils from their classes. There is never any snow in the Salt River Valley and frosts are not common.

While the churches and schools are in keeping with the growth and enterprise of the community, yet the agricultural interests and successes are what have brought the name of Mesa before the outside world more than any other one thing, with the exception of the great Roosevelt Dam. The mixture of sunshine, soil, and water has worked wonders in the valley which can best be told by taking up a few of the more important fruits and vegetables separately.

Cantaloupes, which have made the name of Mesa famous throughout the East, are grown almost exclusively in this section. Nine years ago there were but few small patches planted here and there for family use, with a little extra for the neighbors. From this small beginning the fact was developed that the soil and conditions produced in abundance perfect cantaloupes. The industry continued to grow until an association was formed, and the ranchers began devoting considerable time to the industry. In order to show what has been accomplished in this line the reports of the Secretary of the Association bring out the fact that there were 167 carloads of cantaloupes shipped out of Mesa last season to Chicago, and from there were distributed throughout the eastern markets. The growers received last year for their crop over $57,000. This amount means the net sum which was sent back to the Mesa section, the greater part of it being spent by the ranchers in improving their property, or, perhaps, in buying more. We have men in the Mesa section who have been growing cantaloupes for the past nine years and can show an average income of

$150 per acre for the entire time. Cantaloupes are planted in April and are picked along during the 1st of July. The cultivation and care of the crop requires careful attention, yet one man can easily take care of from five to ten acres until the picking and packing season. It then takes additional labor; but as soon as the cantaloupes are off the ground another crop may be planted and matured.

Thompson seedless grape growing is another industry which is coming to the front. Until a few years ago a considerable amount of the crop was made into raisins, but it has been learned that more can be realized by shipping the fresh fruit to the Chicago markets, from where it is distributed. A grape vineyard requires less attention and less irrigation than any other crop. In order to start a vineyard it is necessary to go to some old vineyard and get cuttings. In the winter months set them out in the vineyard about eight feet apart and within three years a bearing vineyard will be the reward. The grape crop, last year, brought into the Mesa section over $10,000 to the growers, while this year that amount was probably increased considerably. Several of the growers reported that they netted $200 per acre from their vineyards.

Orange culture is another Mesa industry which is rapidly coming to its own. On account of the altitude of the Mesa section there is no danger from killing frosts owing to the tendency of the warm air to keep the higher strata of the atmosphere. One grower, last year, who has an orchard fourteen years old, reported that his trees netted him $4.00 apiece.

Orange trees commence bearing at about the fifth year and continue until upwards of one hundred years of age. There are absolutely no pests of any kind here which affect the orange. Orange land is selling at less than 50 per cent of the prices asked for similar land in other orange districts. Lemons and pomelos grow readily here, and they find good markets in the East. It is a well-known fact that Arizona oranges invariably bring the highest price on the eastern market against strong competition.

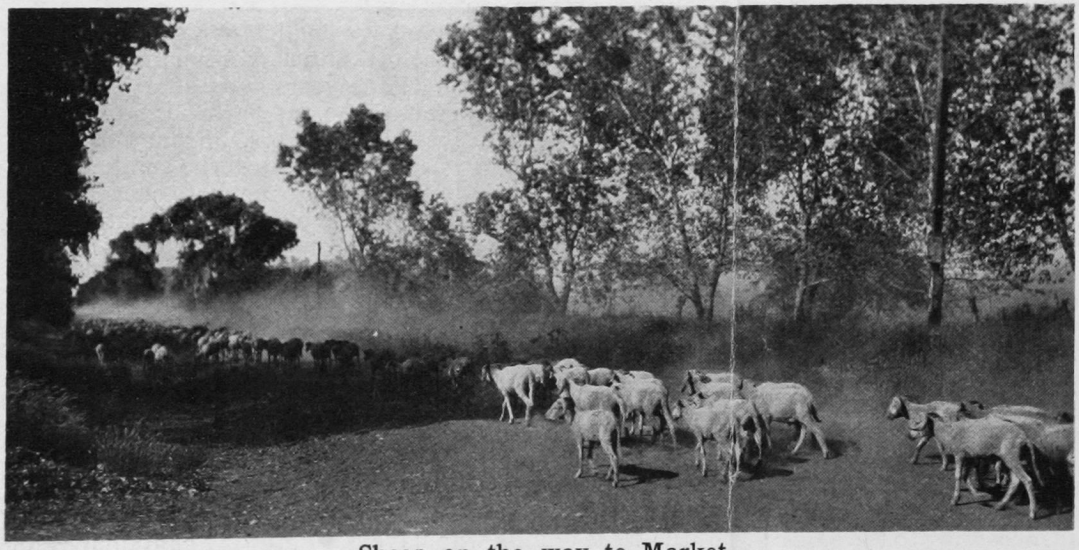
Vegetable gardening is one of the rapidly developing industries. A better revenue from the money invested can probably be realized in this business than in any other line. Tomatoes often produce as high as $1,000 per acre. A gardener, living north of town, last year attained those figures, and it was only his second year in the valley. Bermuda onions are very productive, the gardeners ofttimes realizing as much as $300 to $500 per acre. Green beans, carrots, turnips, squash, pumpkins, sweet and Irish potatoes, infact all vegetables do well, and find a ready market in the mining camps and railroad towns throughout the Territory.

Poultry raising, especially Indian runner ducks, turkeys, and chickens is a very profitable industry. On account of the dry, even temperature the young birds do well and commence to grow as soon as they are out of the shell. Eggs always find a ready market, while dressed poultry is in demand at all times.

The Mesa Dairy & Ice Company, which solves the problem of furnishing a market for the product of the dairymen, is a coöperative institution in which the farmers own stock. Milk is delivered at the creamery every morning by the farmers for which they have been receiving from $1.10 to $1.15 per hundred all winter. The industry is growing and the ranches are breeding their herds for dairy results.

One of the important characteristics of the Mesa section is that every foot of land is susceptible of cultivation. There are no waste places. The town has just voted for a new, up-to-date system of waterworks. The supply will come from deep wells which penetrate the mountain strata of water, insuring a pure, fresh drinking water. Business blocks are under construction which are a credit to any town. The buildings already here are mainly of a very substantial nature, being of brick and reinforced concrete.

The Santa Fe has put low rate homeseekers' tickets on sale the first and third Tuesday of each month, and a trip of investigation is well worth while. The Mesa Chamber of Commerce maintains an information



Sheep on the way to Market

bureau where all questions concerning the section are answered courteously and promptly.

The country is full of opportunities for men with from $2,000 to $5,000 inasmuch as they can start out with that capital and live comfortably, aside from making a splendid rate of interest on their investment.

A Homeseekers' Paradise

By H. I. Latham

There is more money for farmers in the Salt River Valley of Arizona than anywhere else on this continent.

The man who will work as hard on his farm here as he has to work in the Middle West, to make a living, will get rich.

These statements are made after mature thought and due consideration, and are not the thoughtless expression of a superficial observer. They are the result of close observation and careful comparison of conditions during a residence of twenty-two years, nearly equally divided in business experience in the Middle West and this favored valley of Arizona. During my residence for the past ten years in Phœnix, there has been opportunity to study conditions from nearby view-points. There have been lean years and fat ones; or what means the same thing in this section, years of drought and seasons of a plentiful supply of irrigation water. The first years of the decade may well be called a time of pioneer work. The people of the valley were groping to find a solution for their irrigation troubles—dams across the river when there was no water to be diverted, no dams when the floods came in force, and hence no crops or unsatisfactory returns, because without water the land however rich is unproductive. Corporate ownership of the distributing system of irrigation water was found unsatisfactory. Suggestions for an extension of the system by the building of reservoirs by private enterprise, or with combined public and private control finally gave way to the plan now being worked out with such success, here and elsewhere in the country—government building and supervision of projects under the Reclamation Law and finally their turning over to the people, after the Government has been repaid the initial cost, without interest.

During these preliminary, and somewhat unsettled years of residence in the valley, it was my pleasure, or business perhaps, to make an intimate, practical study of water conditions with reference to land on the north side of the river. In this way was gained a knowledge, not only of the practical methods for utilizing the then uncertain water supply, but also was learned the peculiar characteristics of various tracts of lands—as to what crops they were best adapted, and various points that might prove of value to prospective purchasers.

A few leaves from the experience-book kept by my business associates and myself may prove interesting as showing what has actually been accomplished with Salt River Valley land:

A 40-acre tract sowed to barley and alfalfa early in November, last, was pastured in February and March, yielding $180 from this source. In May, seventy tons of barley hay were cut, bringing $4.00 a ton, net, or $280. There will be, at least, two more cuttings of hay, with an average yield of say a ton to the acre, or eighty tons of alfalfa at $5.00 per ton, making $400. This makes a total of $960 from the forty acres, with plenty of pasture for this winter.

From another forty acres sown in November to alfalfa and barley, and this is a common practice, the grain acting as a nursing crop for the young alfalfa, there was received in January, February, and March, $280 for pasture at the rate of $2.00 a head per month. In May there was cut fifty-two tons of alfalfa hay, returning $278 net. Two more cuttings of a ton an acre each may be figured on, or eighty tons of hay at $5 per ton, adding $400 to the total cash production for the season. This makes $979 in cash, and again winter pasture will be available on the forty acres.

From 210 acres of barley, raised this winter, there was a yield of 381,700 pounds of grain. Twenty acres ran twenty-seven sacks to the acre, and the sacks averaged 113 pounds, although some ran as high as 118 pounds.

In cattle feeding we have, on the whole, better than doubled our money in the past years.

Take this as an illustration of Salt River Valley ranching: A year ago fifty head of yearling range steers were bought at $16 a head. They were fed on the ranch for ten months, turned off before two years old, weighing an average of better than 909 pounds and bringing over $36 a head. This was better than doubling money in less than a year. So much for range stock. Our valley-raised steers from white-faced stock, at eighteen months old, have averaged for the past six years $45 per head.

In sheep raising, the figures are astounding and almost beyond comprehension, except when the exceptional conditions of soil and climate are kept in mind. Here is what has been done in that line. Five hundred ewes were fed on an 80-acre alfalfa tract. The increase in lambs was 15 per cent, the lambs weighing eighty pounds at five months when marketed. And from the same land was put up 120 tons of alfalfa hay during the year.

It must be remembered that these figures represent ranching done on an extensive scale, which is the most expensive and wasteful manner. The returns are figured on gross acreage and would be much greater in proportion if the net acreage should be figured. All the work from the foreman down is hired. Intensive farming, under personal supervision, would give much better results, so I have no hesitation in stating that an investor in Salt River Valley lands, at the present time, is sure of a yearly return of 25 per cent on his investment.

Naturally this leads to a query about land values and the prices of real estate. It is my contention that, at

Cattle Grazing on Alfalfa

the present prices asked for real estate in this valley, land values are cheaper than they were five years ago. Then there was an uncertain water supply, and that for only a limited acreage at the best. Now there is an assured supply for the great acreage to be taken care of by the Roosevelt Dam, which is now beginning to impound the waters of Salt River. The land, already in cultivation, is enjoying the benefit of the permanent concrete diversion dam just completed by the Reclamation Service at Granite Reef, as a part of the general project. Assurance is thus given that whenever there is water in the river it will be, also, in the canals up to the limit of their capacity, while, in a little over a year more the impounded water of the reservoir will be available for distribution to an increased acreage. In addition there is the promise of railroad building to give increased facilities for shipping products, and to develop nearby markets in mining districts.

Then, it must be remembered that an acre in the Salt River Valley is equal, in productiveness, to four acres in the Middle West or any other section dependent upon rain for water supply. In other words, land here, for which the owner asks $100 an acre, is no more expensive than $25-an-acre land elsewhere. So that the prices of from $50 to $250 an acre, which are put on valley lands, according to their location as representing distance from town and their present state of cultivation, really only represent from $12.50 to $62.50 for similar land in other sections. In connection with this must be figured the cost of irrigation water, at the rate of $3 an acre, each year, for ten years until the reservoir cost is repaid, and the annual charge for maintenance and distribution, which will be in the neighborhood of a dollar more. In comparison with other communities where the annual cost for water distribution ranges from $4 an acre to three or four times that amount, the figures are

not large. Especially is this true, when it is taken into consideration that the whole force of the Government is behind the success of the water-storage project, whose comprehensive plans include the development and sale of surplus electric power which, in time, will more than repay the initial cost of the whole undertaking. Then the farmer in the Salt River Valley stands a good chance to *receive a dividend* instead of paying out anything for his irrigation water supply.

With this in mind, my advice to prospective settlers is to buy outright at this time, instead of figuring on renting. Then, if in a year or two it is desired to change location, there will be the chance of selling the first property at a considerable profit on the purchase price.

From Northeastern Indiana and Northwestern Ohio we have brought families of Germans, numbering over 300 persons, and located them on valley lands. These are mostly farmers and mechanics. Some have started to manufacture cement blocks for building purposes. Single girls of the families are earning from $25 to $35 a month as household helpers, for which there is a big demand in the valley. Most of these families have bought highly improved lands at from $125 to $200 an acre. On these ranches they are engaged in dairying, raising poultry, small fruits and vegetables, and other intensive farming. The boys are working in the valley; some are running threshing outfits, others hay-baling presses. That all are content with their lot and satisfied with their investment and life in the Salt River Valley is evidenced by the following letter signed by representative members of the colony:

The H. I. Latham Co.,
Phœnix, Arizona.

Gentlemen:

We, your German friends, are very glad indeed to join in a letter of praise of this beautiful valley.

We all like it here very much, and those of us who have been here the longest like it the best.

We would earnestly advise everybody who is thinking of a change of residence to look this country over.

All of our people are contented and happy here. We have all enjoyed the best of health and all done well in a money way, and our lands are constantly increasing in value.

The general conditions here are equal to, if not much better than in Ohio and Indiana, where most of us came from, and especially is this so regarding our schools.

Our summers are hot, but as there is little humidity, we don't mind them any more than in the East. Then we don't have those dreadful storms and it is very rarely that the weather interferes with our putting up our crops. Beautiful sunshine nearly all the time. Green pastures all through the winter season, instead of the snow and ice and zero weather of our old homes.

Thanking you for the many courtesies and favors shown us all, and wishing you further success, we are,

Very truly yours,

Mrs. Jacob Kleck	Jacob Kleck
Mrs. John Imbach	John Imbach
Mrs. Mary Mollet	Jesse H. Kleck
Ella Mollet	J. B. Mollet
Mrs. Dan Diller	Dan Diller
Katie Habecker	Joseph Habecker
A. P. Diller	E. G. Gerig
Mrs. Menno Yaggy	Menno Yaggy
Mrs. D. M. Sapp	D. M. Sapp

Cantaloupe and watermelon growing has proved a commercial success, and the acreage devoted to these crops is being enlarged yearly. The shipments to territorial and more distant markets run into hundreds of carloads annually. Shipments of oranges, during the past season, were more than five times the carload consignments of previous years and many additional acres have been set out now that a water supply is assured to give permanence to the groves. The acreage of deciduous fruits and berries is also being increased with the improvement in irrigation conditions. These are only a few of the special crops to which Salt River Valley lands may be devoted with great profit to the grower.

It would not do to omit some mention of climate, which is a long suit in the valley. A rainless autumn, mild winter, and balmy spring are not only favorable to vegetable growth and thriving stock, but induce the coming of many winter visitors who usually end by making Phœnix their home for a large portion of the year. The summer heat, while extreme, is tempered by comparatively cool nights, lack of humidity, and absence of danger from prostration.

In the city proper, which is the commercial center of the valley, and the supply point as well for mining districts in the surrounding hills, there is an era of building and improvement now beginning. Scores of residences

and business properties are being built and enlarged to accommodate the constantly growing population with its attendant increase of commercial activity. Congress has just provided $140,000 for a public building, and work is going forward on a Y. M. C. A. building, for which $100,000 was subscribed, all of which tends to show the stability of values under improved conditions in the valley, and gives assurance of the desirability of Phœnix and the surrounding valley as a place to make money grow.

A Bit of Information

By Geo. W. Cowgill

June 17, 1902, was the birthday of the Reclamation Law. The people of America were aroused to unusual interest in the great work which the National Government undertook at that time, and have been following with continued interest the results of this great move in national industry. By this act our Uncle Samuel became the financial agent of the people of the arid regions without profit or loss to himself.

But the irrigation of lands in the Salt River Valley did not begin with the Reclamation Law, but as far back as 1865, when a few farmers dug a community ditch. They were so successful that others built similar ditches to irrigate lands adjoining. About 200,000 acres of fertile land were available, nearly all open to homestead filing. The records of the United States Land Office show that, between 1868 and 1879, much of the land in the Salt River Valley was taken up under the Homestead Act, later entries mainly being under the Desert Act.

After years of continual settlement upon the land, extending and increasing the number and size of the ditches and laterals, it was found that there was not enough water in Salt River to go around when the river was low. There was no storage and the diversion dams built were makeshift affairs, quickly washed out when the river rose. During this period there was considerable litigation, as a result of the multiplication of headings in the river to supply the various canals. Lawsuits between the Canal Associations prevented proper development of the great resources of this valley. In order to bring order out of chaos, a clause was inserted in the Reclamation Law to the effect that title land (such as that in the Salt River Valley) could obtain the benefits of the measure. This enabled the Government to step in and construct proper and lasting irrigation works for an old, settled country, whose land had long before passed into private ownership.

The conditions and terms, under which the Government assumed construction of the irrigation project in the Salt River Valley, were the same as on all other projects. The farm owners formed the Salt River Valley Water Users' Association, under the direction of the Secretary of the Interior, and, through the Association, mortgaged their lands, in order that the Government

would have proper security for the money loaned in building the Roosevelt Storage Dam and the diversion dam at Granite Reef, a construction auxiliary to the Roosevelt Dam. The Roosevelt Storage Dam is about eighty miles east of Phœnix and the diversion dam is distant twenty-five miles from the city. The Water Users' Association is under the guidance of the Secretary of the Interior.

Government help has brought harmony amongst the holders of the land, and all priority disputes now are in process of settlement.

Those who may be interested in the Salt River Valley should understand that there is no Government land to be had at this time in the irrigable area. In fact, all land is under private ownership, as previously explained.

There is no bid for the man without capital, for like all good things, Salt River Valley land has its price and cannot be secured for nothing. The usual terms on which land can be bought are one-third to one-half down, with 8 per cent interest on deferred payments. The present holders of this land know full well its value and will not sacrifice their holdings. The man who has good health and energy, with a little money, who wants to invest where he will get best returns under the most favorable conditions, will travel far, and quit in despair before he can find anything equally as good.

As only a little over 100,000 acres of land are now in cultivation in the valley, the room for and the necessity of newcomers to work the additional acreage is apparent. Already many eyes are turned with longing toward the Salt River Valley, and many homeseekers are centering their attention in this direction. Yet there is room for more. Even the farms now under cultivation are, in many cases, large tracts which could be subdivided with good results. Where one family is now working a quarter section, or even eighty acres, three more could readily join with them and still there would be room and profit enough for all. So that, even with no considerable increase for a year or more in the present water supply, newcomers would be assured of return for their labor.

By the time the procession of homeseekers is fairly started in this direction, additional water will be available in the supply stored in the Roosevelt reservoir, and that will mean the irrigation of additional acres up to the total of 200,000. Then the Water Users' Association no doubt will have a membership of 5,000 or more, where it now has 1,500. The man who starts *now*, will get not only the pick of the land, but he will get nearer the ground floor than the man who waits until the good things are all taken and all prices have been sharply advanced.

It should be understood that water in this arid Southwest cannot be considered as a chattel of separate ownership. It has value only when associated with land and used upon such land, priority being determined in accordance with the date of initial cultivation. But with an ample supply of water assured, all the farmer will have to consider will be the needs of his crops, and priority questions will little vex. Neither will it matter what canal supplies the land.

Here, in the Salt River Valley, the Reclamation Service is demonstrating its own theories of the conservation of flood waters, heretofore wasted, now to be stored for the summer needs of the land. Within this valley it will simply mean twice the yield per acre, with twice as many acres cultivated.

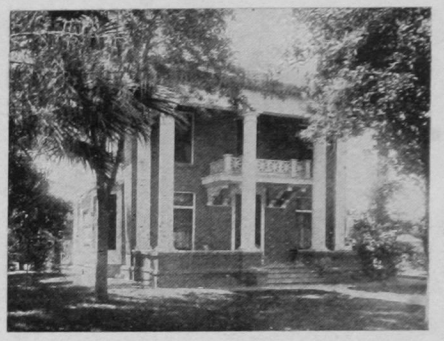
What Can be Done with $2,000

By J. W. Spear

The man with $2,000 can do any one of a long list of things which, with ordinary fortune and judgment, will return much more than interest. It is assumed that the question is asked in behalf of those who have no remunerative occupation, and with their capital propose to be independent, thus narrowing it to an agricultural proposition.

Palm Drive—B. A. Fowler's Ranch near Phoenix

Good land costs from $75 to $250, including irrigation water. Assume the middle ground of $100 per acre. Buy fifteen acres. Pay for it $1,000 cash and mortgage for the rest, placing the other $1,000 in the bank to draw upon for the first year's support and for necessary equipment. Utilize credit as far as possible with safety and assurance of meeting obligations. Begin in the fall. Build a small, comfortable house until able to build a better one—say a $400 mansion, unless you are single, then live in a tent. Some credit could be secured on the house. Procure team, wagon,



Typical Homes in the Valley

plow, and other needfuls. Establish an account at the grocery store. Plant almost anything you like that will grow in the latitudes between Milwaukee and New Orleans, preferably, for early revenue, truck, etc. Later you may decide that a 10-acre orange orchard is what you want with five acres for truck; but as it takes six or eight years for oranges to make returns of consequence, and in the interim only the space between rows can be utilized, wait for oranges until you have more money.

Put five acres into deciduous fruits of various kinds. In the months that follow plant between trees for a year or so, vegetables for family use and market. Later do not use for other things soil vitality that belongs to the trees. Plant an acre of strawberries. There will be some return the first year, a big yield the next. An acre of asparagus will be a money-maker if you know how. James Davis of Mesa City made $60 on one-eighth acre of green peas, marketing them in February. He says he can raise beets the year round, returning $400 per acre at from 1 cent to 3 cents per pound. He realized $130 from one-quarter acre Irish potatoes, an exceptional result; but he knows the truck business.

Put in two acres of alfalfa for the horses. You still have about five acres for cantaloupes. Plant in March, harvest during July. Many small patches have returned, net, except for owner's labor, $200 per acre; some more than $300. Plant sorghum or some other crop to follow cantaloupes. One man handles five acres of cantaloupes; but fifteen acres intensively farmed will require some help. It might be better to try fewer crops and more acreage to each at first; but the small farm must be diversified and worked intensively. The farmer must work hard and live economically until he has paid out. In this climate he can work 365 days annually. Keep chickens. H. B. Lehman of Glendale deals in them almost exclusively. Returns last year were $2,254, less $890 expenses, net, $1,364. Five acres would make a splendid chicken ranch. A few hundred dollars would stock it.

Some have started by renting land for the cantaloupe season at $10 to $15 per acre. That only requires cost of living while making the crop, but the renter is not building his own home place, though experience may be worth the delay.

It is an ideal country for the apiary, poultry, vegetables, and for small fruits on a $2,000 basis. With more money there is a much wider field.

The Man with $2,000 and a Hoe

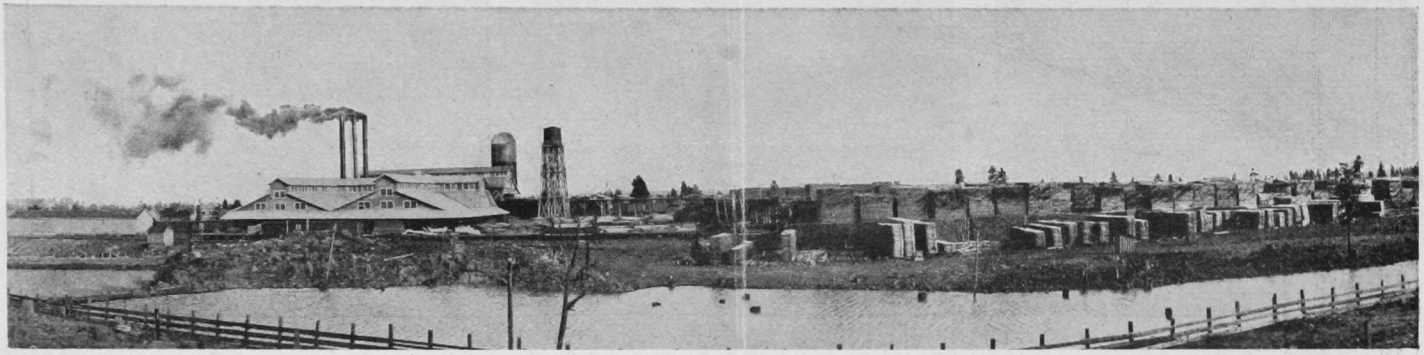
By Charles V. Falck

Having been myself, for years, a man with a hoe in the unbroken prairies of the Middle West, patiently freezing in winter, and dodging sunstrokes in summer, I can fraternize with the man who succeeds in some mysterious way, in saving $2,000 out of the sweat of his brows and the icicles of his whiskers. It never happened to me, because a cyclone saved me the trouble of moving stock and household goods, but of course not everybody is so fortunate as I was.

There are many who have a couple of thousand dollars to justify them in speculating as to the best place to go and work, with some prospect of accumulating a few more thousand dollars, without being in the least endangered by any unexpected "twister."

These good people are beginning to read and think and are drawing beautiful air castles. Nay! Sublimated farms, that they can cultivate from one end of a year to the other; that have inexhaustible soil; that are independent of too much or too little rain; that will yield always good crops in such abundance that a good living can be made on twenty acres instead of 160 acres. At last Mr. Middle West Farmer opens his heart to the woman of his choice, and begins to figure out all that he could do on such a farm with $2,000. Mrs. Middle West Farmer looks long and hard at her husband: "John, I never knew you drank," she says, and goes on churning the butter to be sold the next day for 10 cents per pound in the town store.

But there is a possible materialization of this beautiful dream. There is a chance to swing these fancies into facts. The Salt River Valley of Arizona is the realized dreams of past generations. Here the man with the hoe either may buy twenty acres for from $2,000 to $4,000,



Lumber Yard at Flagstaff, Arizona

make a part payment on it and earn in two or three years sufficient means to be free of debt; or what is wiser and better, he may come with his $2,000, rent a small tract for a couple of years, take an option on the land he is tilling, and pay for it entirely from its own earnings.

There are two important factors to be considered by the newcomer. The one is: "Where is the best land in the valley?" The other is: "What is the best way of farming it?"

The best way to farm it, is to come with one's mind made up to know nothing; to get the names of the most successful farmers in the valley, who are nearly all, comparatively speaking, newcomers. They are all glad to give the best of advice. Following the example of these men and applying it faithfully upon the owned or rented land means success.

The man with $2,000 and a hoe can't dodge success in the Salt River Valley. in spite of all former failures. It is the place to come, to see, and to stay in.

The School System

By A. H. Fulton

The people of Maricopa County are justly proud of their schools. The masses of our people, in fact, are prouder of their schools than any other one thing in their new and growing country, for they fully keep pace with, if they do not surpass, the more distinctly material growth. Yes, it surely is safe to say that our schools are in the lead.

This is as our people would have it, for they have made it so. They have taken a deep interest in education right from the first settling of the country. One of the first things done was to form school districts and establish schools. Our pioneers deserve great credit in this, for they started right, and laid well the foundation of what is now a fine system of schools.

Our Arizona school laws and general system of education are very much like those of California, and we are glad our work is so much like that of our neighbor, for California is one of the best school states in the Union.

As our locality is western, and even the very air western, we have western laws and customs suited to our best interests. Our laws provide for ample funds for our schools, hence we have a strong class of teachers, more than 75 per cent of them being graduates of state normals, colleges or universities. Our Territorial Board of Education and Territorial Board of Examiners issue all licenses to teach, and they have power, under our laws, to make certain rules and regulations regarding the certifications of teachers. These boards encourage professional work, and encourage it strongly, by granting license, without examination, to any teacher holding a full-course state normal diploma from any State in the Union, or a State life certificate from any State, or a diploma from a university or college of similar rank, provided that each of the latter two shall carry at least one year's professional work.

These regulations by our territorial boards are encouraging to teachers who have spent money and time preparing themselves for their life's work, and at the same time puts them into our schools to the exclusion of many who would make of teaching only a temporary occupation, a passing means to do something else.

One of the territorial normal schools is located at Tempe in this county, Tempe being between Phœnix and Mesa, nine miles from Phœnix and seven miles from Mesa.

Besides the fine school buildings in our towns, the larger part of our country buildings are brick, and have two or more rooms and teachers. One country school has four teachers and one has five. Nearly every one of our country schools is doing regular graded work, coming up through the grades, 1st, 2d, 3d, etc., in systematic order till the 8th grade is finished. Those who succeed in making the standard required are then given an 8th grade diploma, which admits them to the high schools, or the beginning work of the normal, without further examination.

We are aided so much in this systematic work by following a good territorial course of study. In fact, we never succeeded in this orderly work as we should,

till we got our course of study nine years ago. It is now a pleasure to hear our children talk intelligently with teachers and parents, discussing their various grades and what they are doing. Their understanding of their work is definite and clear.

The attendance in our schools is good, and it should be. There is little or no inclement weather to keep children away, usually not to exceed two or four days in a year. Nice clear weather nearly all the time, and when it does rain our soil is of such a character that the top of it dries quickly. Children can easily go to school every day of the term, and not be exposed.

We have had two good high schools running in our county for a number of years, one in Phœnix and one in Mesa. The Phœnix Union High School is composed of Phœnix and twelve country districts around it. The country districts are rich farm land, well populated, and have strong country schools. The plan is working excellently and the high school is a splendid one. Mesa and Tempe have each formed union high schools in the same way this year. They have rich farms all around them, and strong country schools, so that their high schools are bound to be good ones.

Our high school graduates are admitted to our territorial university at Tucson, and to the universities of California, without examination.

We are happy in our whole school system, and are working hard to make it still better.

Rural Schools

By J. A. Riggins

When the man with a family begins to think of breaking away from his early home and moving out West, either in search of health or financial gain, he hesitates, fearing to deprive his children of educational advantages. In all probability his children have been attending an ungraded country school during five months in the winter and two months in the summer. The teacher probably had attended a similar institution of learning until she became of age to apply for a second grade certificate, obtaining which, she went forth to do her part in the training of the minds of future generations.

While this condition does not obtain in all schools, until within the last few years it has been quite characteristic of the rural schools of the East. Schools so conducted, while not good, are much better than no schools; and a man is perfectly justified in looking at the school question before going to a new country.

The terms "new country" and "out West" carry with them ideas of rough, primitive life fraught with hardships and privations. This was the case at an earlier time, but in this day of improvement and progress, we have no hardships and privations to endure other than will naturally fall upon one engaged in any sort of labor.

No part of the life in the Salt River Valley is so well organized or so well cared for as the rural schools. A uniform course of study, providing for the usual eight grades during eight consecutive months of school in the year, and a uniformity of text-books, make the foundation upon which the organization rests.

The financial element also has been a large factor in the well-being of the schools. Regardless of the enrollment of the school up to twenty-five pupils, an apportionment of $600 is made from the general tax fund. For every pupil after the first twenty-five, the school receives an apportionment of $32. So that a school of fifty pupils has $1,400 with which to carry on the school during the year. As this is due the school each year, the district can well afford to pay a salary which will justify the best teachers who have spent time and money in preparing themselves to take charge of the work. As the enrollment increases, the output for supplies being practically the same, teachers' salaries increase.

All the rural schools near enough to Phœnix to make it practicable are organized into what is known as the Union High School District. Pupils graduated from these graded country schools, enter the high school in Phœnix without examination or tuition.

The Cartwright School, located seven miles northwest of Phœnix, may be taken as a fair example.

The building at Cartwright is a $5,000 brick structure of four rooms, only two of which are at present used as school rooms. One room is occupied by the principal with the upper four grades and one by the assistant with the lower four grades. The rooms are separated by a partition made of large sliding doors which, when rolled back, throw the two rooms into one large one. The rooms are well lighted and well ventilated and have an ample supply of black board, maps, charts and other apparatus necessary in the work of a school made up of earnest, intelligent, enthusiastic pupils such as the pupils of Cartwright are.

A pleasing feature of this school is its fine library of 300 volumes, consisting of reference books upon the subjects taught, standard works in literature, a few volumes of modern fiction, and a large number of books for the primary department. This library is the pride of the pupils and the books are not left standing idly upon the shelves.

The children, for the most part, are from good families and are quiet, polite, and easily controlled. From the Cartwright School, with an average enrollment of forty pupils, thirty pupils have been graduated from the eighth grade. A large per cent of these pupils have entered the high school or the Tempe Normal School.

The quality of the schools being equal, the delightful climate of Salt River Valley gives them an advantage over eastern schools, as the pupils are not kept out by bad weather nor forced to go through the rain and mud and cold to the detriment of their health.

The people of Cartwright district are proud of their school and are careful to elect trustees who are capable of looking after its welfare. It has been the wise policy of the trustees to engage only teachers of wide experience or good normal school training. For the services of such teachers they are prepared and willing to pay well.

If for any reason more money is needed than can be drawn from the school treasury, the Cartwright people are found to be generous in the extreme.

The eastern man, wishing to cast his lot among Salt River Valley ranchers, need have no fears concerning the mental development of his children.

A School for Boys

By Lucy T. Ellis

Two and a half miles from Mesa, in this famous Salt River Valley, lies El Rancho Bonito, covering eighty acres. Here one finds a preparatory school for boys conducted on plans of the highest ideals, where a boy, wishing to enter college, may find to his advantage life in the open while receiving sound university instruction. The object of the school is to develop the faculties, mental and physical, and to bring out the individuality of each boy. The number of students received is limited. No set curriculum is followed, individual attention being given to each boy, who takes up those studies for which he has greatest need. Before application is accepted, credentials must be given for good character, average ability, and a physician's written statement as regards the boy's physical condition. No boy with tuberculosis will be received.

To understand the spirit, the individuality and the originality of this school environed with ranch home life, one must pay it more than a brief visit. Its founder, Mr. Evans, is thoroughly imbued with this truth of the master teachers, "A strong healthy body for a thinking mind." Mr. Evans is an M. A. and Lupton and Nebblethwaite Exhibitioner of St. John's College, Cambridge University. He was for several years assistant master at Elsted, England, when coaching for the Army and Navy was a speciality. It is complimentary to the educational facilities of our valley, that of the thirteen boys in the class of 1907–1908, New York City sent five; Rhinebeck, N. Y., one; Boston four; Sherebrooke, Quebec, one; Beloit, Wis., one; San Francisco one. Harvard will receive five, Yale one, Stanford two, Ann Arbor one, Beaux Arts one, and two are preparing for business.

The student is given an insight into ranch work and its many branches, especially stock raising and irrigation. He has also a rare opportunity for archæological research.

On entering the school the boy is provided with his own tent house, for which he cares, and in which he lives. He has his own horse and must care for it. He learns to drive, ride, rope, milk, and harvest, with ample time

for baseball, tennis, and swimming; in fact he lives the outdoor life. There is a family dining-room and a living room with books and music, where many delightful evenings are spent in after-dinner talks. Mrs. Evans keeps the boys in touch with the refining influence of the home life.

Our Moral Status

By Dan'l F. Jantzen

It is unfair and unjust to this great valley of the Southwest for the people of the East to look upon it as a wild, uncivilized, or at best half-civilized frontier country. It is fair, however, and right, for people who contemplate coming here to live in this health-restoring climate, to ask whether or not there is any moral influence that will have an ill effect upon their children. Such investigation is welcome.

If the Salt River Valley were still in the possession of the savage Apaches, or in control of the rough border men, the good people of the eastern states might justly question the advisability of coming even to this valley of wonderful resources and healthful climate, for indeed we know that character and safety are more than wealth. But this valley is not so occupied, but is settled by the best of people from all parts of the Union; good, law-abiding citizens, many of them university graduates, thousands of them earnest Christians. Strangers visit the churches on Sundays and express their surprise in finding such large edifices so well filled. The city of Phœnix with a population of about 18,000, has eleven churches of all denominations. They all have modern church buildings, large memberships and wide-awake energetic men for their leaders.

The smaller towns of the valley have their moral and Christian forces of equally high standards. The country is dotted with beautiful brick school houses, and here and there a brick church.

There need be no fear, therefore, to bring your family here. You will find every good influence of your home country plus a climate that invites one to live much in God's out of doors, and that is a moral asset.

Castle Hot Springs

By F. W. Sawyer

The development of this uniquely located hot springs into the resort beautiful not only in Arizona but of the whole western world, is an interesting story known to comparatively few.

It has been nearly ten years since the virtues of this wonderfully located hot springs on Castle Creek attracted the attention of a party of Arizona and Philadelphia capitalists, who conceived the idea of getting possession of the springs, and all the land in the near neighborhood, and transforming it into the ideal fall, winter and spring resort of all the world, for health, recreation, and rest.

A railroad connection was made at Hot Springs Junction, and a wagon and automobile road constructed over a distance of twenty-four miles to the springs through a country wonderfully rich in scenery varied and unrivalled. This road has been graded and maintained in perfect condition at a great expense.

The grounds about the springs were carefully laid out and measures have been taken to make this one of the show places of the country.

Hotel buildings have been constructed that are modern and first class in every respect. There are electric lights, ice and cold storage, steam plants, water and sewerage systems—in fact all of the improvements to be found in a good sized town.

Packing Cantaloupes—Salt River Valley

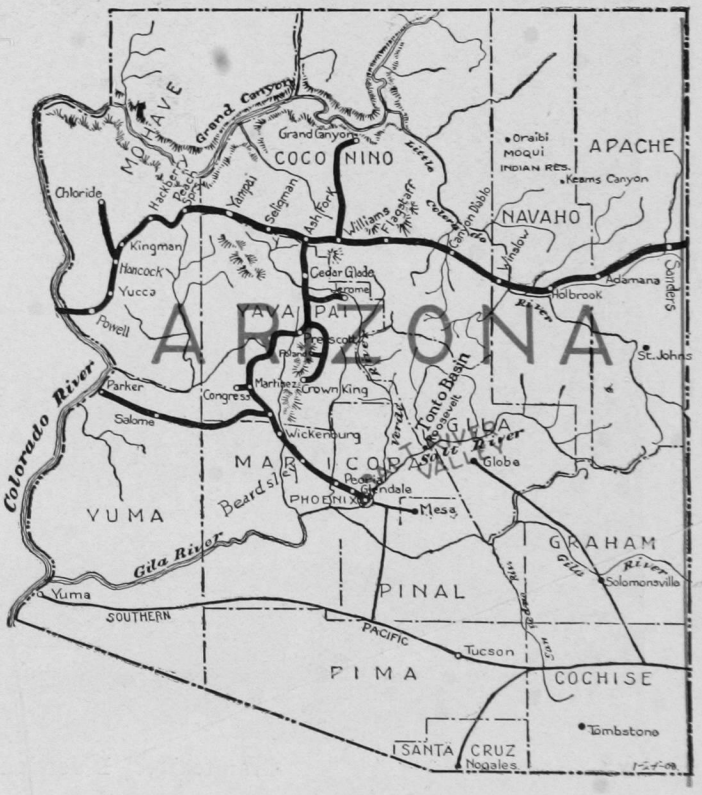
Palms of many varieties, orange, lemon, grape fruit, pepper, olive, fig, and nut trees grow along the artistic walks and driveways. Rose gardens and flower beds located where color would best harmonize with the beauties of the surrounding hills, and the many other requisites for the foundation of a perfect resort, have been carried out.

The visitor to-day will find the ambition and forethought of this body of men realized in a marvelously glorious garden spot, a true oasis in the desert, an ideal location for rest, health, and recreation.

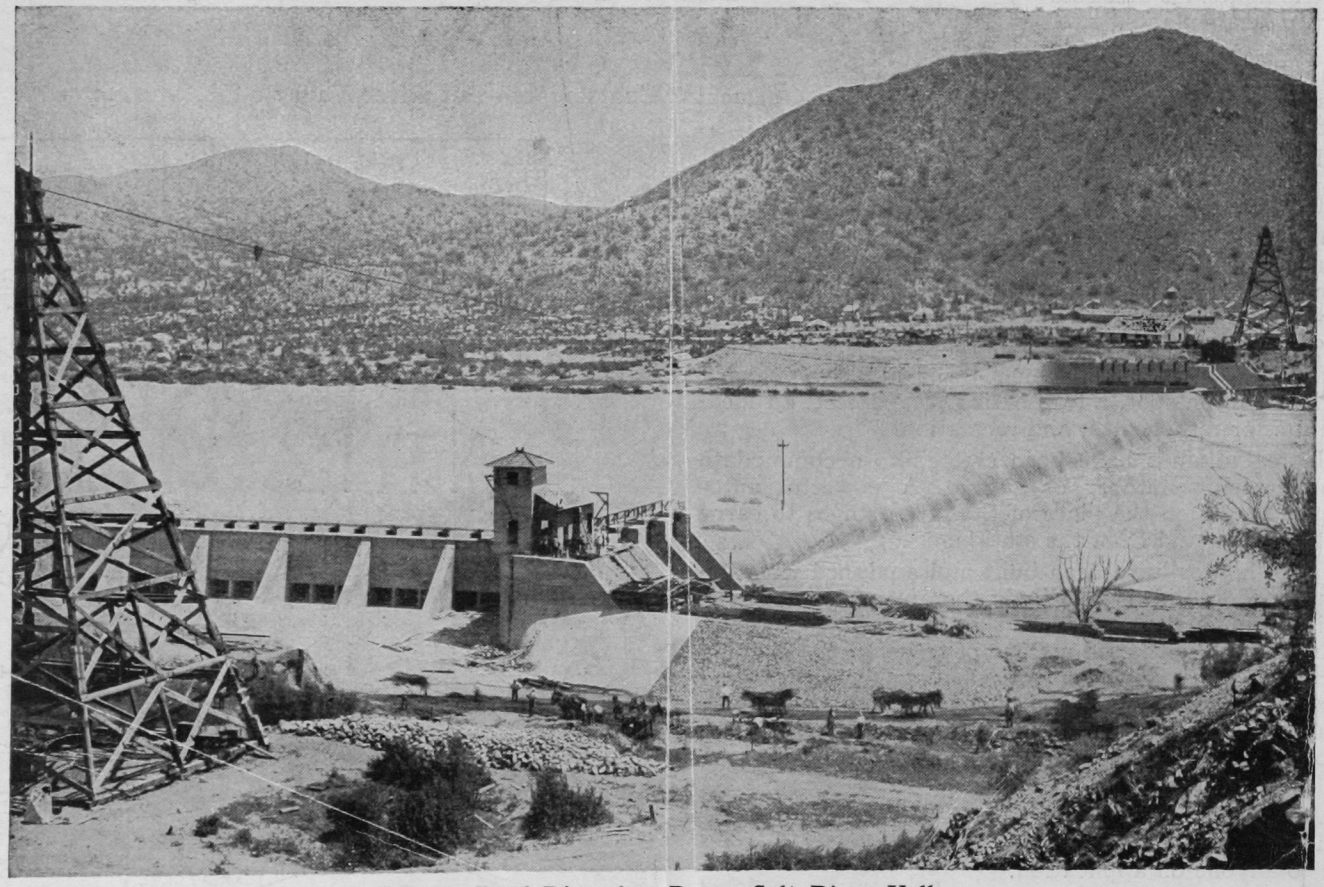
More buildings have been erected to accommodate the increasing number of guests. A powerful automobile has taken the place of the horse stages to carry passengers to and from the station.

Bath houses have been built and equipped with the most modern ideas of hydrotherapy (water cure). Artistic bungalows erected on sightly locations—in fact, here has been witnessed a scene of transformation equal to all the most vivid imagination could picture, and Arizona possesses in beautiful Castle Springs a resort totally and wholesomely unlike the ordinary, possessing a combination of attractions unequalled anywhere else in the world.

A profusely illustrated booklet is published by the company that is a work of art; this booklet will be sent free to anyone on application.



Oranges One of the Chief Sources of Revenue



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Granite Reef Diversion Dam—Salt River Valley