ARIZONA

SOUTHERN PACIFIC

THE NEW
ARIZONA

FARMS, PROSPERITY AND HEALTH
IN AN OUT-DOOR COUNTRY

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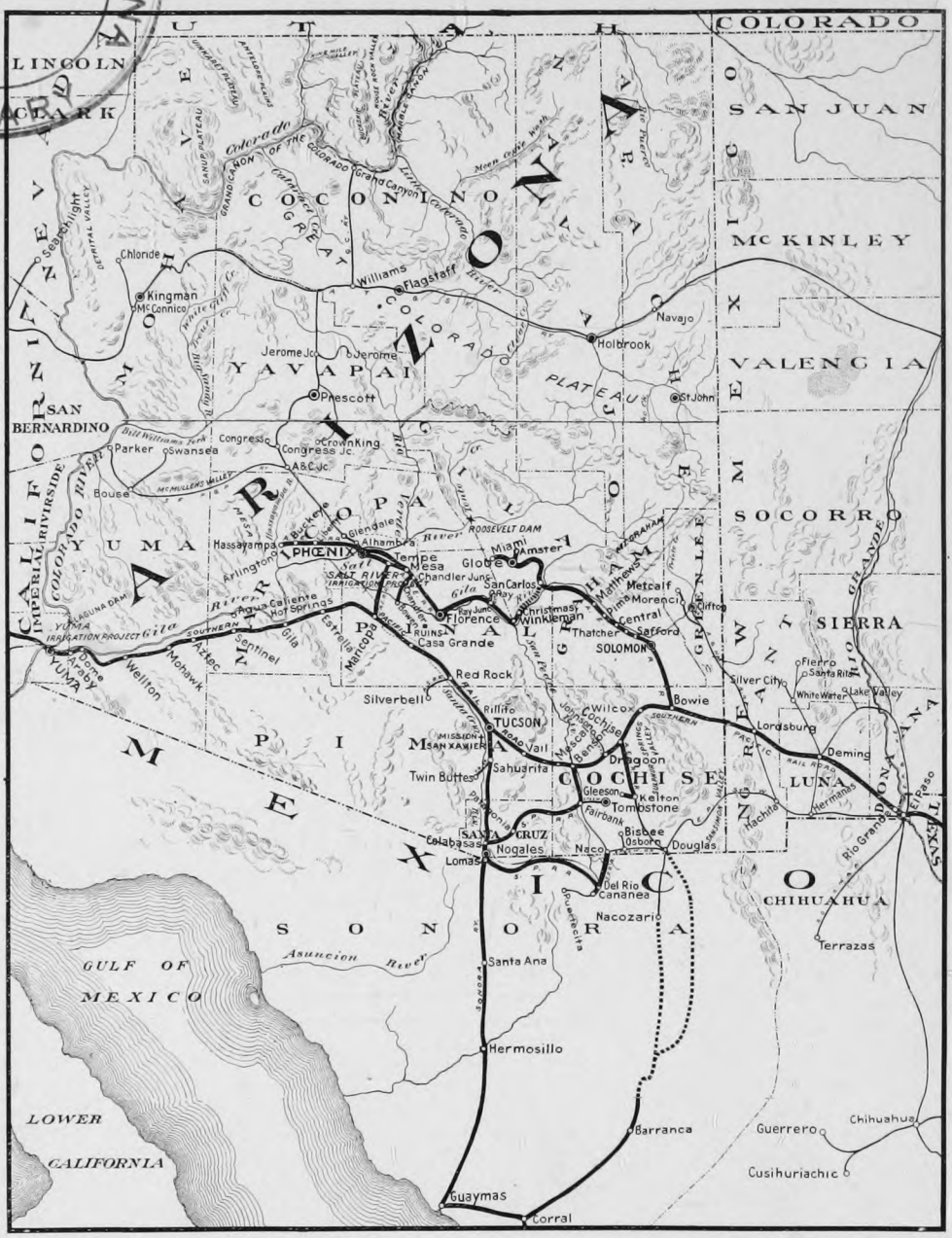


Arizona and section of New Mexico showing territory served by Southern Pacific and Arizona Eastern.

THE NEW ARIZONA

INTRODUCTORY

The New Arizona is southern Arizona turning its deserts into gardens. It is the Arizona of the farmer and the irrigator. Below the 35th parallel, agriculture is making a new and prosperous State. Development of water has only begun, and a period of great activity is at hand.

This booklet is for the modern man who wants to farm intensively under the best conditions, and for the old-fashioned man who wants to raise hay and cattle where the market is waiting and the returns are satisfactory.

It is also for the business man who sees towns growing and population expanding; for the health-seeker who wants sunshine and dry air and life out of doors, and for the young man who wants a foothold and a fair chance.

A BIT OF DEFINITION

Descending from the north, from the elevated plateau or series of plateaus where the snow falls heavily, where are the lofty mountain peaks, the vast cañons, the great forests, the cattle ranges and desolate waste lands, the traveler comes abruptly to a region of low ridges and, by terraced mesas, to a great plain a little above sea-level, and to broad valleys almost undistinguishable from the desert plain, over which broods a half-tropical air.

There is a break in the surface and a sharp descent of about 3,000 feet and a change in the nature and aspects of the country. Geographically, this is southern Arizona. Industrially, it is agricultural Arizona. It lies below the 34th parallel and embraces only about one-third of the total area of the State, but it is destined to give value to the whole. There is an important difference in soil, in climate, in products and in economical and commercial values in the two divisions. The plains and the valleys have the fertile lands and the slighter rainfall; the plateaus above and the high mountains are the reservoirs of water. Here is the garden and the farm, there the storehouse of life for the soil. Arizona is called arid. It is. But the records of precipitation are kept on the dry plains. The gauges make no record of the heavy rains which are often in sight in the distant mountains. There, too, the snows fall, from three to seven feet deep, a mantle of moisture—a storage-reservoir without dam or dike, and automatic in its regulation of supply for the streams and rivers. Gradually melting, water is kept in many drainage channels almost to the beginning of summer rains below. Thus the lofty and cooler north has a kind of natural partnership in the agricultural south. It furnishes rich pastures for range cattle and makes possible the broad fields of alfalfa in the valleys below upon which cattle are pastured by thousands in the winter.

AN ESTIMATE

If a map showed in colors the irrigable lands of southern Arizona, it would be seen to be agricultural only in spots. But the spots are enlarging and are multiplying. Every one is an oasis in the desert, and its shield of green is pushing

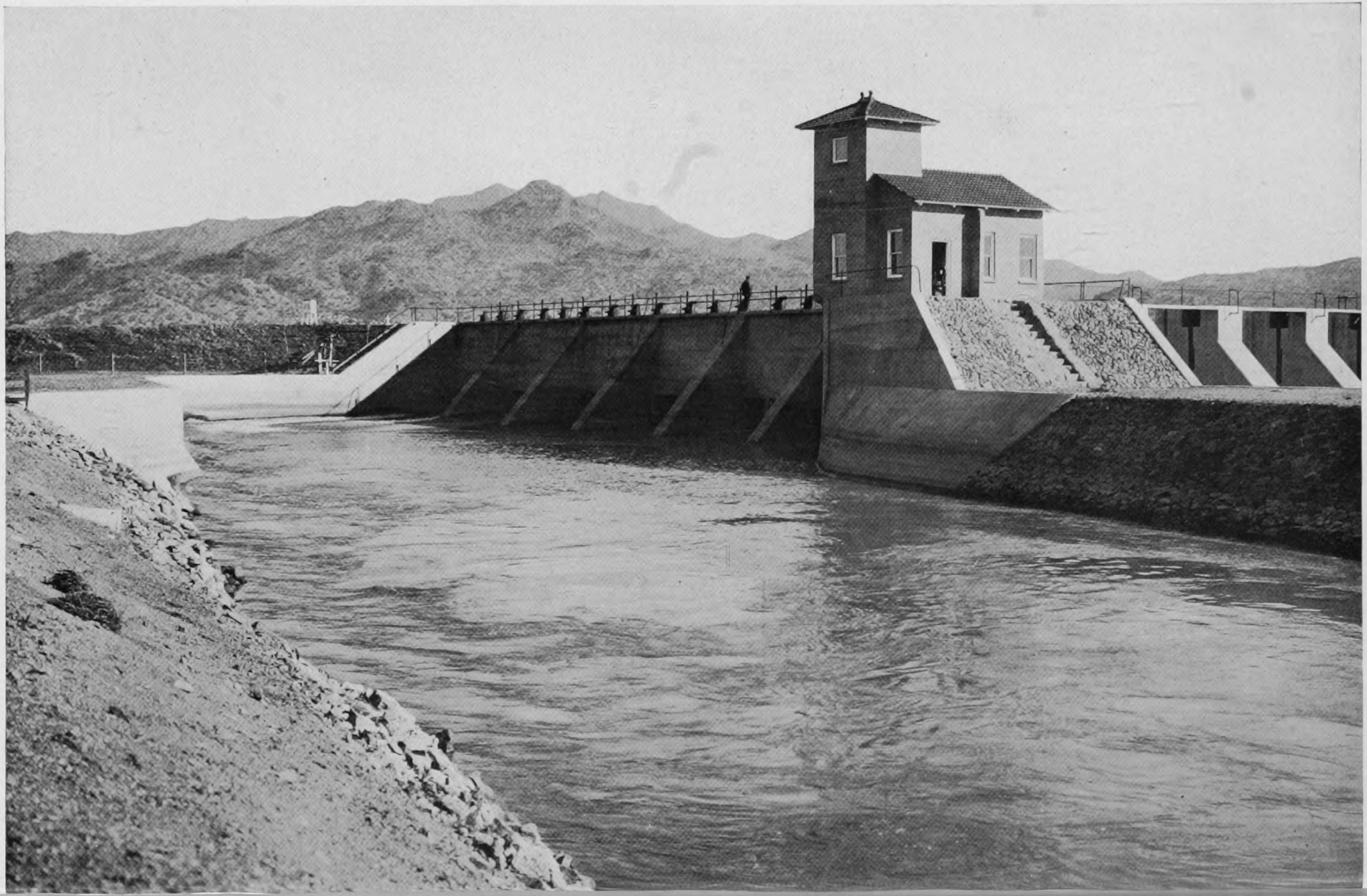
out into the gray expanse farther and farther as the years go by. Government irrigation is greatly expanding the cultivated areas around Yuma on the Colorado and around Phœnix in the Salt River Valley, while an increasing acreage is brought under the ditch in the Gila Valley every year. These are the chief irrigated districts in Arizona, but small areas are developing around Tucson in the Santa Cruz Valley, near Benson in the San Pedro Valley, about Willcox in Sulphur Springs Valley, while the San Simon Valley is developing artesian water and will grow green with alfalfa fields.

There is a wide interest in the agricultural development of the new State. There are several reasons for this: the increase of the irrigable area by means of storage-reservoirs created under the supervision of the Reclamation Service; the development of mining industries, especially of copper mines, making Arizona one of the great copper-producing states of the Union, and necessitating food production for these mining communities as near-by as possible; and finally the interests of farmers themselves in the soil, in the climate, in the extraordinary productiveness of the land, in the range of products, and in the profits which belong to special farm crops and industries in this region. These are sufficient to explain the remarkable progress which the State is making agriculturally, and its more remarkable promise. It is believed that water can be developed to irrigate 1,000,000 acres of land. This estimate is made on the basis of four acre feet, or four feet deep of water on each acre, the present requirement of Arizona land. But as the land becomes saturated it will require less and less water, so that the estimate of one million acres of irrigated land as the limit of development is extremely conservative. It may safely be increased 250,000 acres.

But if this be accepted as the limit it will multiply the present area by five and the present agricultural products probably by ten, by reason of better farming methods and an increase of small farms highly cultivated. If we consider that a million acres in this region of rich soil and of semi-tropic climate are equivalent to several times that amount of average farming land in the older and colder States, it will seem fairly certain that agriculture is to play an important part in increasing the wealth and population of the State. On this basis chiefly can the coming greatness and permanence of the State be counted on.

REMARKABLE NATURAL CONDITIONS

No fair estimate of the resources of this region on its farm side—the side of irrigated agriculture—can be made without taking into account the extremely favorable conditions under which farm life is developing here. The two principal areas of irrigable land are in the Colorado Valley and in the valley of the Salt River, and these are provided with irrigating systems of which any State might boast. Constructed at vast expense by the engineers of the Reclamation Service, they are probably as efficient and as permanent as money and skill, using steel, concrete and rock, could make them. And, perhaps, of all the projects constructed or planned by this service none provide water for richer lands or under a more fruitful climate. The amazing fertility of the soil in these valleys, its great depth and the certainty that this soil will prove inexhaustible under the silt-laden water with which it is irrigated are facts which we will emphasize farther on. Here we simply note them to say that both soil and water are worth all the millions it has cost to conserve them, and will be the basis of prosperity for all time. The



conditions under which the farmer will work here can hardly be matched in any country of the world. The extraordinarily rich and deep soil lies under a half-tropical sun, and the growing season lasts practically all the year. This not only makes possible two crops on the same ground in one season, and an endless succession of planting, sowing and harvesting, but the cultivation of a wide range of products. The list runs from corn to oranges, from the wheat and barley of the North to the rice and cotton of the South, from alfalfa and sugar-beets to the dates of Persia and Arabia. Unusual and high-priced crops are not possibilities merely, but are adapted to natural conditions and can be added to the list of ordinary farm crops with great confidence. Nearly all we have mentioned have been tried out with success, and at later stages of agricultural development will be found among the staple products, as oranges are now.

Because the farm area is limited, the soil rich, and the climate stimulating to plant growth there will be here in time the very best farmers. Men will expect more from an acre and will get it; will drop the crude methods of the present comparatively pioneer stage, and make use of all that experiment has discovered and all that scientific soil culture has shown to be valuable; they will find new crops and varieties suited to the region and in many ways will add to the total of farm products and to the capacity of the country to support a relatively dense population.

AN OLDER AGRICULTURE

Before history was invented this was a land of the farmer. Here lived a people of whom we know but little save that they were farmers. The ruins of their homes, their temples, their towns and villages are seen on many sides, and in places the surfaces of the valleys are faintly marked by the lines of the canals which carried water for their crops. Our irrigating ditches sometimes follow the beds of old waterways and seldom diverge much from the lines chosen by these unknown irrigators. Where we have not yet reclaimed the desert, the land on the margin of our fields appears to have been graded and leveled by a forgotten race, so that it is practically ready for the spreading of water.

It is believed by those who have given some study to the evidences that this part of Arizona was once densely populated, the available lands being fully occupied. This mysterious people have left little record of themselves save that they were farmers and kept flocks and herds, and were numerous. Where they led the water along canals which they ran with precision and made deserts to blossom with their harvests, the American farmer now comes to renew the old farms and repeat faded and forgotten harvests by modern methods of cultivation. The reclamation of these arid lands is but a repetition of the unwritten history of the region, but the soil is still virgin and fertile as if never cultivated.

THE WORTH OF ARID LANDS

The organization of the Reclamation Service was primarily to create homes. It was made necessary by the exhaustion of public lands in the humid states, and by the rapid increase of population. But it was not a makeshift. The Government did not go into the desert as a kind of "Hobson's choice." Nothing would have justified the vast expenditure of national funds in reclaiming arid lands if the lands themselves had not been inherently valuable. The movement meant "a square deal for every man"—equality of opportunity, a chance to get a foothold on the

land, but with this went the purpose to put men on fertile land under conditions that would insure a livelihood. But it is entirely possible that the men who organized this great national enterprise did not know how fertile the deserts were. This discovery remained for the Bureau of Soil Survey, for the experts who studied the soil area in connection with the engineers who located an irrigable area, and for the farmers who put the land to the only adequate test, that of crop production. The results are everywhere satisfying, and we are thrown back upon the past of our race to recall the fact that the earliest civilization began with the reclamation of arid lands. The great cities of antiquity, the great empires, the great populations sprang out of the desert.

The probable explanation is that the ancient races chose the arid lands because they were the richest, and our scientific soil investigations today tell us why the desert is richer in plant food than the rain-washed lands of humid regions. The desert has kept its fertility unwasted. It has not been leached, and its surface washed for ages by torrential rains. The chemical elements of the soil have not been washed out and carried into the country drainage. Potash, magnesia, lime are largely in excess of the same elements in soils in the humid regions as shown by wide investigation. So that the "blessing of aridity" is not an empty phrase. In actual soil values; in the amount of plant food present in an average acre; in productive capacity, and in lasting quality, the arid lands which we long accounted worthless, are the best lands, and the arid western part of the continent is in many respects the best part, and will have a great future. Here are lands that have not been despoiled and they are immeasurably valuable. It may well be that as we adapt ourselves to the order of Nature, as we take advantage of the great elements of production—soil, warmth, water—we will come to see really good agriculture in the process of making. A good farm is one that is self-sustaining and self-perpetuating; that does not wear out, nor wash out; that increases its yield year by year from the same land as the result of right methods and of much cultivation, tilling, stirring, aerating and fertilizing by irrigation, so that the land is left richer and better for the next generation. Broadly, this must be so everywhere, or our future food supplies will be imperiled; it must be so from right uses of the land itself, from rotation of crops and from the animals bred upon the land, but generally for this reason, that arid lands are perpetually fertilized by the sediment in the irrigating water, and will never be exhausted. This is especially true of some of these Arizona lands, and they will rank with the historic lands under the Nile ditches, which sustain 7,000,000 people on 5,000,000 acres, and for thousands of years have yielded support to a dense population. "Arid countries are always rich countries when irrigated," and history shows that they preserve their fertility unimpaired.

GOVERNMENT IRRIGATION

The basis of the remarkable agricultural development now going on in southern Arizona is the two great irrigating plants now about completed under the supervision of engineers of the Reclamation Service. These splendid structures will put under the ditch in the Colorado Valley at Yuma and in the Salt River Valley around Phœnix about 380,000 acres. These works have been made necessary by the very greatness of the irrigating problem. This grew out of the torrential character of the streams whose waters were needed. Heavy rains in the mountain

watersheds made flood periods of great violence and the maintenance of dams costly. In the case of the Gila and Colorado especially, enormous amounts of sediment are carried and the stream bed showed no reachable bed-rock. At Yuma the sandstone is found at a depth of one hundred feet below the river. These conditions made the construction of dams expensive. After years of struggle on both the Salt River and the Colorado, the whole problem of storing water was abandoned as too costly for the resources of communities and too perilous for the ventures of private capital. Then the Reclamation Service was born and the Government came to the relief of settlers whose lands were about to revert to the desert for lack of water. Two great projects were mapped out, and the Government, once simply giving away its lands, began spending millions to develop water and to make them productive. It will pay. It will add immensely to the wealth of the country. It makes valuable lands otherwise almost valueless. In the end the money expended is returned to the Government, but if the whole were a gift of the Nation, though hardly defensible as a form of paternalism, it would pay. It must be good policy for the Government, under proper safe-guards, to make poor men prosperous, to provide homes on arid lands for men who must find a foothold if they are to succeed, and to make arid lands yield a revenue to the State. These great projects in Arizona must necessarily control the water supply in their localities, and to leave them to be built at length by private capital would have made them private monopolies. Under Government construction they are paid for gradually at absolute cost, and in time belong to the land as the air does and the sunshine. It is better to help the poor man make a living than to allow corporations to make a profit at his expense.

THE YUMA SYSTEM

Yuma is on the east bank of the Colorado River in a region of very scanty rainfall. The lands to be reclaimed lie along the river for about forty miles from the Mexican boundary, above and below the town of Yuma. The acreage is about 130,000, of which 16,000 acres are on the California side of the river. Crops were grown in a small way on the bottom-lands from moisture left by the annual overflow of the river. In the Yuma Valley some irrigation was practised, water being taken from the river. At low stages of the river no water was available and crops suffered. Then, too, this stream carries a vast amount of silt, and the canals and ditches of the settlers soon choked up, and the growth of some crops was affected by a smothering blanket of fine silt. No prosperous farming community could be built up under such conditions.

But to build a dam in the Colorado involved great risk from floods. Through ages this soil-bearing river had dropped part of its burden, and from flowing in a deep narrow valley had filled and lifted its bed until diamond drill borings of great depth failed to find any bed-rock. The river ran on top of the land it had made, and a dam must be built, if at all, upon a bed of silt. This determined the character of the structure, and a type was chosen which originated on similar streams in India fifty years ago and had proven successful. Three such structures have been placed across the Nile, in Egypt, in recent years.

The next problem was the elimination of the great body of silt. This has been successfully done, while leaving the water with enough sediment to forever fertilize the lands below the settling basins.

A third difficulty here was the flood periods of the river. This has been met by the building of great levees with such dimensions as experience for sixty years on the Mississippi has demonstrated to be best. The tops of the levees are four feet above the highest known floods.

Drainage has been amply provided for, and also the removal of surplus water from irrigation.

It is believed that all the work is of the most permanent character. This can be counted on by the settler and the water user. No point has been overlooked and no expense has been spared to make the system permanent.

Substantially, at this writing, the work that remains is the construction of an inverted siphon under the river directly at Yuma. This is well under way, a steel tube fourteen feet in diameter being driven through solid rock below the surface of the river about 130 feet.

The Yuma Valley below the siphon will be served by the canals, the easterly one carrying water for the tablelands, or mesas, which will be served by pumps from power to be developed along the line of the main canal. The dam is fifteen miles above Yuma, and the lands to be watered include the Indian Reservation, a part of which has been opened to settlement and is now being cultivated.

THE SOIL VALUES

The lands of the river valley here are equal in every respect to the famous lands of the Nile Valley. They are practically delta lands, since it is fairly certain that the head of the Gulf of California was once in this vicinity, and that it has been pushed southward more than seventy miles by the enormous deposits of this muddy river. The soil survey by experts of the Bureau of Soils defines the lands here as loam, sandy loam, fine sandy loam and silt loam, and says that the valley is formed almost wholly from sedimentary deposits left by the river. It is underlaid by sand at a depth of from three to six feet, but the sand is but a stratum, and the valley to an unknown depth is the alluvial deposit of the river. The sandy layers provide for perfect drainage. In some cases clay is found beneath the loam, the sand being lower down. What is known as Imperial loam is the same soil as that found in the Imperial Valley and is the deposit directly of the Colorado and Gila rivers. The latter comes into the Colorado at the town of Yuma, but of course below the dam. It has had its part in the creation of these lands down to and below the Mexican border, but is not drawn upon to irrigate them under the Yuma system.

THE FERTILITY IN THE WATER

The soils here are extremely valuable in themselves. They are the product of the rivers, and the process of making them is Nature's process. But the farmer steadily adds to the productiveness of his farm by virtue of the water with which he irrigates it. The water of the Colorado contains a great deal of fertility, or plant-food, in this respect equaling, if not exceeding, the waters of the Nile. It is held both in suspension and in solution. Nitrogen and the organic matter with which it is usually associated are carried into the fields at every irrigation and these very valuable ingredients are added to the soil without expense to the farmer. It has been shown by analysis that the average acre

foot of Colorado water contains nearly nine pounds of nitrogen, and that the Gila contains about twenty-eight pounds. A summer flood of the Gila has been found to carry 172.3 pounds of nitrogen in the alluvium contained in an acre foot of water. Professer R. H. Forbes, Director of the Arizona Experiment Station, says this corresponds to the fact known in Egypt since ancient time that the red Nile floods from Abyssinia are more valuable than those from other watersheds tributary to that river. "The knowledge is as old as human history that river irrigating sediments increase the productiveness of land."

From careful observations and measurements it has been determined that a year's irrigation from the Colorado before the silt is eliminated by the device of the settling basins would add a layer of soil to the field one-fourth of an inch thick. As it is, sufficient silt will be carried by the canals to make the productivity of the soil here practically inexhaustible. This is a fact which will weigh heavily with every farmer.

CROP PRODUCTION

Two crops are common here. Barley and corn are grown on the same land in one season, or wheat is followed by corn. Potatoes and corn are grown, barley and milo maize, and wheat and maize. Twenty-five sacks of barley and thirty-five bushels of corn per acre have been grown in one season on the same soil. Barley and corn from the same soil in one year have returned $47.25 and $39.20 respectively. Alfalfa has produced ten tons to the acre, which sold for $13 per ton. Onions have matched this in quantity, ten tons selling for $300. Cotton has produced one bale per acre and upland cotton one and one-half bales. Potatoes have realized $120 per acre; alfalfa seed has returned $50 per acre, and seven tons of hay the same season from the same field sold for $13 per ton, or a total of $141 per acre. A field of fourteen acres yielded alfalfa seed $750, and hay and straw $650.

This is the result of combination. The elements of production unite here—good soil, warmth and moisture. The best soil finds moisture for the growing crop at the right time; the crop has the right temperature all the time—and there you are. Nothing can beat that combination.

Winter gardening will here be a feature of farm life, and early vegetables a source of profit. In time the Persian and Arabian date will be largely grown; the experiments made by the Department of Agriculture showing this fruit to be fully adapted to the soil and the region. Figs, apricots and pears do well, and the table and raisin grape.

THE MESA LANDS

These are here in a class by themselves. They lie skirting the valley lands on the east and south and rise above the valley proper from a few feet to sixty-five feet or more. There are in the tract about 40,000 acres. The soil is "coarse sandy"; is open and porous, and its high-lying position makes it specially valuable for the culture of oranges and grapefruit, figs, grapes, garden vegetables, melons, etc. An orange grove of about sixty acres is producing successfully, and the almost frostless position of these lands and the quality of the soil make it certain that here will be a large citrus region. The fruit produced here is exceptionally fine and ripens so early as to take the best market. Experts regard the mesa here as ideal for oranges, and this will make a demand for this elevated tract.

It will be watered by pumping, the power to operate pumps being furnished by the Government, advantage being taken of the situation to develop electrical energy. It is expected that 1,000 horsepower can be developed at a twelve-foot drop in one of the canals.

LAND VALUES

A few figures can be given, though they tell but little. Land must be seen, examined, its location noted, a dozen things taken account of in order to judge its value. When the engineers of the Reclamation Service began work here land had but a nominal value, save where it was served indifferently by a private canal or two. Raw land near-by could be bought for $30. Today undeveloped wild land down near the Mexican boundary is worth $60, and land in crop under canals is reckoned at $250. No land receiving water is valued at less than $100, and if the average price be fixed at $100 then the increased value under a dependable irrigating plant is not less than $70. This is very conservative. It is only fair to say that the irrigation works here have doubled the value of all lands to which water can be delivered.

The real value of this land must be based upon its productive capacity, and this cannot be shown by the cheap land farmer whose methods are ancient, but by the man who knows what intensive culture means in such a climate. Such a man, for the largest returns, wants not many acres, but few, and his business is to show the possibilities of an acre. It is not easy to fix the limits of production; given the best soil, this fertilizing water in abundance, and this sunny and stimulating climate, and the skilful handler of materials and forces has at least solved the problem of production. Rich, bottom soil, adapted to alfalfa and to truck-farming, water that will preserve the fertility of the land for all time, the best of growing weather, and a large area free from frost, where citrus fruits will be at their best—these are the natural conditions which at Yuma should arrest the attention of the farmer. And the Government has made water abundant, its application easy, its use safe, and its control permanent.

YUMA AND ITS FUTURE

The growth of this town is not wholly dependent upon agriculture but the development of the lands adjacent will very greatly stimulate its growth. The great orange district in San Bernardino County, California, has less than 30,000 acres of citrus fruit, yet this industry is the chief support of half a dozen towns of approximately 40,000 people. Here will be an orange district equally large, and, in addition, valley lands of nearly 100,000 acres cut up into small farms, all highly productive and yielding a variety of crops, many of them high priced. So far as can be seen, Yuma will be the center of this district.

In time there will be here large orange groves, orchards of deciduous fruits, plantations of dates, and, perhaps, fields of cotton.

Yuma has long been the trading point for a mining district of some size that is rich and productive, and will keep this trade.

The winter climate is attractive. Ice often forms at night, but the days are delightful. Very seldom is a cloud seen. It is possible to live entirely out of doors, with little discomfort at any time. The temperature averages about 57

degrees for three winter months, but will rise to 63 if November and March be included. The air is remarkably dry, is not cold, and the sunshine almost constant.

As these qualities become known, Yuma will add to its population a considerable winter contingent. The climate in winter is finer than that of Italy, with brighter skies, purer airs, more cloudless days.

These hints will serve to indicate the forces which will build a flourishing city, in time, on the banks of the "Yellow River" of the Southwest.

SALT RIVER VALLEY

Here is the agricultureal center of Arizona, the largest body of cultivated land and the most highly developed. It is an oasis in the desert, made by farmers, and an abiding illustration of the miracle of irrigation. Here the ancient sunburned desert has become a garden made beautiful by cultivation, and here the farm life of the Southwest is seen at its best. Here are combined soil, scenery, climate, water and electric power, and the result is one of the most prosperous and promising farming communities of any country. It is a region for the substantial farmer who knows his business, who is modern in his ideas of what farm life should be, and who knows at once good soil, the value of an almost ideal irrigation system and the value of land as related to such a system.

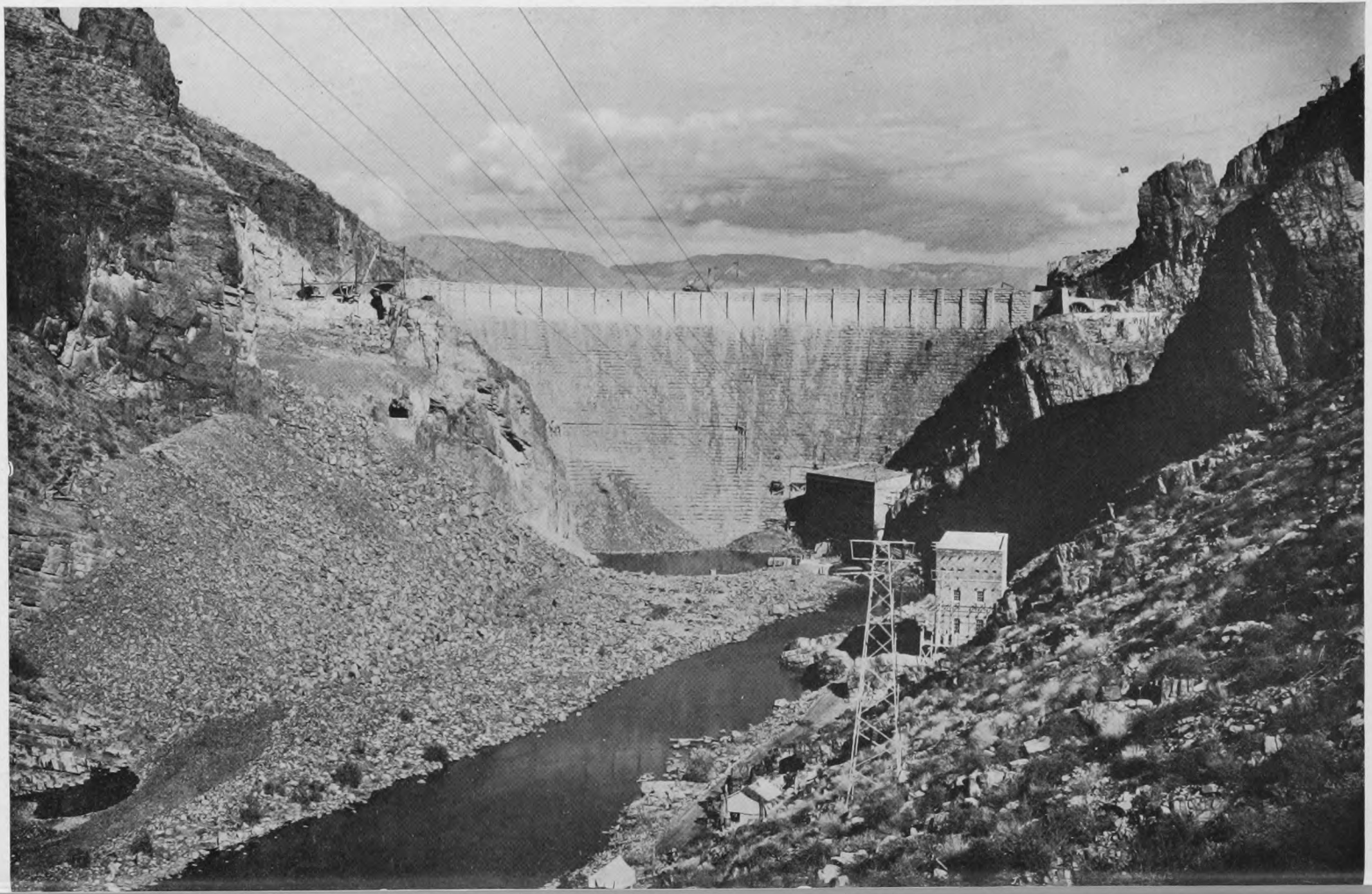
Because the area of productive land is being extended as water becomes available, and the margin of the desert pushed back to make room for farms, the settler has a direct interest in knowing more about this valley.

THE SOIL AREA

This was clearly a deep valley once filled up by washings from the hills until it is fairly merged in the plain. It is bounded by half-buried mountain masses, the bases having been submerged by a tide of silt. It is about thirty-five miles long by from twelve to twenty miles wide; and without rocks, or waste lands, save where divided into two unequal sections by the river. It has the appearance of a level plain, sloping slightly to the south and west, and fitted for the easy spreading of water. It is so free from hummocks or irregularities of surface over many thousands of acres as to suggest that large areas, now desert, were leveled by the unknown farmers of centuries ago. Save where covered by the slight growths of the arid desert, it is ready for the plow, and will strike the observant farmer as an elect region, fitted by Nature for scientific soil culture.

TYPES OF SOIL

These are principally four, suited to various crops, and called gravelly, sandy, and Maricopa loam, and Glendale loess. The first is found nearest the hills and is the orange land of the valley, lifted a little above the general level. The sandy loam is a rich and easily worked soil, often of an immense depth. In common with the Maricopa loam, which is but a heavier type or variety of the sandy loam, and with the loess soil, its depth is always a surprise to the farmer from the humid States who digs into it. The soil-plain averages over twenty feet throughout the whole region, while near Glendale the loess is often 100 feet deep. The last named soil belongs in part to Kansas and Nebraska, and is a light-textured loam with a large proportion of silt and but little clay. It is rich in lime, potash and phosphoric acid. It is suited to deep-rooted crops, as alfalfa. Here about forty per cent is silt, and this makes its fertility readily available in crop production.



NO BAD LANDS

A little alkali is found along the south edge of this large body of fine land, having been carried there by the direction of the stream flow and the drainage from irrigation. There are no distinct areas that are alkaline. Injurious quantities of chemical salts cannot rise in the general body of valley soil owing to the gravelly subsoil. There need be no fear that these lands will become alkaline.

There is a little adobe, near the trough of the valley, found in long narrow strips parallel to the river. It is here probably as the result of ancient irrigation. For the same reason the heavier lands, with a larger proportion of clay, lie to the south and west, in the direction of the drainage or flow of irrigating water. Generally the lands are so free from objectionable features that one might choose a farm-tract at random and not regret his act.

REMARKABLE UNIFORMITY

Not uniform in type, but in richness. The "polders" of Holland are no better, the "black lands" of Russia or the "yellow lands" of China are no better. The delta lands of the lower Nile Valley are not richer. It is safe to say that there are no better lands, taken as a whole, than the 250,000 acres of this valley, and we have dwelt upon this feature because it is—or should be—the farmer's first concern. Good soil, soil that will not wear out, and that will not disappoint him when properly cultivated, is of first importance.

THE IRRIGATION SYSTEM

The great Roosevelt Dam, in the far cañon of the Salt River, will create a lake covering 17,000 acres. When this vast reservoir is filled, it will contain water enough to carry settlers over several years of drought. That is to say, there is water enough stored behind this dam to safeguard all the farms in the valley under extraordinary conditions and to put every farmer at ease about moisture for his crops. This is insurance against worry.

The dam is built to stay. It is sunken thirty feet into the bed-rock, and still further into the rock walls at each end, and the massive blocks, many of them weighing thirty tons, are so set in cement that the whole becomes in strength and solidity as one rock.

A diversion dam is provided farther down toward the valley, which turns the flow of the two rivers, the Salt and the Verde, into large distributing canals, and these in turn deliver the water to smaller canals, and thence to laterals and to the irrigable lands.

Note two or three things here: this diversion weir is one of the largest, most modern and most substantial structures of its type in any country; the watershed behind it covers 18,016 square miles; ninety per cent. of the drainage area is now included in reservations under Government inspection and control, and, finally, the highlands embraced in this watershed have an ample rainfall to keep the storage reservoir well filled. We wish to emphasize our conviction that a permanent and unquestioned water supply is assured to the irrigable area set apart by the engineers in this valley. The supply is planned to irrigate by gravity 210,000 acres, and this presents to us a picture of a continuous body of land that will never know drought and that under the stimulus of water in this climate will be continuously and enormously productive.

At the Government pumping plant near Mesa where subterranean waters are used to supplement the supply stored by the dams

THE POWER SYSTEM

The fall at the dam and the descent of the water at various points on its way down to the canals will develop electrical energy that will be used to pump ground water. The engineer estimates 25,000 horsepower as among the assets of the valley, to be owned by the water users after the project is complete, all payments made, and the plant is turned over to the farmers and landowners of the valley. It is first of all supplementary to the dam and its possibilities—a kind of appendix to the system. By means of this power-plant from 25,000 to 40,000 additional acres can be irrigated, the water being raised from wells south of Mesa, and outside the territory served by the canals. Some 10,000 acres will be irrigated in this way on the Pima Indian Reservation, whose lands have suffered by the demands made upon the Gila River by irrigators above them.

In the low country around Tempe, the power current will be used to drive pumps to lower the ground water, serving as drainage pumps, and to elevate this drainage water to serve higher lands. Further west the ground water rises near the surface, and this may be raised for irrigating.

The whole area under the pumping system will be desirable, as the farmer will be independent, and can irrigate when he wishes, the power to run his pump being supplied without cost.

If you question the supply of ground water, look at the probabilities.

UNDERGROUND WATER

It is estimated that there are 525 square miles in this valley beneath which water occurs at less than fifty feet. Reclamation engineers have said that there is water enough out of sight here to cover the whole valley fourteen feet deep; that this body of water is continually moving down the valley; is not a sunken river nor an underground lake, but a slow movement of water—an underflow possibly as deep as the valley. How wide it is will be shown by the wells now being sunk in various directions, but the indications are that there will be extensions of the irrigable area on several sides. Certainly there is water enough in this great underflow to make well irrigation safe, reliable, inexhaustible, and this means room for many settlers. Wells in operation show no signs of weakness, and cannot be appreciably lowered by continuous pumping. Pumping can be done economically, even where the cost of fuel is considerable. Much irrigation is done by means of wells in California, in Hawaii, in India and Egypt. India, not unlike Arizona in its central and southern parts, is honeycombed with wells for irrigation. The method is very ancient, but much improved by modern skill.

THE SIZE OF FARMS

The farm unit is 160 acres. No water will be furnished one owner in excess of 160 acres. The tendency under irrigation is to reduce the acreage and make small farms. Fewer acres and better methods, smaller farms and more cultivation, is the modern idea. But the size of the farm here, within the limits fixed by the Government, will depend upon the crop and the grower of the crop. Alfalfa will be largely grown, as now, and this is readily handled, but diversified farming will restrict itself to less than 160 acres. The sale of small tracts up to forty acres has begun, and the first saving of many will be in the amount of land they buy. The initial expense means much to the man who has "a plentiful lack of money."

The demand for small farms will make this section a compact community, and the isolation—the loneliness—of farm life will not be known. Small farms make close neighbors, and provide for social wants, and with daily mail, telephones, trolley lines, and a social hall at neighborhood centers, the old barrenness and dulness of farm communities disappear.

SUBSTANTIAL FARM LIFE

The chief crop here is alfalfa. This fine forage crop is adapted at once to the soil, to the climate and to the conditions made by the great cattle ranges on the north. The soil is deep and permeable, and the roots of this deep-feeding plant quickly get down into it; the climate is mild and is chiefly sunshine, so that growth is hardly suspended during winter, and crops are made with great rapidity. It can be cut six times—often seven times—and the average yield is about seven tons. Not seldom this is greatly exceeded. On forty acres in Glendale, seven cuttings yielded nine and one-half tons to the acre, and ten acres returned eleven tons to the acre. The average is less because the average cultivation and management of the meadow are not skilful. The cash value of this crop is about $10, but ranges from $8 to $15. It is thus a profitable crop when sold as hay. But here several uses are made of it. It is cut for hay, and afterward pastured; it is cut for seed, with a crop of hay and a period of pasture; it is pastured, or cut and fed to stock, or both pastured and stacked for cattle in the field. Range cattle come in from the north to winter, and to be fattened for market. It is a familiar sight in midwinter to see thousands of cattle feeding on grain fields that must be kept back, or on green alfalfa, half-knee high, fattening without grain or ever seeing the inside of a shed or stall. Three animals will feed on two acres, often two steers on one acre, and the farmer gets from $1 to $3 per head per month. Many farmers buy young range stock and fatten them for market on their own fields of alfalfa or young and rank barley. In the corn lands of the Middle West a lean steer will require four months and will eat sixty bushels of corn. Here the time is shorter and the cost hardly appreciable. Both feed and climate induce rapid growth and early fattening.

As we will never know the taste of cheap beef again, the combination of cattle and alfalfa fields is a good one, and when farmers keep their cattle on dry fields and feed them on green alfalfa, cut and fed in paddocks or in racks on unirrigated land, they will put money in their purse. Farm life here has a substantial basis and is likely to maintain it. An ex-governor of Arizona, Joseph H. Kibbey, says: "Perhaps there is no other region in the world in which the farmer is so bountifully recompensed for his labor as in Arizona, when adequate water for irrigation can be obtained."

GROWING CITRUS FRUIT

This is a special industry, limited to certain districts, and generally requiring expert attention. The output here is limited yet, but is destined to great increase. The proved orange-belt is thought to limit planting to about 10,000 acres, but many believe that this can be multiplied by ten. Two or three things form the basis of the industry here—suitable soil, comparative freedom from winds and frost, abundance of water, and plenty of sunshine. Heat—dry heat—is essential. The hotter the locality the better. No orange grower complains of the Arizona summer weather. It makes a perfect orange, sweet, juicy, thin skinned, free from

fibre, pulpy and luscious. Eastern markets pay the highest prices for Arizona oranges, and the business is profitable. No fertilizer has yet been used here, and the scale insect is not known.

What is true of the orange here is also true of the pomelo, or grapefruit. Intelligent cultivation added to the natural conditions of soil and climate produces here the finest quality of fruit and the demand constantly exceeds the supply. This delicious product—generally, as grown elsewhere, served with sugar at the breakfast table—can here be eaten out of hand in the field with much relish. It is especially free from fibre. This fruit will pay from $200 to $400 per acre.

Lemons do well, but have not been largely planted. The fruit is smooth, juicy and thin skinned, and there is room for this branch of citrus culture and a good profit.

The citrus industry we have called "special," because it requires intelligence and some study, but it is none the less a substantial industry. There will be here a large citrus belt, and a prosperous community. Land values will become high. Wherever superior oranges can be grown with their accompaniments of pomelos and lemons, there you will find a country of positive, definite productive power.

OTHER INDUSTRIES

In what is known as the Glendale region, sugar-beets are a feature, and cantaloupes. The soil is believed to contain the most wonderful proportion of soluble matter of any soil known, and it seems specially adapted to these two crops. Sugar-beets have this great advantage here: the planting can be done in the winter, water can be given as needed, and witheld when the beets are storing up sweetness. There is no danger of drought, and no lack of sunshine when the beets are maturing, and when they would be injured by cloudy and rainy weather.

A big factory is in operation here, able to slice 800 tons daily, and beets are grown under the direction of the field superintendent of the company.

Cantaloupes here rival the famous "Rocky Ford," and are a paying crop.

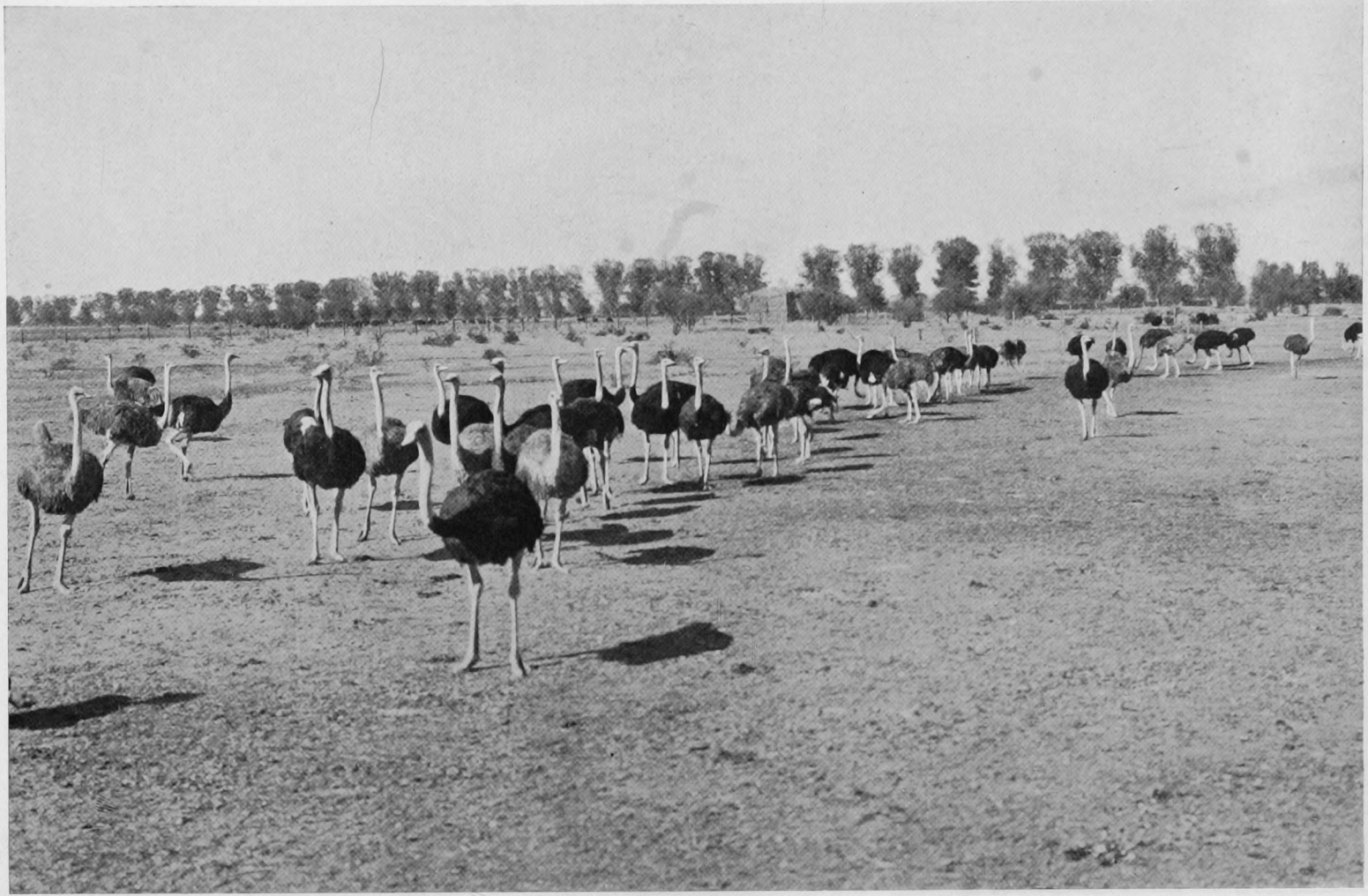
Olives are destined to be largely grown in this valley, the temperature insuring unsurpassed flavor both for the fruit and its oil.

Deciduous fruits and berries do well, 225 distinct varieties, including grapes, being grown on one farm. The peach ranks first in importance, and is a very profitable crop, the earliest commanding high prices. A good crop is borne the third year. Pears are also a good crop, and seem to be immune from blight. Apricots are heavy bearers and will yield a paying crop the third year after planting.

In spite of the prevailing impression that apples like snow and ice and zero weather, a good apple is grown here, not equal in quality to the best, but of good size and fine appearance. They sell well in the local markets.

THE OSTRICH FARM

The ostrich has been domesticated in this valley for a decade or more, and more of these plumed birds are grown here now than in all the United States besides. There are several large companies and several individuals engaged in the business. They thrive in this climate and upon the chief product of the soil, alfalfa, but are not pastured as formerly, being fed in dry fields. It is an attractive industry, and evidently profitable. The birds grow fat and produce here their finest plumes. No birds or eggs can now be obtained from any portion of South Africa controlled



by the British Government. It is realized over there that a new and very valuable industry has come into the world, and this industry will prove a great source of wealth to Arizona. The birds are very attractive in the fields, and very interesting in their habits, and as the ostrich farm is profitable it is likely to be a feature in the landscape and an abiding industry. Birds grown here are larger than the first ones imported, weighing from 375 to 450 pounds, and standing eight feet high. The male matures at four years and his mate at three and one-half years. No better climate for this long-legged and ungainly fowl with the fine feathers has been found than here. Green feed the year round insures perfect health, large size, increases the yield and improves the quality of the plumes. An acre of alfalfa will keep four birds and more, under the method of soiling. One bird will yield one and one-half pounds of feathers, worth in the market $20 per pound. At four years old the ostrich is at present worth $800 or more.

THE DATE ORCHARD

The Government has thoroughly tested the soil and climate of this region for the production of dates. An orchard of about twelve acres at Tempe, in this valley, sold the past year $1,400 worth of fresh dates, marketing the crop of 167 trees. This was at the rate of about $8 per tree. Some trees yielded $27, and 200 pounds have been taken from one tree. This is an experimental orchard, and there are in it 135 varieties and 503 trees. Not all are equally desirable, but many have matured fruit of size and flavor superior to the imported article. At five years of age one tree bore more than $40 worth of dates, though in their native clime they are said not to bear until about eight years old. The date is bisexual, that is to say, the trees are male and female, and must be pollinated, the white flower, called pollen, being put by hand upon the fruit-bearing blossom. The dates grow in great clusters, and the Arabs are said to pollinate them by hanging sprays of male blossoms to the leaf stems above the pistillate flowers at the time they are opening, planting one male tree to every twenty-five female trees.

It is a matter of economic interest to know that this valuable tree seems actually to prefer the alkali lands of the lower levels. There is but a small proportion of such land in this valley, but the orchard at Tempe is flourishing on very salty land. The success of this small orchard is prophetic of a day when there will be large plantations of this tree of the Arabian deserts, and a new industry will be added to the Southwest. The trees once grown in great numbers, will add a charm to the landscape, and the fruit will find a place on every table and every bill of fare.

THE CAPITAL OF ARIZONA

Phœnix is a small city as yet, but fairly represents the population of the State, which is limited. There are about 15,000 people in the actual city, the municipal limits only figuring in the census returns. It is not difficult in view of the agricultural population that will be directly tributary to foresee a steady growth for Phœnix. The effect of irrigation is to make the countryside populous, and the business center prosperous. Here are no storms, no floods, no "dry seasons." Crops will be sure, and will be "bumper" crops as a rule, and as lands divide and subdivide the population of the town will increase. The growth to-day begins to reflect the prosperity of the countryside, though the period is one of outlay for the farmer, in view of the completion of the great irrigating system.

The railroads are seeking to serve this growing community more directly, to profit by the slight grades which the level country offers, and to be in a position to handle the growing freight and passenger traffic. Railroads are good advertisers and colonizers, and the very importance which this region will have under irrigation as a producing center will challenge the activity of all transportation lines.

As the seat of government Phœnix will have its political and administrative importance, and all interests which center at the capital will help to build the city.

It is to-day a good place in which to do business and an attractive residence city. It is well equipped with schools, churches, clubs, hotels, newspapers, business houses, car lines, water works, electric light and power, county buildings, and an attractive and substantial State House and grounds. The new building for the Young Men's Christian Association is finely modeled and splendidly planned and equipped within, and is not only commodious and costly but tasteful and wholly up to date. A Federal building will flank it shortly, the appropriation being $140,000.

A steel reinforced concrete bridge has been completed across Salt River at the foot of Center Street, 2,100 feet long and with 900-foot approaches, said to be the longest of its kind in the world. This makes directly accessible the fine lands lying beyond the river and tributary to Phœnix.

These lands are close in, but have been shut off from settlement by the river. They will now rapidly fill up and add much to the productive forces which are building the city.

Phœnix is cosmopolitan, representatives of every State in the Union being here. A surprising number of young men are established here, and "college men" are numerous. We venture to say that the charm of the desert, the sense of freedom out-of-doors, the large spaces and the beauty of the environing mountains, will steadily bring to this center men of culture and of original ideas, while the "lure of the land," the attractions of farm life, will draw others to whom has come the new spirit of the farm, and who will look to find here ideal conditions for progressive methods and profitable returns. This will shape the spirit of the town, its character and tone, and many will live here at the center while keeping a country home on the farm. The agricultural colleges are not only teaching men how to farm, and how to farm profitably, but how to enjoy life on the farm, and under the extremely favorable conditions which a sure and abundant water supply makes in this valley, we will look to see not only better methods on the farm, but better farm houses, more ornamented grounds, more strong, glad farmers, more contented and cheerful wives, whistling boys and dancing girls. Here town and country will come together more and more, and streets will run into rows of orange trees or plantations of date palms, and the shaded bungalow of the city man will have for background the perpetual green of alfalfa fields or the bloom of orchards.

We merely hint in this one of the steadily acting forces which will build here a unique city.

MESA CITY

This pleasant little town of 1,800 people is eighteen miles east of Phœnix, at the head of the valley. It is a little higher than the body of the valley, and its lands are suited for citrus fruits, peaches, apricots and grapes. It is a rapidly developing section of the valley, and like it in its chief industries, its alfalfa fields, its stock, dairies, ostriches and oranges. The water supply is substantially that of

the valley, but use is made also of the great underlying body of water. We recall one great well, not over thirty feet to the water, which pours out about one hundred miner's inches almost constantly, the water having a temperature of seventy-eight degrees. Turned upon alfalfa fields it was easy to understand why the owner was cutting miles of hay in the middle of February. There is much fine land for sale here. On the outskirts of the cultivated fields the Reclamation Service has opened several wells, testing the extent of the supply in various directions. One of these wells we saw throwing out its first gallons of yellow water, the clear stream later testing seventy-six degrees.

This side of the river has its gravity canals, and the pumping system supplements these, the wells being sunk in districts beyond reach of gravity water. Power will be supplied and water users will get their acre feet on the same terms as those under the canals.

Mesa has good business houses, banks, excellent schools and buildings and a college preparatory school just east of town. Mesa is reached by a branch road from Phœnix.

TEMPE

This town is also across the river on the line of the Arizona Eastern, nine miles from Phœnix. The Government's Experimental Date Orchard is here, and a State Normal School. The latter has a campus of twenty acres and eight good commodious buildings. The town has a population of nearly 1,500, and is in the midst of wide fields of green. The town is lighted by electricity.

A more delightful winter climate is not to be found on the face of the globe than that of the Salt River Valley, and the average temperature, taken from the U. S. Signal Service reports covering a period of ten years, shows three degrees higher than Los Angeles, two degrees higher than San Diego, and almost the same as that of Florida. Through the winter months beautiful flowers bloom and oranges ripen.

GLENDALE

In the midst of beet fields and alfalfa, and distant from Phœnix nine miles. It is on the line of the Santa Fe and is connected with Phœnix also by a suburban line. The sugar factory is here, and 30,000 acres of silt are all about and around the village. This will be a town of several thousand in a few years.

The suburban road will be extended to reach the orange district on the east and the great ostrich, hay and grain district on the west.

INGLESIDE

A fine suburban town is starting eight miles northeast, the nucleus being the Ingleside Club House and its cluster of houses. Building restrictions will insure sightly structures and keep out stables and out-houses. Orange trees and groves are on every side; golf links lie across the canal, the embankment of which is a driveway. Polo grounds and tennis courts will be added.

THE BUCKEYE COUNTRY

This fine farm region lies southwest of Phœnix from twenty-two to forty-five miles. The canal, which serves the valley, runs through it about twenty-four miles, the water coming from the Gila River just below the junction of the Salt River and the Agua Fria with the Gila. The dam catches the underflow of these streams and always serves the needs of this small valley. About 16,000 acres are irrigable and the water is owned by the farmers.

The chief industry here has been alfalfa and stock-raising, the cattle being pastured on the fields, with a big stack of hay in the midst for the sake of varying the food supply. To-day the railroad is in the valley and crops no longer go on foot to market.

Alfalfa seed is now grown largely, the yield ranging from 200 to 500 pounds per acre, and reaching 800 and 900 pounds where two crops are grown in one season. The seed sells from nine to twelve cents wholesale. We talked with one young farmer whose returns last season were $91.10 per acre from seed alone, while he cut also one crop of hay and had some benefit from pasture. Under good management the yield of seed is heavy and the stand of alfalfa is kept perfect, while the feed cut and pastured for the remainder of the year pays all the expenses of the ranch.

In one instance sixty acres returned nearly $4,000 in seed; in another case 450 acres produced in seed and hay $71.10 per acre; in still another case in the same neighborhood 100 acres returned $42 per acre in seed, three crops of hay $24, alfalfa straw $5 per acre, and winter pasture $5, or a total of $76.

Some attention is paid to dairying, and as feed is abundant and green all the year the conditions are good.

Beyond Buckeye a few miles is the Arlington Valley, of about 5,000 acres. It has the same soil and climate as Buckeye and the same industrial conditions, and both are but westward extensions of the Salt River Valley. The farm section here is only about three miles wide. The river bounds one side and the desert mesa flanks the other. In years of average or exceptional rainfall the desert will furnish grass and browse for stock the year round, and cattle are actually kept on the desert for years without resort to pasture in the valley. But cattle on both ranch and desert is a money-making business.

Some segregation of the larger holdings into smaller farms is making opportunities for more settlers.

AN IRRIGATION PROJECT

Almost directly across the Gila River from the Arlington Valley lies a tract of 75,000 acres for which water is to be provided. The Southern Pacific runs through the tract for twenty miles.

The little town of Gila Bend lies at the east end of this project. The surface generally is flat and the drainage into the river, while the soil is that of the river valleys, with the advantage of having the chemical elements which go especially with the Gila sediments. The fine loam of this stream carries about thirty-five per cent. of organic matter, and is highly productive.

A canal is here and a dam is planned for the river. The canal represents a former effort, many years ago, to reclaim these lands, but the dam was insecure and went out under flood pressure. This old canal is to be put in condition to carry water for these lands, and the dam to be built is to be of the type of the diversion dam at Granite Reef, east of Phœnix. It is understood that the project is well financed, and when the engineering work is done another green and productive spot will be added to the agricultural area of Arizona. The lands will produce all that grows in the Salt River Valley. The intending settler should watch developments here.

THE SANTA CRUZ VALLEY

This lies above and below the city of Tucson and with a small tributary valley or two constitutes the agricultural surroundings of this important center. The little Santa Cruz River reaches down into Mexico and is supposed to empty into the Gila near Maricopa Wells. Nearly 150 miles long, it flows for the most part underground. In flood seasons the underflow comes to the surface, showing that the channels below are surcharged. The valley itself is one of the most extensive and fertile valleys in the State, and was probably the seat of the first agriculture in Arizona. Northwest of Tucson the valley is expanded by the coming into it of Rillito Creek, but the arable area contributed is small as compared with the mountainous watershed.

There has been some development of agriculture in both valleys. There are a few large farms and a good many small ones, utilizing such water flow as may be available, and of late seeking to supplement this by wells. Small areas, usually stretching along the river courses, have been reclaimed, but more extensive development is a problem awaiting solution.

THE AVAILABLE WATER SUPPLY

The principal stream and its two chief affluents, the Rillito and the Sonoita, are largely underground streams. The watershed is extensive, in the case of the Santa Cruz about 2,100 square miles, while the Rillito has 947 square miles. There must be a subcurrent sufficient, if it can be raised economically, for many thousand acres of valley land.

Several sites for reservoirs have been filed on and surveyed, and the projects are thought to be feasible and profitable, as they involve the development of electrical power, but for irrigation purposes only the cost per acre would be prohibitory.

An enterprise of a different character is being carried to completion and a large tract of land, lying under the reservoir, has been plowed and seeded. This project consists of a long, low earthern dam built across the lower end of a typical desert playa or flat, upon which flood-waters stand, a diversion dam on the Santa Cruz River, and a canal by which the flood-waters are led to the reservoir basin. Several thousand acre feet of water during a summer season were diverted from the Santa Cruz River into the reservoir. Part of the water supply will come also from the Rillito. Besides this, the chief effort has been to secure irrigation water from the underflow by means of wells and pumps.

IRRIGATION DEVELOPMENT

Agriculture is in its infancy in this valley, and a good many thousand acres can yet be put under water to great profit. There are several small settlements in the lower valley and a few good farms about Tucson. One ranch of 1,000 acres has 700 acres in alfalfa which return from five to seven crops, at a net profit of $66 per acre. For three years the lowest price for hay has been $13.

A dairy ranch near town keeps 300 cows and has half of the 1,500 acres in alfalfa. In each case water is taken from the flow of the Santa Cruz.

We saw one tract of 150 acres, just cleared of mesquite, where barley and alfalfa were watered from a well by means of an electric motor at a cost of not to exceed $2 an acre. Continuous pumping does not lower the surface of this well. The lift is about thirty feet. With a lift of thirty-five feet a small engine,


to the coast — Southern Pacific

using distillate, waters seventy-five acres at a cost of $1.65 per acre. A Mormon colony of forty-five people has 1,000 acres and will irrigate from Rillito Creek and from wells. Their mesquite land cost $50 and when cleared and irrigated will be easily worth $150 per acre.

With probably 3,500 acres under cultivation in the Rillito Valley, this area can possibly be increased four times, the underflow being reached at from fifteen to fifty feet. A co-operative project is suggested as best for water development here.

In the Santa Cruz Valley proper, probably 20,000 additional acres can be irrigated, and the exceptional relation of all this valley land to a good home market will justify considerable expense in providing irrigating water.

LAND AND PRODUCTS

In both the Rillito and the Santa Cruz the bottom-lands are famed for their fertility and productiveness. Within easy reach of Tucson they are especially desirable for truck gardens, and fresh vegetables can be produced all the year. Lands that have been worked for many generations without fertilizing in any form show no decline or signs of lessening yield. Alfalfa is the chief crop here as elsewhere in the State, the demand for it being wide and constant. Not much corn is grown, alfalfa paying better. Kaffir corn is good for dry farming where a little moisture can be counted on. The Mexican bean is profitable. One planted seventy-five pounds and harvested 2,625 pounds, the dates being August 8th and October 20th for planting and marketing—two and one-half months.

Grapes generally can be grown, Bartlett pears, fine apples, all hardy deciduous fruits, figs, dates, olives, peanuts, Irish and sweet potatoes. One man is said to have averaged $300 an acre from sweet potatoes for a series of years. A comfortable living can be made here on five acres, lifting water from twenty to fifty feet for irrigating. There is a market at the door.

TUCSON

The setting of the city is between mountain ranges, and the immediate surroundings are the expanded portion of the Santa Cruz Valley and the long detrital slope from the Catalina Mountains. It is an attractive setting, and the city is expanding to fill the promise of the founders of the "ancient and honorable pueblo."

THE STRENGTH OF THE CITY

This is in its location, 500 miles east of Los Angeles, 300 miles west of El Paso; in its wholesale trade on the south, in the states of Sonora and Sinaloa, and in the rich mining territory both above and below the Mexican line; and in the network of railroads reaching east and west and south, even to Guaymas and the City of Mexico.

The agricultural lands around the city will also be a factor in its growth.

The climate is also an asset of consequence. At this elevation, in this dry pure air with the maximum of sunshine, the health-seeker lives out of doors and finds his cure there. He gets well and often remains.

The State university, of course, is a lasting source of city growth. In the smaller towns the college dominates and the educational atmosphere draws many. Where some member of the family must take the university studies and at the same time have the advantage of a mild and sunny climate, Tucson will be found promis-

ing and interesting. Elsewhere we will show the scope of this southwestern school; here it is sufficient to say that it is a university in fact as well as name. All the departments are maintained at a high standard of work.

The Desert Botanical Laboratory, located here, is the only institution of its kind in the world. Its work is experimental, embracing the plant-life of the desert.

The city has a fine school system, a superb public library, many elegant residences built to harmonize with the landscape and the skies, several superior hotels, solid business blocks, good churches and much civic pride.

The old Mission, nine miles south, is of much interest. The present structure was erected in 1787 and the first one 100 years earlier. It is remarkable for its grace of form, its type being purely Moorish.

AN OPPORTUNITY

Few places promise the farmer a better market than Tucson. It is a waiting market. There are nearly 20,000 people in the immediate environs and practically no direct production of wealth in the city. It is a city of consumers. The agricultural wealth produced in the county for a recent year is estimated at $245,000, and this is scarcely twenty per cent. of the total amount consumed in Tucson alone.

From five to six times as much is shipped to the city as is produced locally, the principal shipping points being California, Kansas, and the Salt River Valley. For the single item of butter more than $100,000 is paid by the city to outside districts annually. Nearly all hay, grain, fruit, potatoes, and other staples, and great quantities of finished cattle, vegetables, dressed poultry and eggs are shipped in, and prices are relatively high because of the added transportation charges.

Given water, production here is not a problem, and if a good market is at hand money will flow into the pocket of the producer of food supplies.

SAN PEDRO VALLEY

Benson, on the line of the Southern Pacific Sunset Route, is in the midst of this valley which reaches north to the Gila and south to the Mexican border. For about seventeen miles north and south of Benson the valley is about two and one-half miles wide on either side of the river. Farther south it is divided into two basins by spurs or buttes which extend across it, and below these buttes the strip of fertile soil is narrow. The valley floor is alluvial, the bottom-lands sloping gently from the edge of the mesa to the river, and are composed of fine silt and clay with little sand.

There are a good many settlers in the valley, and about the villages of St. David and San Marco the farm colonies appear prosperous. Barley, corn, alfalfa, beans, tomatoes, and cantaloupes are produced and large quantities of farm products go to the mining towns of Fairbanks, Tombstone, Bisbee, Naco and Douglas. The demand exceeds the supply and high prices prevail.

WATER SOURCES

The San Pedro has a continuous surface flow, but the volume is small save at flood periods. Many side streams enter the valley, but only a few reach the river. The watershed is said to embrace 2,700 squares miles. Flowing in the trough of the valley with a fairly good channel no trouble is experienced from floods. Two ditches take water from the San Pedro and a new ditch near Benson, about six miles long, supplies water for about 2,000 acres under cultivation. The earlier canals

were provided with rude head-gates and water diverted from the river by dams of brush and sand-bags. The water shortage in May and June is now relieved somewhat by artesian wells. There are several hundred of these in a distance of twenty miles, but they were bored by the farmers chiefly with crude appliances and vary from one and one-half inches to four inches. They have been cased only so far as casing could be driven with a maul. The flow is slight; is directed into small reservoirs, and serves for household uses, for door-yards and for stock.

The water is excellent and there is enough to meet the domestic wants of a much larger population. The engineers of the Reclamation Service have examined and reported on the water supply of this valley with a view to creating a reservoir, but no action has been taken. The report says that there are good indications that a greater flow might be obtained from deeper wells, and in quantities for irrigating a much larger area. The basin, however, is thought to be limited.

The valley is settled chiefly by Mormons, and but little has been done in the way of planting fruit or nut trees. What has been done indicates that certain varieties will thrive and bear regularly. The altitude is about 3,500 feet and untimely frosts will not occur with the frequency or severity experienced in lower ranges, and fruit will probably prove a very profitable crop.

Alfalfa yields six to ten tons and sells at from $12 to $20. We talked with one rancher farming twenty acres, who said that half of it gave him $700 for alfalfa.

The soil is everywhere fertile but might be more highly productive under better farming methods.

BENSON

This town has about 3,000 people and is growing. On the Sunset Route, seventy miles east of Tucson, it has also the El Paso and Southwestern and connections with the rich mining towns south and southeast. Good schools, a good hotel, business houses and public utilities mark the spirit of this Southwestern town.

SULPHUR SPRINGS VALLEY

Willcox, on the Sunset Route of the Southern Pacific, will serve to identify the locality, the valley being in the extreme southeastern corner of the State. Douglas, close on the Mexican border, is a mining town of 6,500, and is at the head of the valley, which is over 120 miles long and from ten to twenty-five miles wide. It extends north of Willcox about thirty-five miles. The discovery of artesian water in this valley has recently attracted the attention of farmers. It has long been occupied by stockmen, but a few substantial farms have been cultivated near Willcox for several years, water being found near the surface and lifted by windmills.

SOIL AND WATER

A vast alkali flat is seen as you approach the town from the west, lying on both sides of the Southern Pacific line, and this is apt to leave a bad impression of the region. But these waste places are like gold in this, that they are where you find them, and have apparently no relation to adjoining soil areas. Excellent land often borders them. Here the good land lies in two natural divisions—bench and open prairie or valley. The upper shelves lying nearest the mountains are best for fruit, but water must be sought at greater depths. These gentle tablelands carry a heavy growth of mesquite and sage, and the soil is dark and rich. The valley is flat and appears like a plain, so completely has the V-shape been obliterated

in the process of filling up by erosion. Much of the level land has wide meadows of natural grass, and these once nourished immense herds of cattle. In good seasons these meadows yield many tons of hay.

The grass land is often a light sandy loam and may be irrigated without "baking." It is chemically rich in plant-food, and being the washings of ages is in the valley center practically bottomless. Farmers generally commend the soil and the expert sees its quality at once from its color and texture.

The rainfall of the region for four years has averaged 14.76 inches. This makes dry farming possible in places, but the precipitation can be everywhere supplemented by wells. The underflow seems widely distributed and is found at from ten to 200 feet. Generally a good flow is found at from twenty to eighty feet, the water being pure and soft and limited only by the power of the pump. Near Willcox a second stratum is found at eighteen feet, and at forty-six feet water enough to employ a six-inch pump and fifteen-horsepower engine, throwing 800 gallons per minute without appreciable diminution of the underflow. That deeper wells properly cased might secure an artesian flow seems to be indicated. Experts from the United States Geological Survey have recently been in the valley testing the underflow for artesian water, and will advise as to the feasibility of providing an irrigating system.

FARM LANDS AND PRODUCTS

Men seeking homes have not waited for Government reports and have come in from Texas, Georgia, Alabama, Kansas and Oklahoma in considerable numbers, so that perhaps 400,000 acres have been homesteaded. This means that half the irrigable area has been covered. The remainder is open to entry, some under the desert land and some under the homestead act. Deeded lands through the valley range from $20 to $40 an acre.

The farmers who have come in are really pioneers and are finding their way, experimenting with sorghum, beans, Egyptian corn, cotton, melons, vegetables of various kinds, and are cutting native grasses from their own lands, from open ground, or from school sections which they lease for this purpose. The outlook is encouraging and an increasing acreage will be plowed from year to year, as wells are proven and irrigating pumps installed.

We saw several young orchards, and ground being prepared for more; saw vegetable gardens being planted in February, and found a substantial schoolhouse by the wayside for farmers' children. It is all new, the soil virgin, the farms just getting into shape, and provisions being made for schools and highways.

WILLCOX

Is a village of 500 people, but has a superior school building and a good high school to which many come from the country districts. This school building would grace a town of four times the population. Several farm neighborhoods are within a few miles, and small towns within a short radius are Pearce, Cochise, Dos Cabezos and Bonita.

THE SAN SIMON VALLEY

This is like Sulphur Springs, an old-time cattleman's paradise. Apparently they knew where it was wet, but kept the knowledge to themselves, concealing the fact of an artesian water supply.

Within a few months a well sunk by the Southern Pacific for the station of San Simon—pronounced Se-mone, accent on last syllable—struck a flow of 450 gallons per minute at a depth of 835 feet. This has precipitated a rush into the valley and over 300 locations were made in February, 1911.

This valley parallels Sulphur Springs, being separated by the Chiricahua range of mountains. The station lies east of Willcox forty miles, and the valley is in a basin, being 500 feet lower than Sulphur Springs. There are, it is thought, about 400,000 acres of irrigable land, though this is really a guess, since the underflow has not been proven. But superficially the indications are that this is an extensive artesian basin and that a large area will here be added to the farm lands of southern Arizona.

In the case of the one well sunk by the railroad company, the last 100 feet greatly increased the flow. The water is good but at a temperature of about eighty degrees.

The soil, as generally in these valleys, is sedimentary. Rather it is colluvial—derived from the hills by erosion. In the lower part of the valley some salts are found, but no carbonate of soda. It is thought that as a whole the valley is equal in soil value to the best of the Arizona valleys, and will grow all the products of regions at like elevation. The land is level—a plain rather than a valley. No land is now for entry within easy reach of the station. But San Simon is but sixteen miles from Bowie, and many points in the valley will be accessible to the line of the railroad. This valley will probably add another considerable farm area to the older sections. If it does, the station will become a town of some size, but the urban growth may be divided between San Simon and Bowie. The latter is a junction point, and will profit by any considerable development of farm life in this valley.

THE MIDDLE GILA VALLEY

The Gila is the longest river in the State, and next to the Colorado carries the largest volume of water. Its chief tributaries are the Salt River, the Santa Cruz, the San Pedro, and the San Francisco. Almost the entire State below the 35th parallel is drained by this river, yet at present it does not water a great area. A settlement is located on the upper Gila, but it is small and precariously served by this quick-tempered stream. On the middle Gila are found several small towns and a prosperous farm life, but the district is limited to the central part of Graham County and to an area of about twenty-five miles in length by two or three in width. It is largely settled by Mormons, and a good system of canals and ditches has been slowly developed. Perhaps 50,000 acres are watered, the stream supplying a good head for ten months, a shortage occurring sometimes in the early summer.

The soil is generally a rich, sandy loam, some of it more or less mixed with clay, but all highly productive. Some of this land has been farmed for forty years and yields as abundantly to-day as at the beginning. This is not due to some inherent quality of the land but to the sediment carried by the canals. This water is as highly fertilizing as that of the Nile, whose annual overflows built up that historic valley.

VALLEY CROPS

Wheat, barley and alfalfa are the principal crops. Corn does well and yields from fifty to sixty bushels to the acre, but as usual on the Pacific Coast and in the Southwest, other crops either pay better or the corn habit has not been acquired.

Here the small amount grown is accounted for by the water shortage, June being the best month in which to plant corn, and all the water available is needed for the other crops. Corn, cane or beans can be readily grown upon the same land that has already produced a crop of wheat or barley.

The land is constantly renewed by the water used in irrigating, and the two-crop system does not injure the land.

Alfalfa is cut four and five times a year, averaging about six tons. The farming is not always even good, and the best would add largely to this forage crop on such land. A ready market is found for alfalfa at from $8 to $12 per ton.

Fruit can be profitably grown, but an orchard requires skill and care and the average farmer here lets his fruit-trees degenerate and his orchard land grow up to weeds. Apples would find a ready market in the mining towns and they thrive here and are of superior quality, but they cannot be planted at random, left unpruned and unsprayed, and yield anything on the investment. A good addition to the farm table and the farm income can be derived from the orchard—pears, plums, peaches, apricots, grapes and apples being of fine quality.

UNCULTIVATED LANDS

It is estimated that there are in this valley 100,000 acres of good land lying untilled. In the lower part of the valley there is a movement to water a larger area by extending one of the old canals. The intake is to be enlarged and the canal carried to the neighborhood of Fort Thomas, fourteen miles. The ditch is completed for about half that distance at this writing, and when finished will serve about 8,000 acres. Land under this extension is being rapidly taken by both resident and non-resident. More adequate provision for watering this fertile valley will be made in time by storing the flood-waters, either by securing Government aid or enlisting outside capital.

It is believed that artesian water can be secured in any part of the valley if sufficient depth be reached. A belt about two miles wide and twenty miles long exists on the south side of the valley, near the foothills of Graham Mountain. A good many flowing wells are there, but they are small and without casing. They are thought to yield in some cases from 75 to 150 gallons per minute. Some irrigation is possible and crops seem to do well with this water.

In the upper Gila, Duncan Valley offers room for a few farms, and a number of ditches divert water for irrigation purposes. There is good land in the Upper Gila Valley which may be watered from the San Francisco River, a tributary of the Gila, flowing out of New Mexico. Engineers have been asked to make a survey of the river and its sources, and the reclamation of 40,000 acres has been projected, and may yet be carried out.

GILA VALLEY TOWNS

In the middle Gila are Solomon, Safford, Thatcher, Pima, Central, Eden and Fort Thomas. These are supported by the agriculture of the valley and are prosperous, some of them showing considerable growth. Thatcher has a substantial academy, a Saints' School built of stone. It gives a high school course and receives pupils without respect to church lines.

These towns will probably be supplied with water from Mount Graham, the purpose being to tap a mountain stream that now sinks on the sands of the mesa

without reaching the valley. Several towns are "dry," the sale of liquor being prohibited.

The county town is Solomon, near the head of this section of the Gila Valley. The general altitude of the valley exceeds 3,000 feet, and the climate is one of great charm for most of the year. The summers are hot, but the air is very dry and pure, the mountains are near and the nights are cool.

AROUND CASA GRANDE

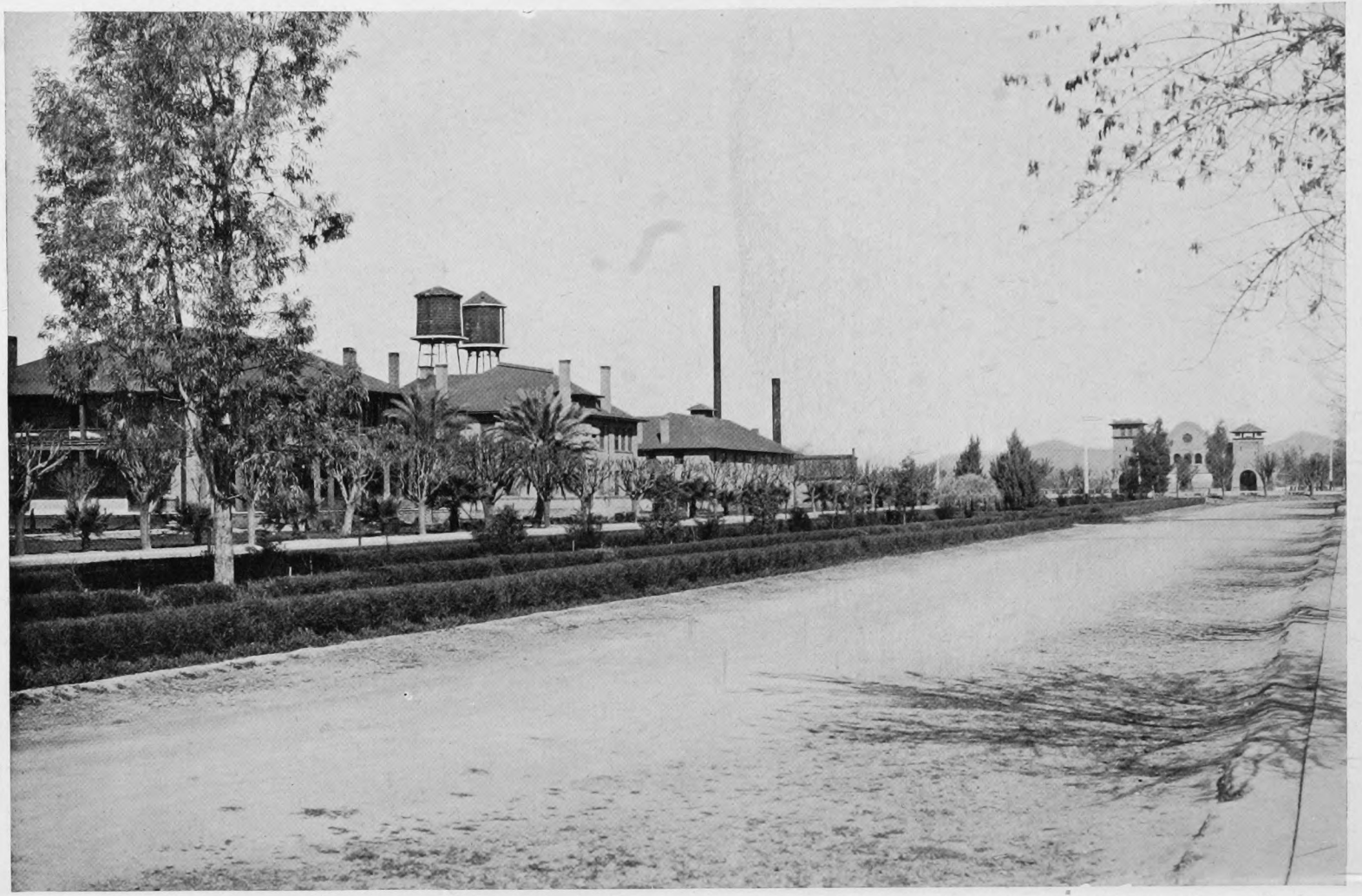
The ruins of the Grand House of the prehistoric people are on the plains nine miles from Florence, on the Arizona Eastern. They may be reached from Phœnix, getting off at Florence, and driving nine miles, or from the station Casa Grande on the main line of the Southern Pacific, driving sixteen miles. These ruins embrace a house of three stories, and the foundations of a much larger structure with many rooms. This has recently been uncovered under the superintendence of Dr. Fewkes, at the expense of the Smithsonian Institution, at Washington, D. C. The building was first seen by Spanish explorers in 1540, and was ancient then, and no one knew its origin. Casa Grande will well repay a visit. The plain once tilled by the unknown people embraces 415,000 acres of irrigable land. For want of facilities only about 5,000 acres are now under cultivation. A ditch has been recently built by the farmers and plans are drawn for a diversion dam where the present head-gate is located. About 500 families have located here in the last year, and 60,000 acres entered under the homestead and desert land acts between January, 1910, and January, 1911. The success of these settlers, of course, depends upon their water supply. A diversion dam in this fierce river must be strongly built, and without it the irrigation of only a fraction of this vast plain is possible. At present a site for a storage-reservoir in Box Cañon awaits some governmental action, but in time provision will be made for watering every acre that the flow of the Gila can be made to cover. It may be that action will yet be taken by the Reclamation Service. Certainly the large area of superb land hereabouts should be made productive.

THE INDIANS

These "first families" are somewhat numerous, but are quiet, peaceable and generally good farm-hands and house servants. They are provided for on reservations, are taught various industrial arts in schools erected for this purpose, and are being fitted, as far as possible, for self-support. A school is at Yuma, and an industrial school at Phœnix with 160 acres of land and attractive buildings and well-kept grounds. There is also a training school at Tucson, with schools on all the reservations. There are tribes marked for their industry, as the Navajos, a superior Indian and a good worker. The Pimas are farmers "from away back." Even the Apaches are being trained in schools and have "made good" as teamsters, shovelers, etc., in building the big Roosevelt Dam.

The women generally are opposed to schools and civilization, but some hundreds of their children are being taught, and the fierce blood of the tribe will finally submit to the new order. The Apache boys are bright and more easily taught than the girls, and time will make good citizens of this savage tribe.

The Indian is not much seen on the streets of towns, nor are they often found among the breakers of law. The school at Phœnix has an Indian band marked by



The first inhabitants of the State, the Indians, are under the care of the Government for their own betterment. Here is the Indian Training School at Phœnix

gentlemanly appearance and conduct, and well known in the Southwest for their musical ability. The Indian population is about 25,000, largely confined to reservations, two of which embrace 2,191,360 acres.

STATE CENSUS RETURNS

These show a population of 204,354, of which nearly 156,000 belong in the territory we have gone over. That is to say, about seventy per cent. of the population of the State lives in southern Arizona. The gain for the last ten years is 81,423, or an increase of over sixty-six per cent. This gain has been chiefly in the southern counties, and is largely due to the interest in agriculture, as this, in turn, has been developed by the great irrigation works of the Government. New people are coming in every month, bringing numbers of substantial men looking for homes where they may make of farming a scientific business, unhampered by drought or rain. The population is mainly of good American stock; people whose support depends upon mining and agriculture for the greater part. The mining is not of the ephemeral kind, for the great copper lodes will be worked for centuries yet to come. The agriculture, in broad and wonderfully fertile valleys, now is assured of protection against drought, by the building of wonderful national irrigation works which will conserve the floods of the winter for use in time of need.

State highways are being constructed, a system more extensive than any in the trans-Mississippi country. When completed the system will cost $1,250,000 and 1,043 miles of surfaced roads and boulevards will connect the principal towns and cities and will reach up from the plains into the highlands of this southwest country. Necessary bridges of steel and concrete are being erected. This will facilitate travel, and it should be noted that the arrogant and accommodating automobile is nearly as common in this new State as in New York or Illinois. And the seasons here never interfere with travel. Mud is a negligible quantity.

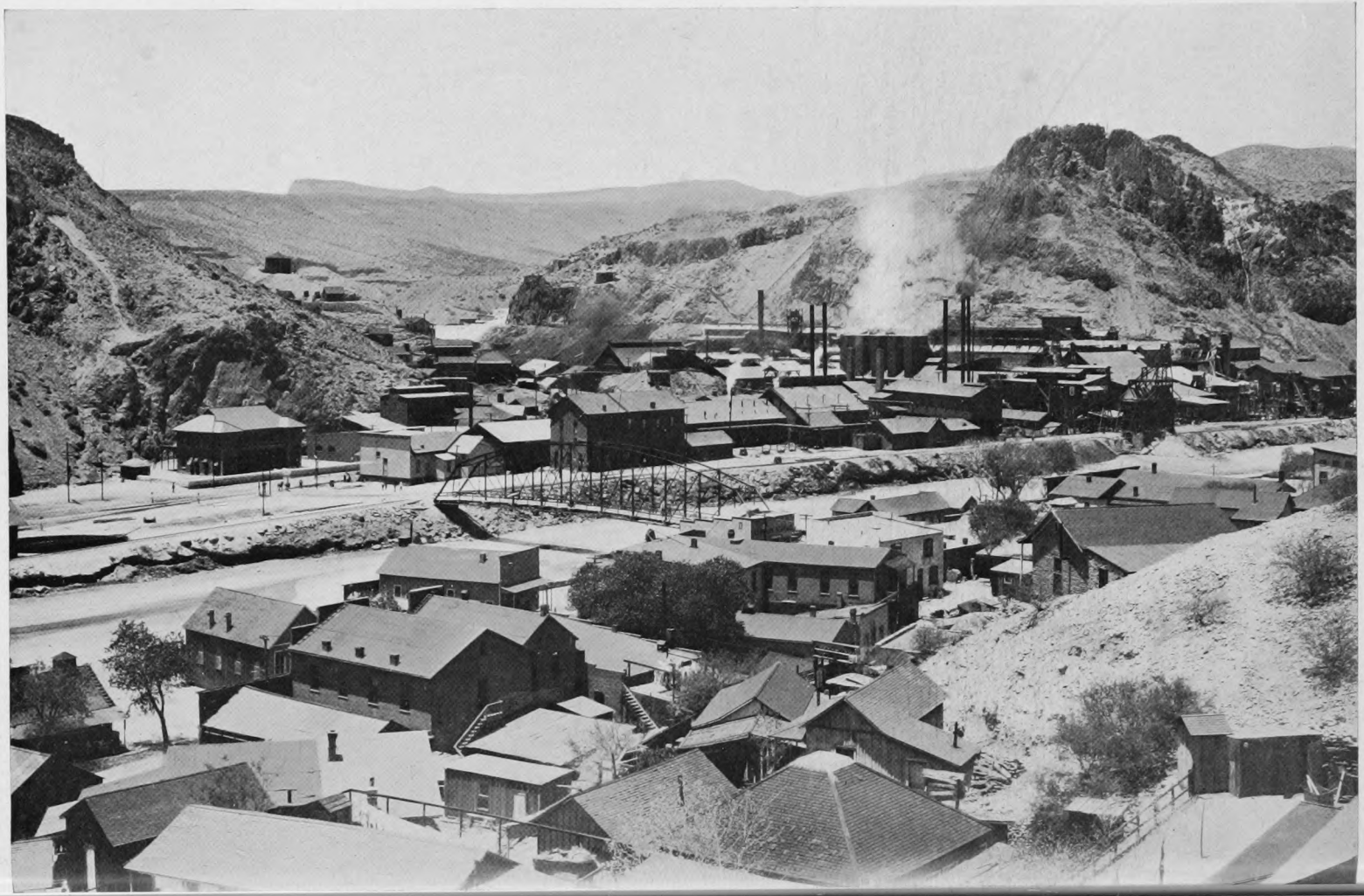
THE MINING INDUSTRY

It is not our purpose to dwell upon this part of Arizona's wealth. It holds first place, and though mines were worked here as early as 1736 the vast mineral resources show no sign of exhaustion. If agriculture has developed slowly by comparison, it must be remembered that the discovery of mines brought the Americans, and not until a later period came the farmer. To-day we simply point the farmer to the mining camps, towns and developing cities as furnishing a market for his products, mining being apparently a permanent feature of the industrial life of the State.

The first thirty years of American mining were in the face of hostile Indians, yet in that period Arizona reached third place in the list of gold-producing States, and in one year—1882—put nearly $10,000,000 into the commercial veins of the world.

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

Silver was early found in great masses. One piece is said to have weighed 2,700 pounds. Between 1870 and 1875 wonderful deposits of silver were uncovered. Practically on top of the ground, silver ore was found rich enough to



bewilder the finders, and in a few years produced millions of silver dollars. One mine alone gave up $11,000,000 before its day was done. Tombstone yielded in all more than $30,000,000, and is yet rich, the gold content of the ores increasing as greater depth is reached.

The discoveries of placers and gold quartz during the last twelve months have made several fortunes, and show the interest which these mountains and cañons still have for the prospector. The railroad and modern methods of treating ores are making abandoned mines paying properties, and in some cases ore of great richness is being found close to where the earlier operators stopped work. Leads, rich in silver ore, have just been discovered in Yuma County. New placer ground is worked in Maricopa County. Pima County cement beds are rich in gold. The zinc mines of Mojave County, perhaps, pay better than any others in the State. Mining men say that the industry has taken on new life and that the new methods of treating ores are adding much to the general success.

COPPER MINING

Some of Arizona's copper mines are among the greatest in the world. It is estimated that in the last twenty-five years Arizona has produced more than $160,000,000 worth of copper from her larger mines.

The output of copper for 1909 was nearly 300,000,000 pounds, showing that Arizona still leads all the States and Territories in the production of this metal. The total value of copper, gold, silver, lead and zinc for the same year was $42,946,745. This came from fifty-two large mines and mining corporations.

The Copper Queen of Bisbee has a yearly output of about $11,500,000, and has practically built the town of Bisbee. Douglas, the smelter town, twenty-seven miles distant, is a product of the mines, and the Copper Queen sends 2,000 tons of ore daily to the Douglas smelter. The United Verde at Jerome is another of the world's great producers. The Old Dominion of Globe is equally famous, while Clifton and Morenci are great copper centers.

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

The counties of southern Arizona all have considerable mineral deposits, and some of them are good producers.

Yuma County shows mines in all parts of it, some of them very rich. There are a number of districts and many camps, all of which must be fed from without.

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

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

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

Cochise County has Bisbee for the center of its mining activity. It is a rich district, with enough farming and grazing lands to furnish supplies for the mining towns if properly developed. The output of this county yearly is about $5,000,000.

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

The country has onyx, sandstone and marble. There have recently been opened up near Bowie, in Cochise County, marble quarries said to be the equal of any in the world in the extent of the deposits and quality of the marble. Some shipment of this marble has been begun and the industry promises to be an important one.

THE FARMER AND THE MINES

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

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

Here are large numbers of people who are well paid and must be well fed. The miner pays, and pays in coin. These mining towns want all that a farmer can produce. They are fairly permanent, often large and growing, accessible by roads and railroads, and to have a farm within reach of one of them insures a good income. It is only a question of intelligent management.

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

MINING TOWNS

BISBEE is in the southeastern county of Cochise, fifty miles south of the main line of the Southern Pacific and on the line of the El Paso and Southwestern. It is distinctly a mining town, with a population of about 12,000 people.

DOUGLAS is twenty-seven miles from Bisbee and near the international boundary. It is a smelter town, the ores of a large district being reduced here. Douglas is on the El Paso and Southwestern and has a population of 6,500.

NACO is in the same region, but immediately on the boundary line. It is connected with the great copper camp of Cananea, in Sonora, by rail, and has some importance as a port of entry. Bisbee, Douglas, Naco and Cananea represent an aggregate population of about 40,000 people.

TOMBSTONE is on a branch line from Fairbanks. This is a silver camp, with gold on the lower levels. Operations have been interrupted for years by a flood of water, but this is now handled by powerful pumps and Tombstone may again become a place of importance.

PEARCE. This mining town is reached by a short branch from the Southern Pacific's line at Cochise. Mining as an industry is here well organized.

GLOBE, in the county of Gila, has a population of about 8,000. It is the terminal point for the Arizona Eastern from Bowie, on the Southern Pacific. Globe is a copper camp, and is said to have a monthly disbursement of about $300,000 from the mining companies.

CLIFTON is reached by rail from Lordsburg, New Mexico. It is a lively town of between 5,000 and 6,000 people, located in the midst of great copper mines whose yearly output reaches nearly $10,000,000.

MORENCI is in the Clifton district and but a few miles from the older camp. It is the larger town having about 9,000 people. The output reported above includes the Clifton-Morenci section. The first copper mines of the Southwest were worked in this district.

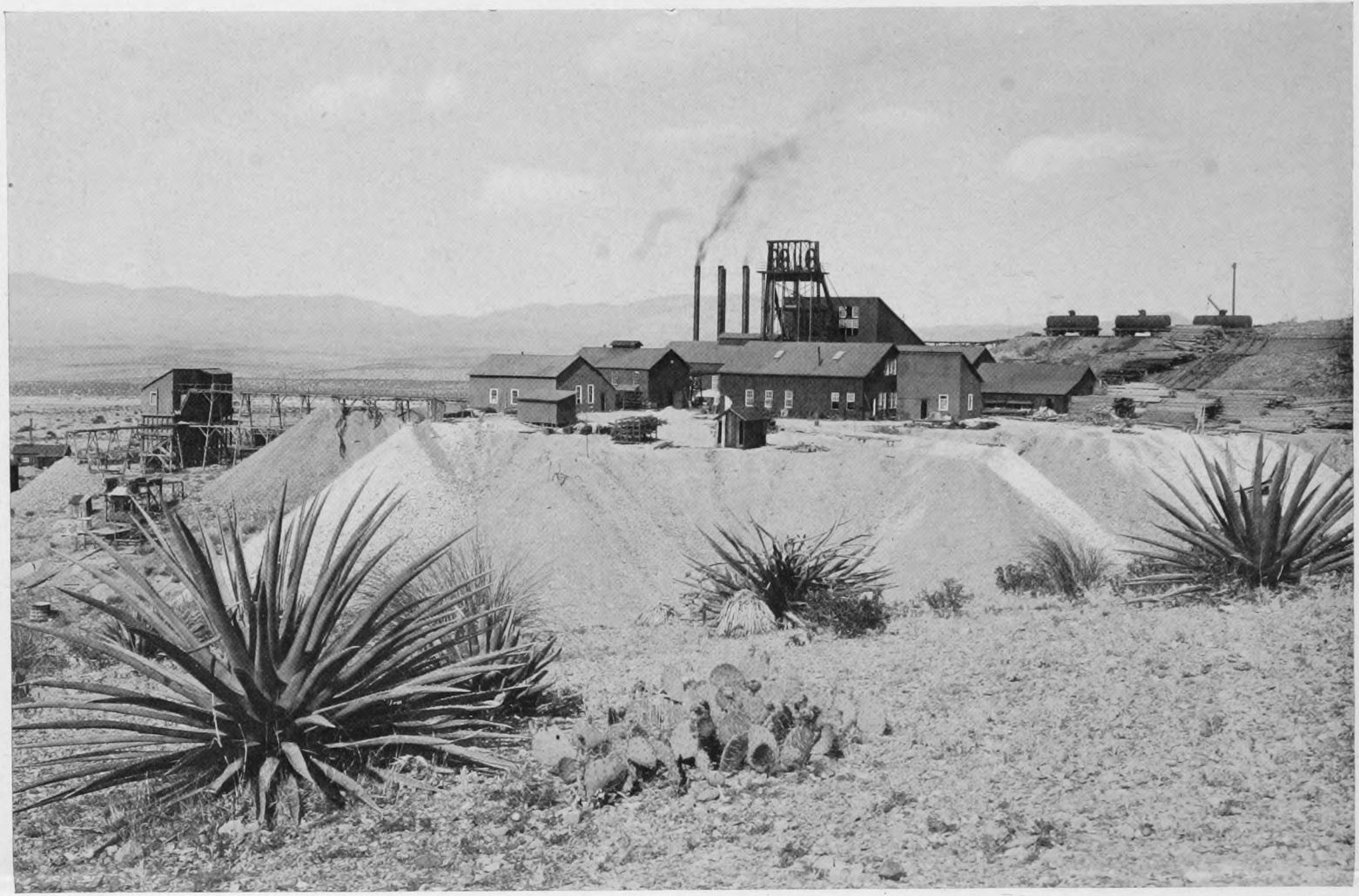
Mining towns are here amid wild and rugged surroundings and are wholly dependent upon food supplies from without. These are the market towns for the small valleys and the farms of the State.

SOCIAL CONDITIONS

What society shall we find in Arizona? Under what conditions must we bring up a family? What about social and moral order? These are questions which you will ask and ought to ask. In reply let me quote for you the opinions of men who know Arizona. Governor R. E. Sloan said recently: "The East has looked upon the Southwest as yet existing in the wild and woolly frontier period, with cowboys 'shooting up' the towns, with terrorism frequently rampant. On the contrary no Eastern community is better behaved or has a higher average of citizenship than this new State."

An ex-governor, Hon. J. H. Kibbey, said several years ago that life and property were safer in Arizona than in many of the States. Locked and barricaded doors are in many parts of Arizona a novelty. The professional thief, as he is known in the older and more thickly populated communities, is almost unknown here.

With this agrees the observation of Dr. J. A. Munk, of Los Angeles, whose book, "Arizona Sketches," is the outcome of years of ranch life in this State. He says that "the favorite haunt of vice and crime is not in a sparsely-settled community * * * but in the centers of population." And he testifies that "men from



The dumps and workings of the Templeton Consolidated Mining Company at Templeton, a property in which the gold values are increasing with depth

every position in life, including college graduates and professional men, are engaged in ranching, and whoever takes them for a lot of toughs and ignoramuses is egregiously mistaken."

An Arizonan said to Senator Beveridge of Indiana, "I will take you to an Arizona fair and I will show you 10,000 people inside the grounds who will be there all day and not a case of drunkenness, not a single arrest, no quarrels, no liquor, no pool-selling on the grounds." On the same occasion, at a reception of the Senate Committee in Phœnix, one of the members of this committee said, "If this reception had been held in Vermont, I should have been proud of the class of people that came to it."

This is not surprising. The men who have left their impress upon Arizona are from the East, the Middle West and the South, from the stock that made the civilization of the older States, and the men who are coming into the State to-day are intelligent, enterprising farmers from every section of the Middle West, and men who bring enough to establish themselves and become active factors in business life. Dismiss from your mind the idea that Arizona is on the frontier and that cowboys still "shoot up the town." Today the cowboy is apt to be a college-bred man, come West for a foothold—for a place in the industrial battle-line, and he frequently owns the cattle he tends, and can take his part in framing State constitutions, or shaping the civic life of the town.

There are no stage robbers, and there are few stages. Under a Territorial government pistol carrying was prohibited by law, and so was gambling, while many sections have prohibition and Sunday closing. The laws are enforced as found in the statute book, and they are laws which would be acceptable anywhere "back East." Every town has its electric lights and telephones, and automobiles are everywhere.

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

EDUCATIONAL DEVELOPMENT

A magazine writer said but yesterday that Arizona towns are "showing the touch of progress in everything that goes to make modern municipalities; that the permanent school funds are among the most liberal of any part of the Nation; that churches are abundant and their pastors abreast with the times." This writer quotes an official as saying, "these new States are actually top-heavy with institutions of higher learning. By that I mean that we have provided so liberally for universities, normal schools and similar institutions that we have greater facilities than there are students to utilize them."

This, of course, will take care of itself, and a larger attendance will come with State growth.

The University of Arizona, with its School of Mines and Agricultural College, occupies forty acres of city land at Tucson

Make a note of this—that there is as much interest in education in Arizona as in the older communities in the East. This suggests the quality of the citizenship. Public schools are everywhere, teachers are required to pass a severe examination, and salaries are high.

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

THE UNIVERSITY

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

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

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

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

The university has a good agricultural library, a seed collection, greenhouse, and gardens for experimental purposes, which contain rare and interesting plants. A tract of forty acres constitutes the site of the university close to the city.

Tuition is free to all students residing in the State.

NORMAL SCHOOLS

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

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

Much attention is given to the education of the children of the Indian tribes, both by direct action of the State Government and by religious societies. The Indian of Arizona is peaceable and industrious and no part of our common country has so many native farmers "from away back." They are farm-hands and house servants,

quiet, faithful and respected. Whole tribes have their children in school and are proud of their advancement.

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

CLIMATE AND SOME OTHER THINGS

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

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

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

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

The winters are full of charm. The temperature averages about fifty-seven degrees from November to April, inclusive, the lowest being seldom below thirty-six degrees. An overcoat is sometimes needed, and the nights are made for open wood-fires and blankets. You will not find in many places in the world an atmosphere so singularly clear, so tonic and dry or a sky so blue.

Two or three classes of people will not grumble about hot weather and long summers—farmers who grow alfalfa, growers of citrus fruits and the people who come here for health.

Southern Arizona has so much that is climatically desirable and so little that is disagreeable that it has become widely known as a health resort. Every winter both the cities of Tucson and Phœnix have an addition to their population of from three to five thousand people who come here for the sake of the outdoor life that is possible. There is no malaria. Rainfalls are sometimes violent, but there are no hurricanes, cyclones or tornadoes. An occasional dust-storm is almost the only disagreeable feature of the climate.

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

TRANSPORTATION LINES

A statement recently made and widely circulated indicated a meager development of railroad lines in Arizona, and added that in view of "desert conditions," the people of this State could hardly look for any considerable addition to present roads. This is misleading. Since Arizona has no natural waterways, beyond a single shallow river, railways to her are as arteries carrying the blood of life. A single copper mine often has freight as heavy as is that of an ordinary city. So the spread of railway construction has not been determined in Arizona wholly upon the spread of population, and this wide territory has a remarkable railway mileage. From the Santa Fe and Southern Pacific main lines, respectively, crossing the northern and southern parts of Arizona, radiate feeder lines which furnish transportation to Phœnix, Prescott, Chloride, Grand Cañon, Silver Bell, Twin Buttes, Nogales, Johnston, Pearce, Buckeye, Florence, Winkelman, and other points. The Arizona Eastern connects Bowie with Globe, giving railroad facilities to all the towns in the middle Gila Valley. An independent road runs from Lordsburg, New Mexico, northwest to Clifton and Morenci, called the Arizona and New Mexico. Tucson is connected with Nogales, Nogales with Cananea, and Cananea with Naco, on the border. The El Paso and Southwestern extends from a Rock Island connection in New Mexico from El Paso through Deming, Douglas, Bisbee and Naco, and meets the Southern Pacific again at Benson. Every important mining town, and every promising agricultural center has adequate railroad connections, and it is safe to say that every new camp developing freight tonnage in any considerable quantity and with promise of permanence, and every new agricultural valley filling up with settlers, will find railroad facilities extended as they may be needed. Railroads are after business in Arizona, as elsewhere, and they are interested in the creation of traffic. They are, in the very nature of things, colonizers and interested in the development of the State. Their property is worth more in a well-settled State than in a desert, and their lines will be found in every promising section in advance of population.

The real sources of wealth here are on the side lines, which the through traveler never sees. He does not see that beyond the deserts which bound his vision are wide green areas, and that the civilization of Arizona is permanent, because rooted in the soil.

OUR NEIGHBORS

The southwestern corner of New Mexico is part of the farmers' empire in the Southwest, and the State of Sonora is a rich neighbor of Arizona on the south. We call attention to these marginal regions of the country we have been over to indicate an opportunity or two, to note the agricultural development and to indicate trade openings and the expansion of markets.

LORDSBURG, the principal town of Grant County, is about twenty miles east of the Arizona line. It is in the midst of wide grazing lands.

DEMING lies sixty miles farther east and is a point of growing importance owing to its railroad lines and the development of great stores of water underlying the Mimbres Valley. The Mimbres is a sunken river, and wells tap the underflow at from 30 to 150 feet, the average being below 100 feet. Water is lifted by pumps, and farms are multiplying in every direction.

The soil is the usual alluvium of these valleys, very rich and productive. As the water supply is extraordinary and the soil rich, the Mimbres Valley will become a garden. It is about fifty miles long by fifteen to twenty miles wide and has practically no waste land. Deming is in the midst of it, a flourishing town of 3,000 people that will make a commercial city of considerable importance. The railroads here are the Southern Pacific, the Santa Fe and the El Paso and Southwestern.

The town has good buildings, banks, churches, schools and hotels, and good water. It is distant from El Paso eighty-nine miles. A booklet from the Deming Chamber of Commerce will be sent on request.

EL PASO is the metropolis of all this region, a city of over 40,000 people, but destined to become a large and influential city.

The irrigation of the Rio Grande Valley above and below El Paso has been undertaken by the Reclamation Service at a cost of about $9,000,000, and this will develop about El Paso a farming population and add greatly to the growth and stability of the city.

NOGALES is on the southern border and is both a Mexican and an American town. It is reached by train from Tucson, and is the western gateway to Mexico. Connection is made at Nogales with the Sonora Railroad, operated by the Southern Pacific to Guaymas, 260 miles. From Guaymas this company is building down the west coast through the southern portion of the State of Sonora, opening the valleys and deltas of the Yaqui and Mayo rivers to colonizers. The lands about Hermosillo are under irrigation and much American capital is interested in their development. The agricultural possibilities of a large region are attracting attention and foreigners and foreign capital are welcomed by the Government of Sonora.

Nogales has a large trade with the interior of Sonora, and is fairly surrounded with gold and copper mines and with much rich soil. It is in touch with Guaymas, the seaport and metropolis of the State of Sonora, and will profit by the developments below the border. Sonora has a population of a quarter of a million, and a community of American interests is building in the midst of this Mexican State. Railroads, built by Americans, traverse the broad valleys. Large irrigating systems to carry water to the lands have been built. Towns have sprung up along the railroads, and American ranchers and farmers are planting oranges, lemons, pineapples, cocoanuts, limes, bananas and other fruits, as well as broad fields of corn, cotton, tobacco, wheat and hay. Great fields of alfalfa stretch across the country. In them the harvester is always busy, for the yield is eight crops a year, and the hay sells at $15 and $20 gold per ton.

Here is a section of the great Southwest worthy of the attention of every homeseeker and investor. The agricultural wealth is great and its development means a great increase in population. Many Americans are in Mexico, and the building of the West Coast road by the Southern Pacific will greatly facilitate travel from the north, and will increase the number who will go into the neighboring

Cattle still run at large on the northern ranges of the State, are fattened for marketing on the productive farms of the irrigated districts

Republic for the sake of investments. This fact only indicates the narrowing range of opportunities as our older States fill up.

THE RANGE

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

We are concerned with it here only or chiefly in its relation to the farm. There is a steady shrinking of the the open range. This is caused by the encroachments of agriculture, but the range itself has generally been over-stocked in the great days of this industry, and the killing of the native grasses has left the stockmen at the mercy of the seasons. That is to say, there is more dependence upon the grass which grows each year, and this in turn is dependent upon the rainfall. A serious source of trouble and loss is the absence or remoteness of drinking places. In periods of comparative drought cattle congregate near tanks or springs, exhausting the feed at such places and dying from want. Practical men recognize that the days of large herds on the open range are numbered. The range today is almost wholly occupied, and while the cattle industry is still a large one, the tendency is to have smaller herds, better stock, better care, and, perhaps, later on, enclosed pastures. The alfalfa field will be a large partner in the business, and the farmer will keep more stock, feeding the hay he raises and turning off fat cattle instead of baled hay. Save in this way, there is not much room for expansion of the cattle industry.

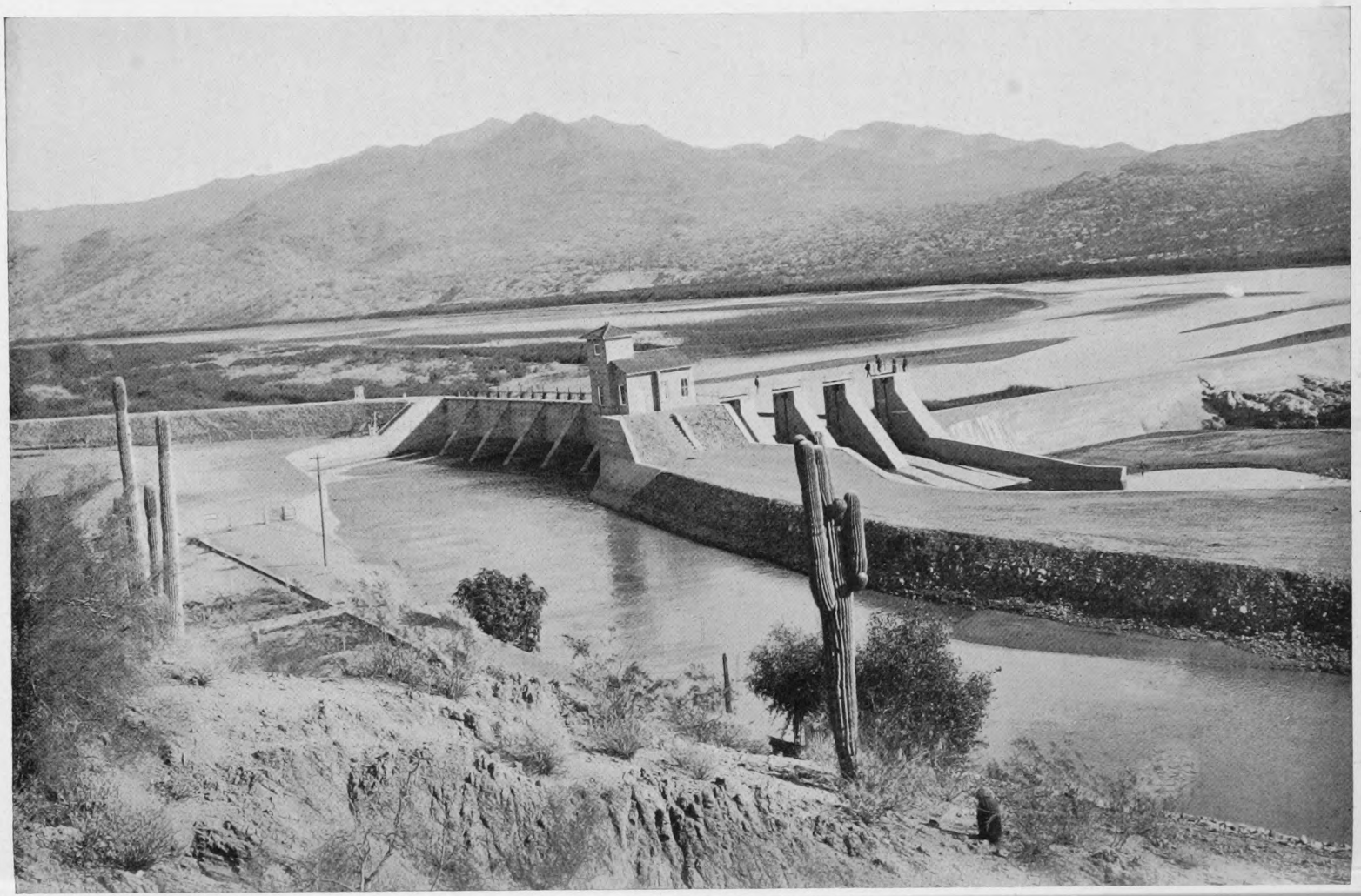
The weakness of the irrigated farm today is in this fact, that live stock are not more largely grown. We complain of the cost of living, but some elements besides the beef trust enter into the problem. The decline of great stock ranges; the decrease of the beef output by dairy farming; the increased value of pasture lands, and the decline in numbers of cattle raised by farmers, have much to do with the cost of our beefsteak and roasts. Between 1909 and 1910 beef cattle are said to have fallen off over 2,000,000. At the same time there was an increase of 90,000 cows for dairying, and milch cows are not sought for beef.

In this State there is money in the small herd on the farm, and where the desert touches the irrigated farm the stock-farmer has an advantage. If he will pasture little on his irrigated fields and cut and feed instead on the margin of the desert, in dry paddocks, he will save injury to his alfalfa, and the trampling of his ditches, and will add to his income. The natural conditions here favor the farmer in this particular line.

SOME OPPORTUNITIES

Looking back over the ground we have traversed, some hints as to location may be helpful. We are not about to advise any man, but to summarize the situation and point out the various sections which offer openings to the man of thrift and energy. The opportunities offered the settler may be classified briefly, and serve the man at a distance who must see through another's eyes.

Here are, first of all, and perhaps most important of all, the lands offered by the Government. Under the reclamation projects, substantially completed at Yuma and Phœnix, there is no question about land or water. In advance of any con-



The diversion dam at Granite Reef on the Salt River Project near Phoenix, from which the various canals are fed

structive work the soil was passed upon by experts, its variety and qualities located, analyzed and mapped, and the water necessary to supply the soil-area clearly determined. The settler is helped in his choice of land, and is left in no anxiety or uncertainty as to water supply. The main canals and the principal laterals are built for him and without cost, and the Government engineers locate the sublaterals, stake out the ground and lay out the scheme of distribution, and the farmer has only to follow the plans of the engineers. Drainage is also provided for, and what is called the "duty of water"—the amount required by the soil—determined for him, so that he need not water-log his land, nor create small swamps for want of drainage channels. All this will be appreciated by the average man as extremely helpful, and he can enter upon the preparation and cultivation of his land with great confidence.

The social features involved in these reclaimed areas are important. They are immediately adjacent to and surround established towns; they will develop, in most instances, the close neighborhood necessitated by small farms, and will escape the sense of loneliness associated with farm life in a strange country, remote from conveniences. These irrigated lands will certainly show, in a few years, compact communities, and an increase of values growing out of improvements, expanding population and social and educational advantages in the town centers.

The settler will weigh in advance all these things, and will consider, too, the advantage of annual payments for a water right, and the gain of ownership in this right after ten years. It becomes an asset, to be reckoned in the value he sets upon his land.

In the next place the settler will consider private irrigation. This may be found in the mixed Mormon and "Gentile" settlements along the middle Gila, from Solomon to Fort Thomas, including Safford, Thatcher and Pima. Here is a fairly secure and well-constructed system of canals, with water rights for sale at varying figures. The soil is good and a first-rate farmer can do well here.

On the lower Gila, at Buckeye and Arlington, are small American settlements, very prosperous, and with an assured water supply. The Buckeye Valley is long and narrow, and no long laterals are required. The farmers own the canal, and water rights can be bought.

The Arlington canal is community property, and acreage is assessed for operating expenses whether in cultivation or not.

In both valleys crops have been chiefly alfalfa and cattle, owing to remoteness from the railroad, but now the Southern Pacific operates a new line from Phœnix to Buckeye, and a more diversified farm product will result. Many ranches here adjoin the open desert on one side and the river on the other, an advantage in handling stock.

Again, private irrigation exists in a small way east of Phœnix, on the lands back of Florence. A large area of good land is here, and will, some day, be reclaimed. At present, as we have noted elsewhere, water is taken out of the river rather precariously, and the supply is uncertain as crops approach maturity. But the region is worth watching, for irrigation will make opportunity here for many.

Here near Tucson, this well, supplying one hundred and sixty acres, has raised the value of the land enormously. There is much water underlying this district

This is true also of the projected dam at Gila Bend, west of Phœnix. If that is constructed as planned, good land with gravity water will be in the market, and a community of considerable size will grow up.

Private irrigation also includes a small area around Benson, where, at present, both ditches and wells are used to furnish moisture. The San Pedro Valley has a Mormon settlement. Well irrigation, or irrigation by pumping, now includes large areas in the Sulphur Springs and San Simon valleys. The settler who looks for cheap land will be interested in these valleys, with a hope, somewhat uncertain of realization, of securing a homestead. Failing this, he may buy a relinquishment, many filing on lands here in prospect of a little gain by selling to a bona fide farmer. In view of all this, the necessity of personal investigation will be readily seen. But the settler who contemplates this kind of farm life must be a pioneer, and be prepared for isolation and to face some privations for a few years. He should count the cost of sinking a well and of providing a pumping plant, but he should also remember that well irrigation is old, is successful in many countries, and that here a well not too remote from mines and mining towns, and with flow enough to insure crop production, will make a man comfortable. He will find a ready market for all surplus products beyond the wants of his own household.

Well irrigation is spreading around Tucson, and here the vicinity of a growing city is of course an advantage.

In the environs of Phœnix also the underground water supply will provide for many a farm, possibly, outside of the area being vested by the Government, but this is uncertain. It is wholly safe to be advised here by the engineers of the Reclamation Service, and to distrust "promoters," who may offer lands to be watered from underground supplies. In all new districts the situation should be carefully studied. In some of the valleys irrigation in this manner is recent, but the wells so respond under pumping tests as to leave no doubt about the pressure from below. This is the case in the Mimbres Valley at Deming, New Mexico, and many new wells are being bored.

In the Sulphur Springs Valley some wells near Willcox have been watering farms for several years and the area of cultivated land is steadily expanding.

SOME ADVANTAGES

Suffer us to show you the hopeful side of farm life in Arizona. At best the work of paying for a farm, as many must, out of the crops it produces, the work of building a home in a new country, of learning to irrigate and to adjust farm methods to new conditions is enough to tax the energies of strong men. It is a serious task, but many are tackling it with courage, and this new State shows a splendid array of men and women joyously and successfully battling with new lands cut out of the desert, under new conditions, and by new methods, and every new farm, every successful venture makes the way easier for the next comer.

Note, then, first, that if conditions are new, they are favorable. Aridity is largely an affair of climate, and here, if the climate is hot at times, it is always dependable. It is a friend and not a foe; it helps and does not hinder. The farmer counts with certainty upon right temperature for plant growth for most of the year. This means a long growing season, as we have said elsewhere, a

Truck gardening—the raising of vegetables for the table—finds tremendous impulse from the rich, unworked soil

wide range of products and the maximum of production. This means, other things being equal, a large acreage return. Arizona has been credited by the Department of Agriculture with an approximate return from her irrigated acres of $55.00 per acre, and certainly this average will be raised now that large areas have an abundance of water. As the average returns in the States of the Union, as a whole, are but $11.00 an acre, and only two are said to have reached $30.00 an acre, the encouragement for the settler in Arizona is very marked. If his Western farm is smaller by half than the one he left, and costs him, under Government irrigation, about as much, it will produce him two or three, even four, times as much per acre, and he will receive better prices for the products of his acres.

If he must start in a small way, let him recall the fact that his fruit and vegetable garden can be made to produce from month to month through all the year. The Director of the Experiment Station connected with the University of Arizona, Professor R. H. Forbes, gives us a homemaker's garden, as follows:

In January, cauliflower, lettuce, radishes, and oranges.

In February, cabbage, spinach, beets, and turnips.

In March, carrots, green onions, asparagus, and strawberries.

In April, green peas, radishes, onions, strawberries, and mulberries.

In May, green corn, potatoes, blackberries, plums, apricots, and peaches.

In June, tomatoes, melons, squashes, figs, plums, and apples.

In July, beets, cucumbers, grapes, peaches, and pears.

In August, melons, figs, peaches, and pears.

In September, lettuce, grapes, pears, dates and pomegranates.

In October, winter squashes, pumpkins, beans, plums, and quinces.

In November, potatoes, peas, beans, beets, celery, strawberries, and oranges.

In December, radishes, strawberries, olives, dates and oranges.

Many of the fruits and vegetables are not confined to the one or two months in which they are listed, but extend through a series of several months. So that a profusion of wholesome products fresh from ranches and gardens is available for the tables of consumers the year round.

Fruits, of course, require time. The orange shows a good yield at six years, and can thereafter be counted on to yield from three to five boxes per tree and to net the grower $2.00 per box. As ninety trees are readily grown on an acre, the returns can be easily reckoned. Grapefruit has produced $7.00 per tree. It is probable that dates will yield much more when their production has become an industry.

In the alfalfa fields growth is only arrested for a couple of months, and with stock this is a profitable kind of farm life. It is a matter of common sense that the dairy must be profitable where green feed lasts all the year and cold weather does not limit the production of butter fat. Dairymen are credited with realizing from $9.00 to $14.00 per month for each cow in the herd, but this involves intelligent attention, some new blood and new ideas.

The production of alfalfa will engage many, and it has here several things to commend it. It is easily grown and lasts long after being well set; it grows rapidly, yields heavily, and commands a good price. It is a profitable crop, and the market for it is good. It is destined to have here a good value above the

Good roads mean cheap hauling and more profits, as the Arizona farmer realizes. This is a county road near Buckeye

cost of production for an indefinite period. Its feeding value will remain when the market for hay is supplied. Put the emphasis here strongly, but put it also upon alfalfa as a crop in this region of warmth and sunshine. While profitable crops may be raised in temperate lands and cool summers, a big yield for the year cannot be had in that way. A ton at a cutting is about the limit, and the cuttings will not exceed three or four. Here you can cut five and six, often seven times, and can gather one and a half to two tons at a cutting. Given a perfect "stand" of alfalfa and your harvest comes along about every forty days, and this means, on eighty acres, at least 100 tons each harvest period. Put on the market at an average of $8.00—it often reaches $10.00 and $12.00—and fed to a score of steers, and presently your farm is paid for; books and magazines creep into the home; more help is employed; another agricultural paper is taken; the horizon of life is widened; there is a larger view of things and a truer perspective, and out of it all comes the substantial citizen, browned by sun and wind, but intelligent and dignified, a farmer proud of his calling.

This fairly, but briefly and conservatively, presents the situation, the advantages and opportunities of Arizona, with a glance at the rim of the States on the margin. We need only add this word by the Governor of Arizona, R. E. Sloan. He said recently: "We have had clean legislatures—no scandals—and have an ambition to make this a good State for the farmer and business man alike. With our 400,000 acres under cultivation we can support twice the present population. Eventually there will be 1,250,000 acres tilled and every acre extremely productive. We want settlers and capital, and propose to give both square treatment."

The key to the sentiment of Arizona is in the last sentence. Men and money are needed—men with money and men whose capital is their energy. Men with money can here make money; men without money can get a foothold and win out. It is the country for young men, and if the right stuff is in them they will be at home in the push and hustle which today characterize this Land of the Sun.

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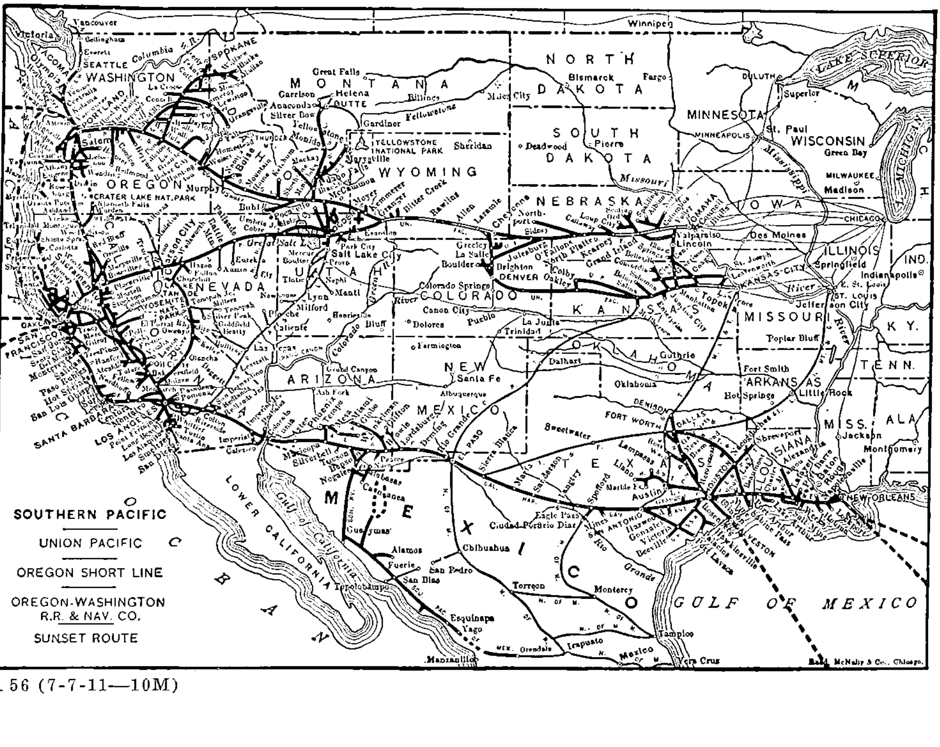

ARIZONA

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