TEXAS

(FIFTH EDITION.)

IRON MOUNTAIN ROUTE

IS EQUIPPED WITH

3 DAILY TRAINS 3

—FROM—

ST. LOUIS

IN CONNECTION WITH THE

T. & P. R'y, and I. & G. N. R. R.

—TO—

The Rich Grain and Cotton Fields,

The Inexhaustible Timber and Mineral Lands,

The Broad Stock and Sheep Ranches,

The Millions of Acres of Cheap Farming Lands,

—AND THE—

Winter Resorts of Texas.

STATISTICS AND INFORMATION

CONCERNING THE

State of Texas

WITH ITS

MILLIONS OF ACRES OF UNOCCUPIED LANDS,

FOR THE

FARMER AND STOCK RAISER,

UNLIMITED OPPORTUNITIES FOR THE

MERCHANT AND MANUFACTURER,

GREAT INDUCEMENTS FOR THE

INVESTMENT OF CAPITAL

HEALTH FOR THE INVALID,

INTERESTING SIGHTS AND SCENES FOR THE TOURIST AND PLEASURE SEEKER, BROAD FIELDS OF RESEARCH FOR THE HISTORIAN, UNSURPASSED HUNTING GROUNDS FOR THE SPORTSMAN,

— AND —

OTHER RESOURCES WAITING TO BE UNLOCKED BY THE KEY OF CAPITAL IN THE HANDS OF LABOR AND INDUSTRY.

WITH COMPLIMENTS OF THE

General Passenger Department of The Missouri Pacific R'y Co.

DEDICATION.

TO the members of all trades and professions, and the possessors of capital, who desire a field where honest and intelligent effort will receive the greatest reward, this little Pamphlet on the Resources of Texas is dedicated

Entered according to act of Congress in the year 1889, by
H. C. TOWNSEND, General Passenger and Ticket Agent Missouri Pacific Railway,
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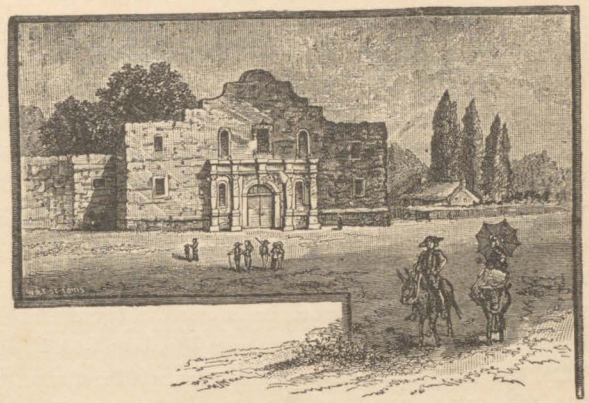
HISTORICAL TEXAS.

TEXAS was annexed to the United States and became one of their number March 1st, 1845, after a long period as a Spanish possession, a Mexican Province and an independent Republic. The history of Texas is a history of romance and adventure. It is the old story of Anglo-Saxon ambition and supremacy. It was the advance wave of the flood of Norsemen that overwhelmed Britain and the northern provinces of France and Germany. An inherited dream of power and conquest, a love of adventure, followers imbued with the same spirit, a desperate struggle in which every man became a hero, and there could be but one result, no matter what the odds were against them, so long as it was Anglo-Saxon blood against Spanish. Deeds of individual daring and desperate bravery were features of the contest. The Alamo, San Jacinto, Crockett, Travis and Houston are names that will cause the Texan's heart to thrill with pride and valor, so long as history records the deeds of men. Cortez and Narvaez skirted and partially explored the coast of Texas as early as 1528, and this country was soon after taken possession of in the name of the King of Spain, and it remained under Spanish authority until the independence of Mexico was attained, when it became one of the provinces of that country, with San Antonio as the capital and Galveston the seaport. It remained a part of the Mexican Empire until



THE ALAMO, SAN ANTONIO, TEXAS.

the war for independence was inaugurated in 1834. It was a comparatively isolated State of the Republic of Mexico, being separated from that country by the Rio Grande. Outlaws flocked thither from the States. Adventurers, hardy frontiersmen, traders, ranchers, and those who loved the freedom and excitement where laws were lax and poorly administered, looked upon Texas as their Eutopia. Couple with this the imperfections of Mexican government, and the subject of independence needed but little agitation to bring an army of heroes to the support of any man who showed the qualities of a leader. Such was the condition of Texas when Gen. Sam Houston made it his home. With his great abilities and ambitions, he soon came to the front as the leading spirit in the crusade for independence. An army of desperately brave men gathered around him. Crockett, Travis and a handful of their followers spilled their heroic blood defending the Alamo at San Antonio, almost single-handed, against the whole Mexican army. Santa Anna was overthrown at San Jacinto. Texas was free.

For ten years the Lone Star Republic maintained its independence. Its people, its manners, its customs, its laws, were those of the United States. All its sympathies were with the Republic on the north. With governments differing practically not at all, the smaller depending on the larger for everything except the products of the soil, it was but natural that a strong movement should develop in favor of annexation, which culminated in Texas becoming the twenty-ninth State of the Union March 1, 1845. Her progress has been steady since that time. With the advent of the railroads came a tide of sturdy immigration. Her deep, rich soils were fenced off into cotton and grain fields. Live progressive cities and towns have sprung up all over the State. Texas is an empire in extent, and, while supporting a population of 2,500,000, with millions of acres of soil under cultivation, it has millions still of unturned acres and could support with ease a population equal to that of the whole United States at present.

T·E·X·A·S.

AREA, LOCATION AND TOPOGRAPHY.

THE State of Texas is washed, for five hundred miles on the south, by the waters of the Gulf of Mexico. A Texan can walk one thousand miles on the soil of his own State in a direct line, as the crow flies, from Sabine Pass to Ft. McHenry. From Brownsville to Ft. McHenry it is

A TEXAS VALLEY.

about an equal distance. The drive wheels of a locomotive make no more revolutions going from New York to Chicago than from Texarkana to El Paso. If Harriman, the pedestrian, should start from Texarkana and keep the boundary line for the whole circumference of the State, he would cover over four thousand miles before returning to his starting point. He would walk the same distance going from Chicago to London. The German Empire could be placed in the space on the surface of the globe occupied by Texas and still have room for the State of Michigan.

If the whole of New England were put into the Pan Handle of Texas there would still be room for France in the outlying districts. The vastness of the State of Texas is difficult to conceive. Empires less in extent have ruled the world. The progress of Texas has been wonderful. Her population of 800,000 in 1870 was increased to 1,600,000 in 1880, and to 2,500,000 in 1888. Her total wealth in 1870 was $160,000,000; in 1880, $725,000,000; in 1888, $1,500,000,000. Yet, with this enormous increase in both population and wealth, only a small proportion of the State is under cultivation, and some of its finest farming lands are still uncultivated.

Texas lies mainly between 24° and 35° north latitude, and between 17° and 30° west longitude, ranging in altitude from sea level to 5,000 feet above. There is range enough in these limits for all kinds of climate. The lower point of Texas reaches almost into the Torrid Zone, while in the northern part of the Pan Handle the changes in the seasons are strongly marked and the cold and storms of the Northern winter are experienced in their less severe aspects. The climate is varied also by the difference in altitude of different parts of the State, and to this change it owes its fame as a health resort. The country lying along the gulf coast is low and rises gradually toward the northwest until it reaches an elevation of from 3,000 to 5,000 feet in the Pan Handle and Staked Plain and that part of the State about El Paso. All the rivers of the State rise in or flow through the higher portion in the northwest, toward the southwest, into the Gulf of Mexico.

Texas has three natural divisions—the eastern, or timber belt; the central, or cotton and grain belt, and the western portion, which is as yet unsettled and has in itself a great diversity of topography. The great cotton and grain producing portion of the State is from the northern border south through the central portion of the State to San Antonio and Galveston. The western part is somewhat mountainous, interspersed with fertile valleys, and is the finest grazing country in the world. The Pan Handle is gently rolling, and is adapted to grain and fruit raising and general farming. It is as rich in soil and natural advantages as the Indian Territory, which lies on the east. The Staked Plains were once supposed to be a barren waste where it was impossible for animal life to exist for any length of time, but now they are known to be capable of supporting a dense population. Water is found in large quantities only a short distance below the surface, and, with a small outlay, the farmer can control his water supply, which makes farming far more safe and profitable than where dependence is placed on the clouds to bring the water supply for growing crops. The famous Valley of the Nile is not more productive than the Staked Plains when properly watered. It is predicted that this region will become the great wine-producing district of America.

The area of Texas is 265,000 square miles, or 169,600,000 acres. The present population is estimated at 2,500,000. With a population per square mile equal to that of Illinois, Texas would have within her borders 14,600,000 people; with a population equal to that of New York State per square mile, there would be 27,600,000 inhabitants on the soil of Texas; with a population equal to that of New Jersey per square mile, she would have 63,800,000 souls to support, or more by three million, than the present population of the United States. These figures seem almost incredible, and many would scout the idea of the population of Texas ever reaching even the lowest figures given above. Some, even in her own borders, assert that Texas has reached the period of her greatest prosperity, and this in spite of her steady and rapid growth and improvement in all branches of industry. The soil of Texas will average vastly superior to that of New York, and, with a coast line of several hundred miles containing many excellent harbors, why, in the coming years, should not Texas have a seaport equal to New York? There is no reason

SHEEP PASTURE ON BLANCO RIVER, TEXAS.

why the products of the great Southwest should be carried across the country 2,000 miles to pay tribute to New York. Here is a vast country rich in natural resources, with a commerce which, in another generation, will be among the billions annually, and in close and direct communication with the gulf seaboard, which, in turn, has ocean communication with the great commercial centers of the world. Texas, Indian Territory and Arkansas will have a population as dense as that of New England and the Eastern States, and will have wealth as great per capita, and direct commercial intercourse from her harbors with the ports of the world. Beacon lights from her coast will guide merchantmen from the Indies, from Europe, and from all the seas into safe harbors.

THE DEEP WATER MOVEMENT.

A STEP is at present being taken in the Southwest which is the most momentous in the commercial history of Texas. For the benefit of those not posted, it may be said right here that while there are many fine harbors on the coast of Texas, they are practically closed to the large ocean vessels on account of the sandbars which the caressing waves of the gulf have thrown up across their entrances. It is proposed to clear away this bar at some point on the coast and maintain a channel deep enough for the passage of the largest vessels. This question has been agitating the people of Texas for years and is now spreading over the whole Southwest. To indicate how vital a matter it is to the people of the Southwest and of how great importance they regard it, it is only necessary to mention the convention that was called at Denver, Colorado, the first of September, in the interests of deep water on the coast of Texas, and that delegates were in attendance from Iowa, Nebraska, Missouri, Kansas, Colorado, Arkansas and Texas. All the Mississippi Valley is interested. The enthusiasm was electric. The advantages of this project are so apparent, so wide and far-reaching in their results, and of such stupendous importance, as to be incapable of comprehension at first glance. Let us see what it means. New York is the principal seaport of the Atlantic coast and there are several others of great, though minor, importance. Through these ports the commerce of the world enters. Out of these ports go the products of

the Atlantic States, the Middle States, the Mississippi Valley States, up to the base of the Rocky Mountains, and even from the very verge of the gulf itself. San Francisco plays the same part to the commerce and trade of the West. The Mississippi Valley States pay millions of tribute annually for long railway hauls, elevator commissions and middlemen's tolls, both for articles produced and consumed, which otherwise would go into the pockets of the producer and consumer.

With a deep water harbor on the coast of Texas the products of the great central region of the United States, its richest agricultural portion,

VIEW OF GALVESTON FROM THE HARBOR.

would be diverted from the oceans to the gulf. The farm products of Texas and adjoining States will command as high prices as those of New York and Pennsylvania. There will be such a rush to secure the rich soils of Texas as was never known before. The increase in wealth would treble its already enormous proportions in an incredibly short period. Direct communication with the world would bring into existence enterprises hitherto unknown in the Southwest.

There is no doubt at all of the final outcome of this movement. The States interested are unanimous for the project. Such united and wide-

spread effort always ends in success. The convention declared for deep water. There will be some local rivalry as to the point finally decided upon, as Galveston and Aransas Pass are both candidates for the honor and some bitter feeling will, doubtless, be engendered, but this may result in deep water being secured at both places.

In his address to the convention at Denver, Governor Adams said:

"If more than one port can be secured so much the better. But if one only, then let not its hopes and prospects be destroyed by the opposition and enmity of disappointed rivals. No matter what scheme we adopt, or what methods we elect to pursue, there is between us and success a bitter and determined contest. Against us will be arrayed the influence of the ports of the Atlantic and the many interests of the Northeast. The great lines of transportation between the West and the East will be the Scipios who would wish to see every harbor upon the Mexican sea filled up and ruined, just as Corinth and Carthage were destroyed when their magnificence and commercial greatness began to threaten the supremacy of the Imperial city.

"As our mind takes hold of this project, as we review the resources and extent of the territory that will be benefitted and enriched by the building of a harbor in which the ships of the world can float, as we grasp the breadth and grandeur of this enterprise, it assumes proportions that can be measured only by the words 'sublime, magnificent.' Wherever this harbor shall be established there will grow up a metropolis that will be the pride and glory of the South and one of the richest jewels in that circlet of beautiful cities that adorns the bosom of our Nation."

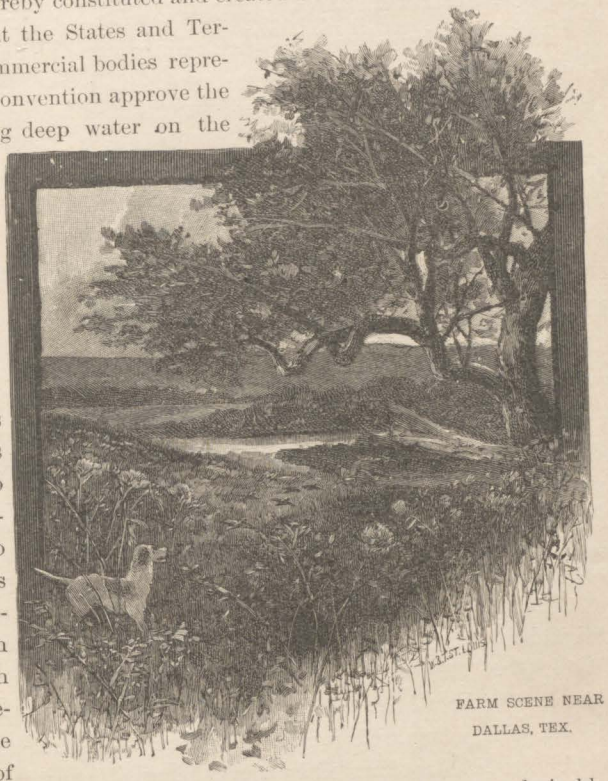
The following is the report of the Committee on Resolutions:

Resolved, That the Senators and Representatives in Congress from the States hereinbefore referred to, and the delegates from the Territories herein set forth, be and they are hereby most earnestly requested to procure at once a permanent available appropriation of the amount necessary to secure a deep water port on the northwest coast of the Gulf of Mexico, west of the ninety-third and one-half degrees west longitude, capable of admitting the largest vessels, and at which the best and most accessible harbor can be secured and maintained in the shortest possible time and at the least cost.

Resolved, That for the purpose of carrying into effect the foregoing resolutions, committees, to consist of five members from each State and three from each Territory represented in this convention, be appointed by their

respective delegations; that it shall be the duty of said committees to see that the object of said resolutions be properly presented and vigorously urged before Congress, and to that end and with the view of co-operation and concert of action the chairman of the respective committees shall be, and they are hereby constituted and created a central committee.

Resolved, That the States and Territories and commercial bodies represented in this convention approve the idea of securing deep water on the gulf coast of Texas, by private capital, and they do hereby respectfully request and urge their Senators, Representatives and Delegates in congress to lend their united support to such bills as may be introduced for such purpose, with proper safeguards for the protection of the government, provided the port or point suggested be one desirable for the location of a deep water harbor.



FARM SCENE NEAR DALLAS, TEX.

PREAMBLE.

WHEREAS, The need of a deep water harbor on the coast of the Gulf of Mexico directly and vitally affects nearly one-fourth of the people of the United States, we deem the requests contained in the foregoing resolutions of such great and paramount importance as to justify their reference to the official notice of the President of the United States, in order that he may be duly and fully informed, and be able, as contemplated in the

Constitution of the United States to give to Congress information of the state of the Union, and recommend to their consideration such measures as he shall judge necessary and expedient.

The final consummation of this enterprise is assured. All realty will experience a boom. As all farm products within one, two, three and four hundred miles of New York are more valuable than in the interior, for a like reason similar products will command a higher price at the new gulf port. The enhancement of land values will naturally follow. Lands in Texas are at present comparatively cheap, cheaper than they will ever be again. Texas of course desires *bona fide* settlers on the land, those who will plow their own acres, harvest and market their own crops, make improvements and spend their money at home, yet at the same time it is conspicuously apparent that there is no better investment for capital, with a view to its prospective increase, than in the lands of Texas.

TRANSPORTATION FACILITIES.

ALTHOUGH without rivers navigable to an extent to affect the commerce of the State, Texas is well provided with facilities for moving her surplus products. A limited amount of trade is carried in light bottoms on the Rio Grande, Colorado, Brazos, Trinity and Sabine rivers, but only to an inappreciable extent, and is but a drop in the bucket to the whole. Texas has about five hundred miles of gulf coast with many well protected harbors. At present most of the shipping is done from Galveston. Lines of steamers ply between that point and New Orleans, Mobile, Jacksonville, New York, South and Central American ports, Vera Cruz and many other points. This is nothing to the proportions her ocean commerce will assume when the question of deep water as referred to in the preceding article, is settled, and the larger ocean vessels can ride safely at anchor in her harbor. Many millions are added to her wealth by means of her ocean commerce and she is in position to use the markets of a large portion of the world, but after all this represents only a small fraction of her trade. Railroads are the important and commanding highway of commerce in Texas as well as in other parts of the world. One railroad carries a greater tonnage to New York than all the ocean vessels from all quarters of the world combined. There are at present in operation in the State of Texas

COTTON PLATFORM, FT. WORTH TEXAS.

about 8,500 miles of railway. This mileage is surpassed by only two of the States in the Union, Ohio and Illinois. None of the newer States where cheap lands are found can compare with this. Texas has always been favorable to railroads. It has held out a welcome to every new enterprise of this kind that has sought to establish itself in the State.

Legislation instead of opposing the railroads has been shaped to encourage and favor them as much as possible. The people of Texas believe that the prosperity of the State depends on the railroads. A railroad president is not looked upon as a public enemy, nor is the railroad itself regarded as an enormous leech, drawing its life-blood from the State.

As railroads are so important a factor in the development of a State, a brief review of Texas' lines, as showing her facilities for reaching the Northern and Eastern markets, and exchanging commodities among her own people, may be profitably shown here. What is known as the Gould roads, reaching into all quarters of the State, is its largest and most important system. This comprises, first, the Texas & Pacific Railway, which has New Orleans for its extreme eastern terminus and Texarkana for its northeastern, where it connects with the Iron Mountain route for Little Rock, Memphis and St. Louis. From these two terminals it runs westward, traversing the entire length of the rich alluvial lands of northern Texas, touching at the great and prosperous rival cities of Dallas and Ft. Worth, and westward to El Paso, where it connects with the Southern Pacific Railway for California, and with the Mexican Central for the City of Mexico. This road drains the finest agricultural region of the State. It is the rich farming country of northern Texas that has made Dallas and Ft. Worth cities of 40,000 people, and given them millions of wealth in the short space of ten years. The great cotton and grain belt of the State surrounds these cities. To the westward it passes through the famous cattle and sheep ranches and the Staked Plains. This has been found to be a good farming country, and excellent crops of all kinds are raised. The International & Great Northern Railroad has for its northern termini Longview and Mineola, where connections are made for the North with both the Texas & Pacific and Missouri, Kansas & Texas Railways. Running south through Palestine and Houston, the Gulf division terminates at Galveston. The San Antonio division runs from Palestine through Taylor, Austin, San Antonio and connects at Laredo, on the Rio Grande, with the Mexican National, which is now completed, and is running trains through to the City of Mexico. This, in addition to being by far the shortest line to the City of Mexico, taps the lumber region of eastern Texas, the rich farming lands of the central portion of the State, and the great sheep ranches of southern Texas. The last road of the Gould interests in the State is the Missouri, Kansas & Texas, which enters Texas from the North through the Indian Territory

at Denison, running southeast to Mineola, where it connects with the I. & G. N. R. R. and T. & P. Ry., south to Dallas, Ft. Worth, Waco and Taylor, where it connects with the I. & G. N. R.R. for San Antonio. This also drains the rich farming lands of northern Texas.

The Southern Pacific Company's lines pass through the entire southern portion of the State—from New Orleans on the east to El Paso on the west, with numerous branches to important points as feeders to the main line. Its most important branch line is from Spofford Junction south via Eagle Pass to the City of Mexico, over the Mexican International Railway.

The Houston & Texas Central Railway runs from Denison through the rich farming region of the State to Houston, Austin and San Antonio.

The Denver, Texas & Ft. Worth Railway has just been completed, and is now running through trains between Denver and Ft. Worth. This opens up for settlement the great Pan Handle country, which is as fine farming land as the bright sun shines upon. Another of the new acquisitions to Texas railway enterprises is the Gulf, Colorado & Santa Fe, extending from Galveston to the State line on the north, and is a part of the great Atchison, Topeka & Santa Fe system, extending through the Indian Territory to Kansas City.

The Cotton Belt Route enters Texas from Arkansas at Texarkana and reaches out to Denison, Dallas, Ft. Worth, Waco and competing for the agricultural surplus from the farming region.

The San Antonio & Aransas Pass Railway covers Southern Texas between Galveston, Houston, San Antonio and the famous Aransas Pass, with lines projected to the north and northwest. This road gives an outlet to both the prominent seaports of Texas.

CLIMATE AND SCENERY

UNDER this heading we will only attempt to show in a general way the great advantages which the State of Texas enjoys in this direction and will reserve for another part of the book a detailed description under the heading of *Health and Pleasure Resorts of Texas.*

The first question that suggests itself to a person who is contemplating a change to a different country and climate, is, how will my health be

affected by the change? No matter how great the financial advantages of a State or country are, it will receive very little consideration if the benefits offered are to be purchased at the cost of health and may be life itself. But nothing of the kind is to be feared in coming to Texas. With all other advantages equal, her healthful climate would turn the scale in favor of Texas. It has absolutely none of the ills that are attributable to locality. If people have an attack of illness and die, it is only of such disease as is common to the world and because all must die.

GLIMPSE OF TEXAS.

Texas has no malaria. Even in its lowest portions miasmic influences are unknown. The low lands that border the gulf are in no sense marshy or swampy. The waste lands of the State, while non-productive, are not breeding places for disease and death. On the whole coast from Galveston to Brownsville there are no land influences to counteract the beneficial effects of the soft winds that blow across the bosom of the gulf, laden with ozone and bearing health in every breath. Farther in the interior and at higher elevations no unhealthy conditions are anticipated and, of

course, none are experienced. There is no more perfect climate in the world than that of Texas. Millions of money are spent annually in crossing the seas to seek for health and sunny skies in Italy, when at our very door there are fields, and streams, and plains, and hillsides, and towns, and cities, on which the sun shines the year round; where winter in its severest aspects is never known and autumn and spring time meet at the threshold of the year; where roses blossom in the gardens and scent the Southern breezes for ten months of the twelve; where figs and grapes and tropical fruits return a double fruitage; where the birds never cease their songs, and the rivers flow unfettered by the ice king. Italy will not compare with Texas as a winter resort and has no such winter cities as Galveston and San Antonio. It is a broad State and has a variety of climate to suit all cases. A little back from the gulf and in the vicinity of Taylor, Austin and San Antonio the surface of the State rises to an elevation of 640 feet above the level of the sea which altitude is considered the most beneficial for invalids suffering from pulmonary troubles. From this region to the northwest the elevation is rapid, rising to the height of three, four and toward El Paso and the Staked Plain even to five thousand feet In all this region the climate is crisp, breezy, bracing and healthful. Invalids come here suffering from lung troubles, live for a few months a wild, nomadic outdoor life on the plains, riding and hunting, when their blood begins to quicken, their appetite grows rapidly to barbarian proportions, pale, sunken cheeks become full and bronzed, eyes bright and muscles strong. Such a life becomes fascinating from the mere pleasures of a perfect physical existence, many become so attached to this life that they never give it up and engage in the business of stock raising or some other pursuit that requires an active out-door life. Many of the most successful stockmen and ranchers of western Texas are men who came there as invalids and, being cured, remained.

Too much cannot be said in praise of the climate of Texas. It is simply superb, unequaled and unrivaled as a winter resort for people accustomed to the climate of the Northern and Middle States. A climate, that verges on the tropical, but is not tropical; where the fig tree flourishes and the banana waves its broad palm in the glory of the summer season; a bracing, mild, salubrious climate to which the Northern visitor can come with perfect safety, and from which he will go rejuvenated and stronger than when he came. The aged take on new life, the young grow strong, the invalid revives, the weary become rested. Such a climate

cannot be exaggerated in praise. From November to April the weather is almost perfect. No fogs, no extremes of cold weather. A fall of snow sometimes happens once during a season, but like an apparition, melts as soon as it kisses the frozen earth. A snow storm is hailed as a visitor from the North who comes to tell us of the good cheer of Northern homes, but who disappears before the message is fairly delivered. To the well and strong there are no days that will keep the visitor indoors, except from choice.

Texas is not merely a winter resort, and a caloric waste of hot sand and parched clay during the summer. Owing to its sloping elevation toward the gulf, the breezes from the gulf stream and the trade winds, sweeping across its entire surface, temper the semi-tropical sun; with this, and the dry condition of the atmosphere, the summer in Texas is less insufferable and oppressive than that of Wisconsin or Ohio. The nights are always cool, and thick covering is a necessity every night in the summer. The highest temperature for the season of 1888, at Galveston, was 93°. No Northern resort has such a favorable showing.

VIEW AT SAN PEDRO SPRINGS, SAN ANTONIO, TEX.

Texas has a great diversity of surface, which makes it as pleasing to the eye as it is beneficial to the health, and advantageous from a financial standpoint. Nowhere are there finer studies for the artist's pencil, and subjects for the painter's brush, than in Texas. There are mountains here that, in some localities, give a wild and savage aspect to the landscape; there are valleys as smiling and peaceful as those of France, and

like them, vineclad and productive. You come nearer to catching a glimpse of the Old World in Texas than in any of our States. There are rivers as blue as the Danube, as historical as the Rhine, as beautiful, as winding, and as poetical as the Ayr. There are banks and braes that might be made immortal in song and story. There are fields and shrines where heroes as mighty as Leonidas or Horatius poured their life blood. There are ruins that dumbly speak of a past age and civilization known only in history, of which Prentice said:

> Ah yes, ye still remain,
> And many pilgrims yearly turn aside
> From their far journeyings to come and pause
> Amid your shattered wrecks as lone and wild
> As those of Tadmor of the desert.

There are plains that stretch away until they sink beneath the horizon and rise again in mystic mirage, the marvel of Nature's illusions. The traveler will be constantly delighted, interested and instructed by what he sees; as well by what Nature offers him, as by what the past and present generation of man have done. The artist will return with his sketch book filled with studies, and the man who travels to learn with his note book filled with ideas inspired by the new things he has seen.

PUBLIC LANDS OF TEXAS.

HOW TO ACQUIRE THEM.

UNDER this head will be treated principally the public or school lands of the State open to settlement. These, of course, are in all parts of the State, and include the timber lands of eastern Texas, the rich prairie loam and farming lands of the central part of the State, and the grazing and mineral lands of the west. Unlike other States the public domain or unoccupied lands do not belong to the General Government but are under the control of the State, and their proceeds are applied to educational purposes, having the largest available school fund of any State in the Union. By legislative act these lands are classified as dry and watered, agricultural, pasture and timber lands. They are first appraised and then placed on the market to be sold, to *bona fide*

settlers only, in quantities of not less than one hundred and sixty nor more than six hundred and forty acres. This is for agricultural and timber lands. In the case of lands classed as dry and pasture each settler will be entitled to purchase to the amount of not more than two thousand five hundred and sixty acres. They are sold at their appraised value, which, however, must never be less than two dollars per acre for dry, three dollars for watered and five dollars per acre for timbered land. The terms of purchase are easy, and the poorest can acquire a home. On the date of purchase one fortieth of the purchase money is required to be paid into the State Treasury, and an obligation with the Commissioner of Public Lands to pay on the first day of each succeeding August another fortieth until the whole is paid. The interest charge is five per cent. An exception to the above rule is made in the case of timber lands for which cash must be paid when purchased. The terms of the contract require that the purchaser occupy the lands as his homestead for the following three years, when he will be allowed, on making the required proof of his occupancy, to pay in full and receive a patent.

Under the Homestead Donation Law each head of a family, without a homestead of his or her own in the State, is entitled to one hundred and sixty acres, and each single person eighteen years of age, to eighty acres of the vacant and unappropriated public domain. His method of procedure in obtaining it will be as follows: He must find the vacant land, take up his homestead on it; apply in writing, within thirty days of settlement, to the County Surveyor for a survey, which must be made within twelve months of the application and its field notes filed, within one year, with the General Land Office. He must occupy the land five years as his homestead and file proof of such occupancy with same office, when a patent will be issued. There is no charge for the land, but the surveyor's fees, and the fees of the General Land Office, amounting in all to fifteen or twenty dollars, are paid by the applicant. These lands are found in all parts of the State, and parties desiring to locate can obtain the most definite information from the surveyors of the several counties. Below will be found a list of the organized counties of the State, showing the amount of unsettled school lands in each. This amounts to a grand total of over twenty-eight million and a half acres, and is found in all parts of the State.

LIST OF UNSOLD SCHOOL LANDS, BY COUNTIES.

	ACRES.
Armstrong	239,797
Archer	64,160
Atascosa	10,544
Angelina	46,720
Anderson	960
Austin	320
Andrews	42,880
Aransas	1,280
Bandera	150,560
Borden	259,600
Bowie	26,100
Baylor	58,160
Brazoria	6,895
Buchel	637,600
Brewster	625,120
Brown	25,760
Blanco	37,002
Bee	3,780
Bexar	8,275
Bell	10,404
Burnet	26,210
Bastrop	270
Bosque	3,700
Briscoe	239,967
Colorado	11,100
Crosby	140,480
Carson	82,740
Castro	190,720
Childress	220,640
Collingsworth	286,080
Calhoun	160
Cameron	82,240
Crockett	792,800
Caldwell	7,260
Crane	156,160
Callahan	22,991
Chambers	40,435
Cass	5,652
Cherokee	8,694
Concho	37,214
Cottle	118,080
Coleman	13,031
Comanche	24,273
Cooke	1,280
Comal	8,854
Clay	480
Coryell	8,123
Dallam	171,726
Dickens	30,080
Dawson	208.320
Duval	118,460
Denton	3,782
DeWitt	640
Delta	640
Deaf Smith	260,480
Donley	228,450
Dimmitt	16,926
Encinal	369,280
Edwards	342,520
El Paso	1,424,486
Ector	211,960
Erath	15,964
Eastland	24,624
Franklin	3,617
Freestone	6,103
Foley	740,480
Ft. Bend	64,800
Fannin	553
Frio	22,368
Fisher	139,520
Floyd	299,520
Glasscock	274,560
Gillespie	19,040
Galveston	2,560
Guadalupe	7,040
Grimes	1,200
Gray	174,400
Gaines	275,840
Garza	196,160
Gonzales	532
Goliad	1,173
Harris	84,946
Haskell	18,560
Henderson	8,835
Houston	2,860
Hidalgo	318,080
Hartly	170,880
Hunt	86
Harrison	1,920
Hill	1,100
Hamilton	48,640
Hood	2,310
Hayes	12,222
Hardin	50,560
Hardeman	250,560
Hale	297,600
Hansford	271,360
Hall	257,400
Hutchinson	244,000
Howard	244,420
Hemphill	158,080
Jones	38,725
Jefferson	80,160
Jeff Davis	720,000
Jasper	98,240
Jackson	7,040
Johnson	160
Jack	22,597
King	16,320
Kent	68,480
Kaufman	960
Knox	96,960
Kinney	182,720
Karnes	3,280
Kendall	51,827
Kimble	295,880
Kerr	176,800
La Salle	32,320
Lipscomb	196,200
Lubbock	233,560
Lamb	22,440
Liberty	52,700
Lynn	175,360
Limestone	70
Llano	12,000
Lamar	4,166
Live Oak	6,580
Lavaca	19,200
Leon	12,212
Lampasas	20,834
Loving	180,480
Milan	4,725
Moore	284,480
McMullen	32,800
Matagorda	5,120
McCulloch	12,160
Mills	36,480
Morris	6,400
Marion	1,280
Montgomery	8,960
Motley	285,120
Montague	4,979
Medina	82,495
Menard	19,840
Maverick	9,928
Mason	15,406
Mitchell	127,360
Midland	201,600
Martin	134,720
Nolan	24,000
Newton	115,243
Nueces	14,400
Navarro	160
Nacogdoches	3,647
Orange	34,240
Oldham	156,160
Ochiltree	256,680
Potter	253,280
Pecos	2,268,960
Polk	32,000
Panola	10,880
Presidio	1,275,580
Parker	1,109
Palo Pinto	36,782
Reeves	561,280
Robertson	1,864
Red River	29,089
Raines	4,644
Refugio	3,512
Runnells	13,588
Roberts	162,880
Randall	233,600
Scurry	184,546
Swisher	282,560
Sherman	296,160
San Saba	38,400
Schleicher	360,640
Stephens	29,340
Shackelford	3,560
Starr	150,720
Somervell	870
Shelby	3,363
San Patricio	2,197
Stonewall	21,760
Sabine	30,790
San Augustine	26,775
Sutton	453,920
Smith	640
San Jacinto	11,520
Throckmorton	15,823
Tarrant	166
Terry	287,360
Titus	5,339
Travis	35,707
Tom Green	974,080
Tyler	60,710
Trinity	26,880
Taylor	21,703
Upshur	1,280
Uvalde	102,158
Upton	321,200
Van Zandt	3,793
Victoria	6,740
Val Verde	970,720
Willbarger	158,744
Waller	5,780
Wheeler	201,120
Webb	105,560
Ward	116,560
Wood	495
Williamson	619
Wharton	52,006
Winkler	117,560
Walker	2,225
Wichita	28,821
Wise	1,186
Wilson	5,606
Yoakum	267,580
Young	24,213
Zavalla	61,550
Zapatta	199,600
Total	**28,564,731**

In addition to the foregoing there are Common School Lands.

	ACRES.
Reeves County	241,280
Winkler County	89,600
Loving County	130,560
Andrews County	51,840
Crane County	30,720
El Paso County	437,760
Total	981,760

UNSOLD UNIVERSITY LANDS.

	ACRES.		ACRES.
Andrews County	276,480	Pecos County	271,943
Crane County	61,440	Schleicher County	57,600
Crockett County	404,160	Tom Green County	200,320
Ector County	8,960	Upton County	78,080
El Paso County	554,472	Ward County	63,517
Gains County	4,480	Winkler County	33,280
Martin County	22,400	Total	2,098,572
Loving County	61,440		

The State Bureau of Immigration of Texas is thoroughly organized, and has officials appointed in every county of the State. These can be addressed relative to lands and any other information valuable to the settler. Their addresses and titles are given as follows:

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BEE COUNTY—BEEVILLE P. O.—L. F. Roberts, Pres.; J. H. O'Connor, Treas.; T. J. Skaggs, Sec.

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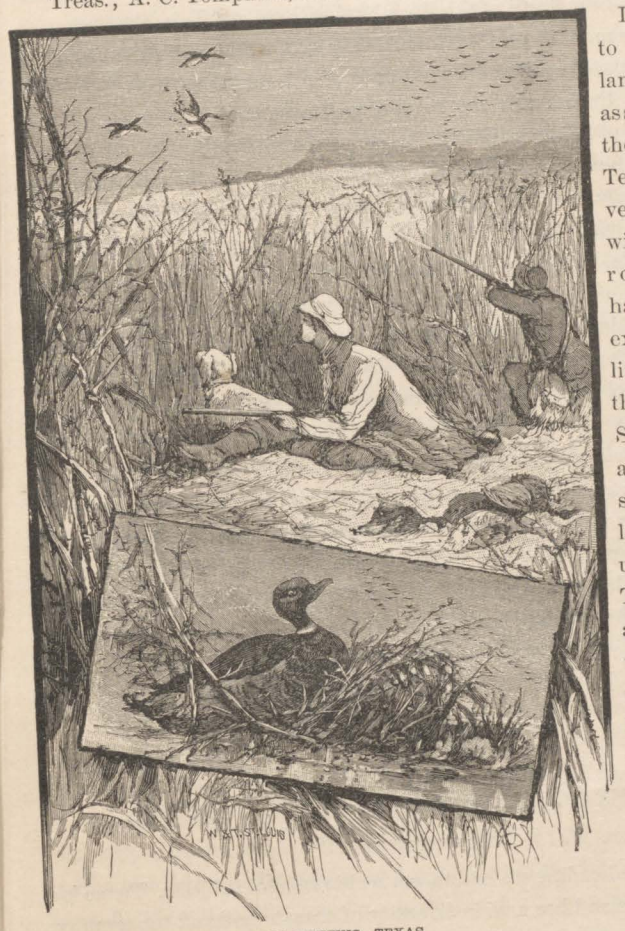


DUCK HUNTING, TEXAS.

In addition to the cheap lands classed as school lands, the State of Texas has been very liberal with the railroads that have sought to extend their lines into and through the State, and they are in possession of very large and valuable grants. These lie in alternate sections, as is usual with lands granted to railroads, and can be purchased in any sized tracts desired, at from $2.50 to $10 per acre. These are adapted to all general farming purposes,

fruit, stock raising etc., and long terms of credit for such unimproved lands. The improved lands are held at a higher price, but are still exceptionally low, and the terms of payment range from five to ten years with very low interest. The railroads, in order to dispose of these lands as rapidly as possible, offer great facilities to settlers in reaching tracts on their lines. There are still unsold about five million acres of these lands. Information concerning them can be had by addressing the general office of any of the lines having these grants in the State.

Texas does more to protect the laboring man and poor man from the encroachments of capital, in the hands of unscrupulous men, than any State in the Union. To the head of a family, the homestead, not in a city or town, of 200 acres of land in one or more parcels with all the improvements thereon, without reference to their value, is exempted from forced sale under any circumstances. In a city or town, a lot or lots, not exceeding in value $5,000 at the time of the designation, together with all implements, without reference to their value, if the same is used for the purpose of a home, or a place used for the purpose of carrying on a man's calling or business, is also exempted from forced sale. All household and kitchen furniture, a lot or lots in the cemetery, all implements of husbandry, tools, apparatus of a trade or profession, family library, portraits and pictures, five milch cows, two yoke of oxen with the necessary yokes and chains, two horses and one wagon, a carriage or buggy, one gun, twenty hogs, twenty sheep, all saddles and bridles and harness for the use of the family, provisions on hand for home consumption, are likewise exempt. To each single person, all wearing apparel, tools, apparatus and books of a profession, and one horse, saddle and bridle, all current wages for personal service, are also exempt from attachment

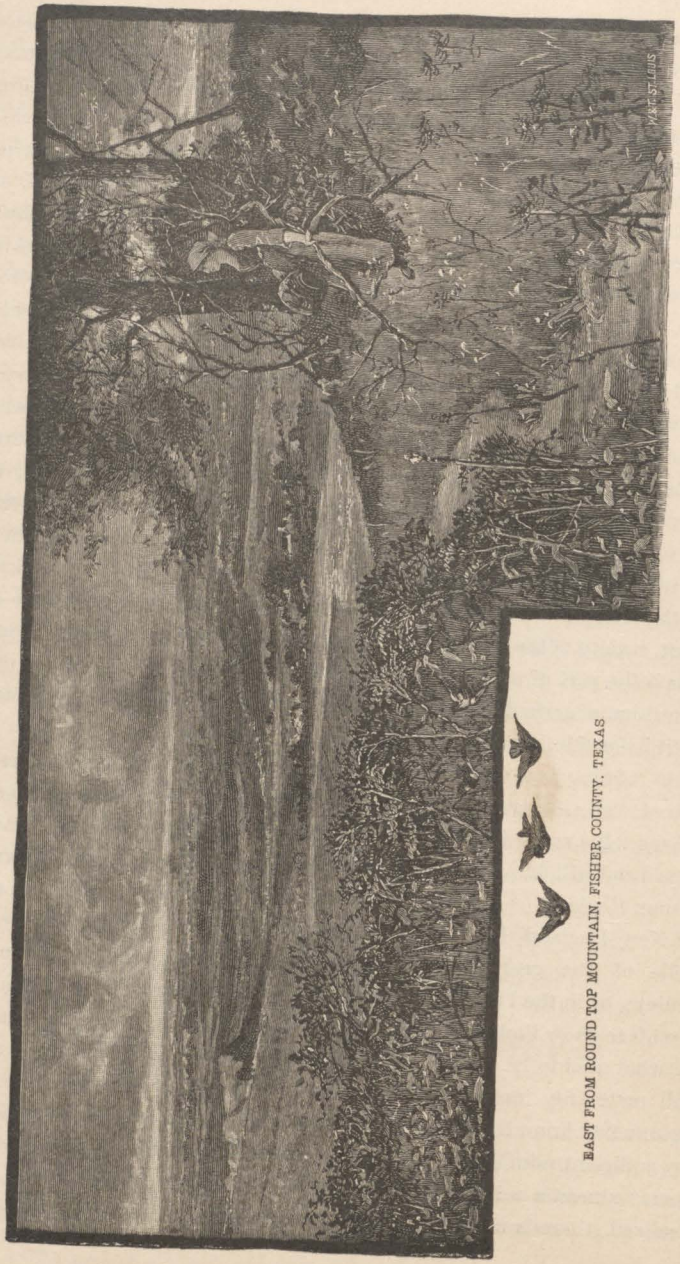
AGRICULTURE.

PRESENT CONDITION AND FUTURE OUTLOOK.

UNDER this heading we embrace a wide range of subjects. Texas is a large State and has a wide diversity of climate, soil and topography, It will be our object here to treat rather the conditions of the agricultural industry than the products of the soil themselves. You can

get a good deal into a State, or out of it either, that might have Chicago in one corner and New Orleans in the other, as far as distance is concerned. And a State that would compel the mercury to kick itself to keep from freezing, at ten or fifteen degres below zero, near the Colorado line, while it perspired in its frantic efforts to reach ninety above, at its lowest extremity on the western gulf coast, can be talked about a great deal. It will not be surprising either to find that a country of this extent offers a large range of opportunities, to honest and industrious people, of making a comfortable, and in many instances a luxurious living, not only from the soil, but from many other sources. Successful agriculture means success in a great many other directions. It means the building of towns and cities. It means commerce, and railroads and steamships to carry it. It means distributing centers for all classes of commodities ; it means wholesale and retail houses and manufactories and all the concomitants of trade. It means employment for the laborer, for the artisan, the mechanic, for the clerk, for the merchant, for the teacher, the preacher. the doctor and lawyer. Their success all rests on the man who makes his living from the soil. If he is a success, the money for the bread and butter for the others comes easy and fast. If the crop is a failure one year, society of the whole State wears a seedy coat in response. It is as much the part of wisdom for the merchant or lawyer to inquire into the condition of agriculture, if he is going to establish himself in a new State, as it is for the farmer.

As farming is now carried on, there is a large area of Texas not capable of successful crop producing. As farming will be done, every foot of Texas soil, except the mountains, will be as productive as any in the world and will be capable of sustaining a population as dense as that of either England or France. People who are familiar with the thin soils of New England, have no conception of the rich, deep, black, alluvial soils of the great central grain belt of Texas, or in the mountain valleys, or in the Pan Handle, or on the Staked Plain. There are ample proofs to show that as the soil is turned and brought under cultivation, in what used to be known as the Great American Desert, that the rainfall materially increases. There is no doubt of this, and localities that once never knew the blessings of a shower from heaven, are now visited by sufficient rainfall to coax from the ground a bountiful harvest. This seems almost a miracle in nature. But unless this Utopian idea is fully realized, there is no doubt that the most successful farming in western



EAST FROM ROUND TOP MOUNTAIN, FISHER COUNTY, TEXAS

Texas, and, eventually, all farming in that section, will be carried on by means of irrigation, as is practiced so successfully in southern California. This seems like a drawback to this pursuit, but it is really the only sure and successful method of farming anywhere. The farmer who can control his water supply is master of the situation. The soils of the valleys of the Rocky Mountains, and of the vast plains on either side, that have been washed down from their peaks by the slow disintegration of centuries, are the richest in the country, and when properly watered, the most productive. Grains in Montana, Washington, Oregon, Colorado and Utah give by far the largest yields per acre of any lands in this country. There is abundance of snow in winter in these Territories, but a rainfall is scarcely ever known. The irrigating ditches of Utah have made the arid desert blossom as the rose, and the rich valley soils of Montana, watered by artificial means, literally burden the ground with crops. The irrigating canal, the artesian well, and the ditch, will make a wonderful change in the aspect of nature in western Texas. There are many perennial streams and rivers in this part of the State, and when the ground is tapped to a sufficient depth pure water flows forth in copious abundance.

We will now proceed to take up the divisions of Texas in respect to soil and products as mentioned under a previous heading, to give the reader as nearly as possible a correct idea of its resources. Commencing in the east we have the timber belt extending from the Sabine river, the eastern boundary of the State, westward to the central prairies, and from the Red River in the north to the Gulf of Mexico on the south, embracing in this area about fifty of the eastern counties. The soils of this belt are as a general thing of a light nature, and not well adapted to farming purposes. The timber in this region will be taken up under a heading of its own. This tract is about 45,000 square miles in extent, and in its different portions has nearly all the principal varieties of hard and soft woods. There are vast pine regions in the east, and oak and hickory uplands in the west and bordering on the central black prairies. These are not exact divisions, as there is the magnolia belt in the central part, and there are tracts where beech and elm are the principal growth, while along the Trinity, Sabine and Nueces there are forests of cypress and cedar, and the bottom lands are thickly covered with ash and walnut. This embraces a good deal of the gulf coast toward the southwest, and is used quite largely for pasturage. Some portions of it are very

productive, and are farmed successfully. The loam prairies in the co
fines of the timber region near the central and western parts, cover a
rea of about 2,000 square miles. The soil is black and rich, is from tw
o three feet deep, and is capable of producing in finest proportions an
quality any and all vegetation. Some of the sandy loams are very pr
ductive, and the black river bottoms can not be surpassed.

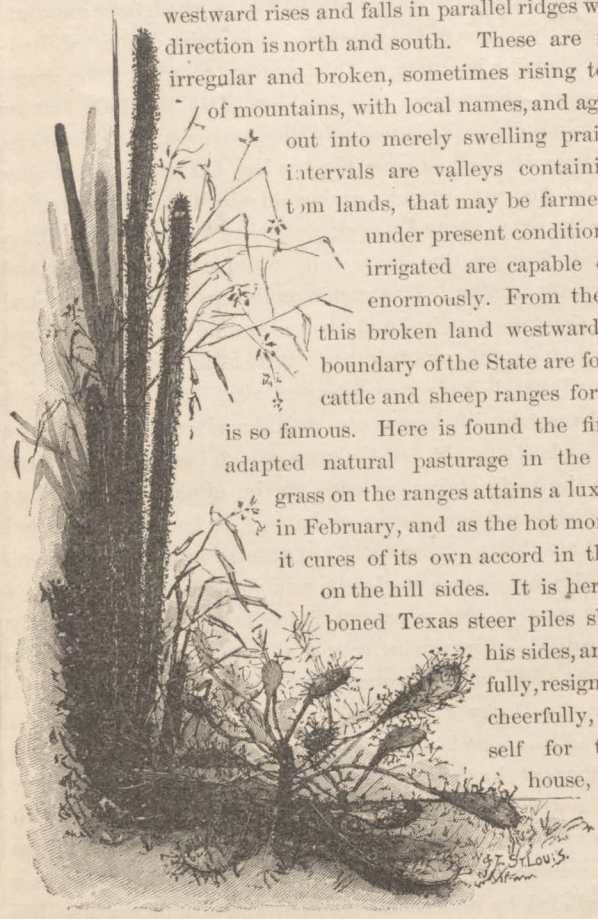
We come now to the second and most important region of the Stat
It is in this region that the most flourishing cities and towns are locate
and the most productive farming lands are found, and where the greate
part of the wealth of the State lies. These are known as the centr
black prairie lands, and constitute the cotton and grain belt of Texa

They commence at the Red River on the northern boundary of th
State, and extend southward to San Antonio, where they meet the tim
ber lands bordering on the gulf. The timber belt also is its boundary o
the east, and on the west it ends abruptly in the great hill or mountai
and table-lands of western Texas. The mean elevation of this ric
plateau above the sea level is about 500 feet, and a large portion of it i
in what is known as the health belt of Texas, which is far enough inlan
to escape the deleterious influences of lower lands bordering the gul
and sufficiently elevated to receive the full benefit of the healing an
invigorating breezes that blow from the gulf.

This region is about 150 miles wide on the north, with Denison as th
center; nearly 300 miles wide in the middle, with Ft. Worth as the
center; and narrowing to 50 miles at San Antonio. It embraces a tract
of country as large as the State of Indiana, every foot of which can be
cultivated, and is capable of producing the largest and finest crops of
grains, cotton, fruits and vegetables. Of course, in so large a tract of
country there is a great variety of soil as well as diversity of climate. It
is here that Texas produces her 1,500,000 bales of cotton, her 64,000,000
bushels of corn, and her 10,000,000 bushels of oats. It is here that her
$172,000,000 worth of farm products were raised. It is here that railroads
are thickest, and the great railroad centers of Dallas and Ft. Worth are
located, and the flourishing cities of Denison, Sherman, Paris, Denton,
Waco and Corsicana, the beautiful capital city of Austin and the great
distributing center of San Antonio.

We have now to consider by far the larger, but at present the least
valuable portion of Texas agriculturally. Although within the same State
boundary, it differs in almost every regard from the sections just described.

A natural boundary exists between the central alluvial region and the great tract of western Texas; commencing west of Ft. Worth, Austin and San Antonio, on an almost direct north and south line, the black lands of the rich central grain belt end almost abruptly, and the country to the westward rises and falls in parallel ridges whose general direction is north and south. These are more or less irregular and broken, sometimes rising to the dignity of mountains, with local names, and again flattening out into merely swelling prairies. In the intervals are valleys containing rich bottom lands, that may be farmed successfully under present conditions, but when irrigated are capable of producing enormously. From the beginning of this broken land westward to the west boundary of the State are found the great cattle and sheep ranges for which Texas is so famous. Here is found the finest and best adapted natural pasturage in the world. The grass on the ranges attains a luxuriant growth in February, and as the hot months approach it cures of its own accord in the valleys and on the hill sides. It is here that the big boned Texas steer piles slabs of fat on his sides, and very gracefully, resignedly, and even cheerfully, prepares himself for the slaughter house, and for the table of the American working man and the British banker and M. P. The Texas steer is famous for elevating his horns and tail and starting off, with throttle wide open, across the prairie, in order that the cowboy may acquire skill in riding and throwing the lasso. This sudden exhibition of playfulness may be traced to the exhilarating climatic influences of the State, and



not to contemplation of the early termination of his young and gladsome career. Westward the aspect of the country changes somewhat. In the south the same broken topography is retained to the Rio Grande, and westward to El Paso.

In this part of Texas are the famous Staked Plains which have come into prominence recently on account of important discoveries connected therewith. "The Fathers" who came to this country to spread the gospel among the savages, encountered this trackless plain in their journey northward, and in order to guide not only their own returning footsteps but those of others who had to cross the treeless, foodless and waterless desert, erected, at frequent intervals, stakes on which they hung buffalo heads. Hence the name Llano Estacado, or Staked Plain. While differing in topography from western Texas, it is, in the matter of climate and products, essentially similar. This region embraces a tract of central western Texas, about one hundred and fifty miles wide and three hundred miles long, north and south, and is in the nature of an elevated plateau. Like all western Texas, it is given over to pasturing large herds of cattle and sheep. All vegetable life here ceases with the advent of the hot days and scorching winds of summer, but the grass, which has attained a large growth during the early spring, remains on the ground cured, and as nutritious as if gathered into stacks or barns. It had been accepted without experiment that no other variety of vegetation would grow here. Recently this idea has been completely refuted, and the soil, with a natural richness equal to that of central Texas, is found, when properly watered, to be capable of producing cotton, all kinds of grain and fruits of the finest quality and in the greatest abundance. The problem here, as elsewhere in the Rocky Mountains, is water. This, to the Eastern man, will seem an insuperable obstacle to farming, but when it is taken into consideration that the greatest results and profits are obtained where the control of the water supply is in the hands of the farmer, even with the additional expense of irrigating ditches and water, it will readily be seen that this country is the equal of southern California. There is a scheme being agitated by representatives of the government which has for its purpose the construction of storage reservoirs at the headwaters of all rivers and streams west of the one hundredth meridian. By this means sufficient water will be held in check during the high water season, to furnish ample supply for the growing crops in spring and summer. If this plan is carried out it will be one of the most stupendous works, and

far reaching in its results, ever undertaken by man. It is estimated that thereby 92,000,000 of acres of arid lands will be reclaimed and made productive. At $30 per acre this would represent a total land valuation of $2,760,000,000, or about two-sevenths of the total valuation of the farms of the United States in 1880. In the whole amount there would not be one foot of waste land. It would represent so many million acres, every acre of the highest productiveness. The consummation of this scheme will mean a great deal for Texas. With water, all the land in western Texas that can be irrigated can be made as productive as any in the world. The Staked Plains have a soil and climate adapted to all kinds of fruit raising. It is predicted, by those who are authority, that this will be the great wine producing region of the United States. The capacity of this country for fruit raising will be more exhaustively treated under a separate heading in another part of this pamphlet. A $250,000 appropriation has just been made by Congress for the preliminary surveys preparatory to beginning the work of land redemption.

Our description leads now to the northern part of Texas. The Pan Handle, like the Staked Plain country, was a *terra incognita* up to a half dozen years ago, only known to stock men. It afforded the best grazing in Texas. The character of the country and soil was similar to that of the Indian Territory. Otherwise not much was known of it. In the Spring of 1888 the Denver, Texas and Ft. Worth Railway was completed, giving a direct line through the Pan Handle of Texas, from Denver to Fort Worth and the Gulf of Mexico. It was at once discovered that the soil here was of the finest quality, that it was well watered with rivers and smaller streams, that the rainfall was more abundant than in the southern part of the State. In short, that here was a most desirable country, capable of sustaining a close population, and which for want of communication with the outside world had remained unsettled. This is in no sense a desert country, in appearance or in fact. The native grasses grow most luxuriantly. The surface of the country is gently undulating like that of the Indian Territory, and in the matter of climate, topography, etc., it is more like that beautiful land than the State to which it belongs.

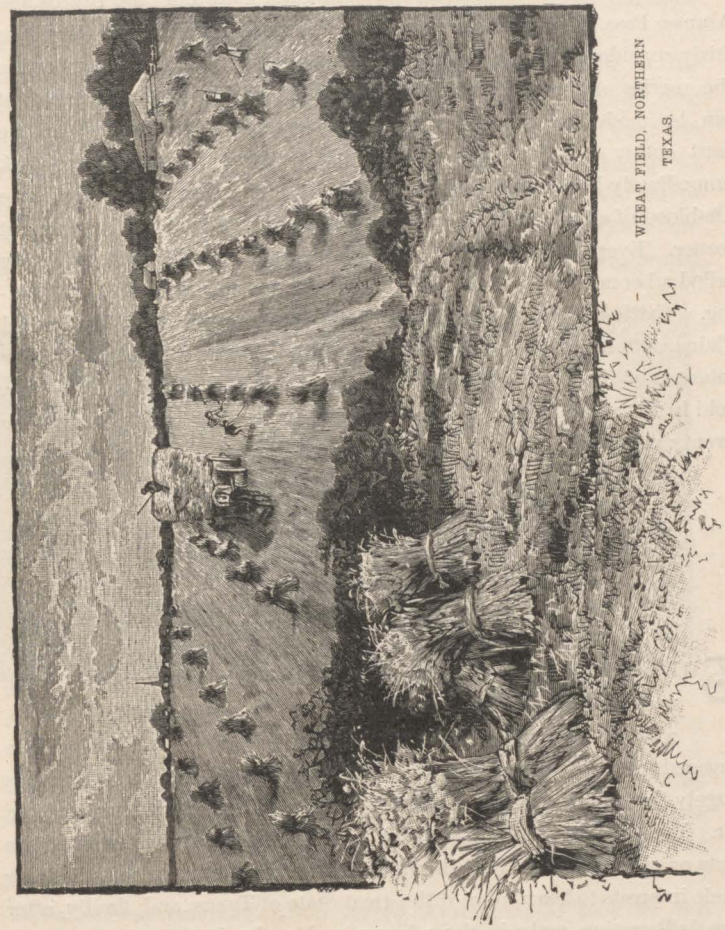
And now as to the outlook for the future of agriculture. Only a small portion of the area of Texas is under cultivation. A large quantity of land as good as any in the State is still open for purchase under the land laws of Texas. The scheme of irrigation just referred to will make arable

millions of acres of land, now non-productive, but in natural richness the equal of any in the world. Other methods of irrigation have been found to be successful in Texas. The method of reservoir wells, so long in use in California in fruit growing and general farming, are equally as well adapted to Texas. A system of dams and ditches for irrigating purposes requires an amount of capital not always obtained in a sparsely populated country and where the demand will not warrant the outlay. The well

BIG SPRINGS, TEXAS.

system, therefore, makes it possible for a farmer with a limited capital to establish his own water works and water his own land; or neighboring farmers can combine and dig the well and erect the necessary machinery for pumping, which may be wind or steam power, as the exigencies of the case seem to warrant. California does not surpass the Staked Plains in natural adaptation to fruit growing. Yet California has became famous in this respect, and all owing to her system of irrigation. With the same methods the Staked Plains will become a vast expanse of orchard and vine-

yard. It shall be the chosen land; perpetual sunshine shall kiss its trees and vines, and, being stored in luscious fruits and compressed into ruddy wine, will be sent to the four points of the compass to gladden the hearts of all mankind; and this shall be our sanitarium, a huge hospital where



WHEAT FIELD, NORTHERN TEXAS.

the afflicted of all lands will come and partake of Nature's own remedies. They will breathe the pure and bracing air, bask in the healing sunshine, drink the invigorating wine, and eat the life-prolonging fruit. Sickness shall be vanquished. The people shall die of age greatly prolonged.

A bright look ahead for the producers of Texas is the prospect, in the near future, of a deep water port on the Gulf of Mexico. The question of such a port has already been decided in the affirmative. The only point at present about which there is any doubt or controversy is the most suitable location. Sabine Pass, Galveston, the mouth of the Brazos and Aransas Pass, all present claims as being the most desirable, and all will be fairly considered by the committee appointed by Congress to examine the merits of the different harbors and to decide upon the one that can be made the most commodious, convenient and safest, at the least outlay of money. The result will be soon announced, the work immediately begun, and pushed rapidly to completion. Commerce, the life-blood of a State, will be quickened and sent pulsating to its remotest corner. Every industry will be stimulated and receive what might be called a boom if it were not that the results will be more solid and lasting. Cattle-raising in the Pan Handle, sheep-raising on the Staked Plains, cotton and grain farming in central Texas, the great lumber interests of the State, and manufacturing, for which there is so wide a field in Texas, and mining, will all receive an impetus which, in another twenty years, will bring Texas into the lead in population and wealth.

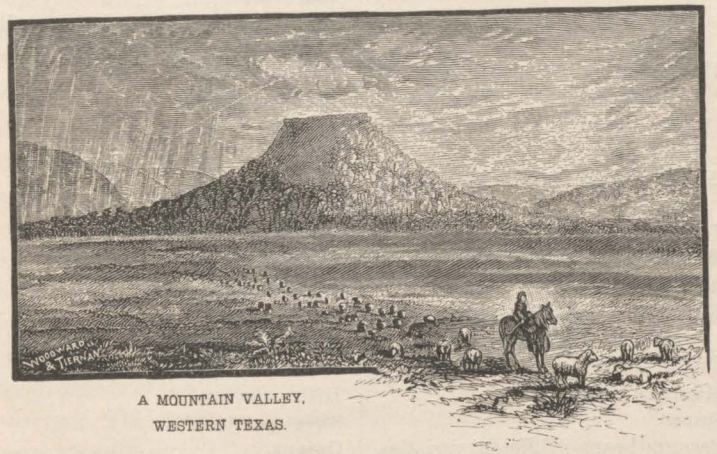
PRODUCTS.

THE inquiry will naturally come to those living remote from Texas, whose attention has been attracted by the resources of the State, what do they raise there, what industries are her 2,800,000 people engaged in? This is a pertinent and proper question and one which it is largely the object of this pamphlet to answer. That is what we are here for. We hope, by a fair, intelligent and exhaustive arrangement of the facts on this subject, to lead the right kind of people to see that it is for their interests to learn more of the great State of Texas, and, finally, after due deliberation, make it their home and make it the scene of their future prosperity, wealth and happiness.

The products of Texas in some essentials differ from those of the North, and somewhat also from those of the Southern States east of the Mississippi river. Like the remainder of the Southern States, cotton is

the staple, the cash product of the soil; but, unlike them, cattle and sheep-raising are great industries, almost, if not quite, rivaling that of cotton. The raising of oats is not surpassed anywhere, while corn, tobacco, wheat, fruits, etc., yield as abundantly, are of as good quality, and can be produced with as little labor as in any part of the West, and more easily than in the New England States.

As has been before stated, central Texas, from Denison south, is the great cotton, grain and fruit producing region of the State; but the conclusion must not be at once drawn that it is the only portion of the State where agriculture can be carried on successfully. There are large quantities of rich valley lands in western Texas where the rainfall is sufficient to produce bountiful harvests. Many a New England farmer would consider himself wealthy, and would, in fact, be so, if his rocky farm would



A MOUNTAIN VALLEY, WESTERN TEXAS.

yield so willingly and abundantly to the plow and hoe as much of what is considered waste land in Western Texas. Even on the Staked Plains, on the line of the Texas & Pacific Railway, are found many well tilled and productive farms.

The Dallas State Fair Association offered a premium of $500 for the best exhibit of agricultural products of the year 1888 from the counties in the western district of Texas, in which the Staked Plains are located. The competition was lively, and some of the finest displays seen at the fair were found in this section. Taylor county, of which Abilene is the county seat, carried off the prize. Taylor is located on the Texas &

Pacific Railway, well into the Staked Plains country, and the list o exhibits, which follow, any county anywhere might well be proud of:

Wheat of all varieties in the sheaf.
Wheat of all varieties threshed.
Flour from Taylor county wheat.
Oats of all varieties in the sheaf.
Oats of all varieties threshed.
Rye of all varieties in the sheaf.
Rye of all varieties threshed.
Barley in the sheaf.
Barley threshed.
Buckwheat.
Sorghum of all varieties, stalks, in the bale, heads and threshed.
Corn of seven different varieties, on the stalks, on ear and shelled.
German millet in the sheaf and threshed.
Hungarian grass and common millet in the sheaf and threshed.
Colorado grass in the sheaf and in bales.
Alfalfa in the bundle and in the bale.
Johnson grass.
Broom corn.
Milo maize.
Kaffir corn, Dhoorra corn, in the heads and threshed.
Castor beans.
Mesquite beans.
Sumac.
Peas and beans of different varieties.
Pecans and peanuts.
Soils of Taylor county.
Wild grasses (56 varieties).
Volunteer grasses from the farms.
Hay in bales.
Wool.
Potters' clay.
Honey.
Butter.
Wines from grapes, jellies, preserves, etc.
Peaches.
Pears.
Plums, wild and domestic.
Apples.
Nectarines.
Grapes.
Figs.
Vegetable oranges.
Tomatoes.
Okra.
Pepper.
Egg plant.
Cotton on the stalks, cotton balls and cotton lint from home gins.
Native woods.
Building stones.
Bricks.
Lime.
Cucumbers.
Squash.
Pumpkins.
Kershaws.
Watermelons.
Cantaloupes.
Pie melons.
Gourds.
Irish potatoes.
Sweet potatoes.
Onions.
Fresh vegetables (30 varieties).
Tobacco.
Nursery plants.
Cut flowers from home gardens.
Manufactured articles.
Ladies' handwork.
Leather tanned from mesquite bark, etc., etc.

Not a bad showing that for a desert county. All the counties competing gave evidence of as good and productive soils, and their adaptability

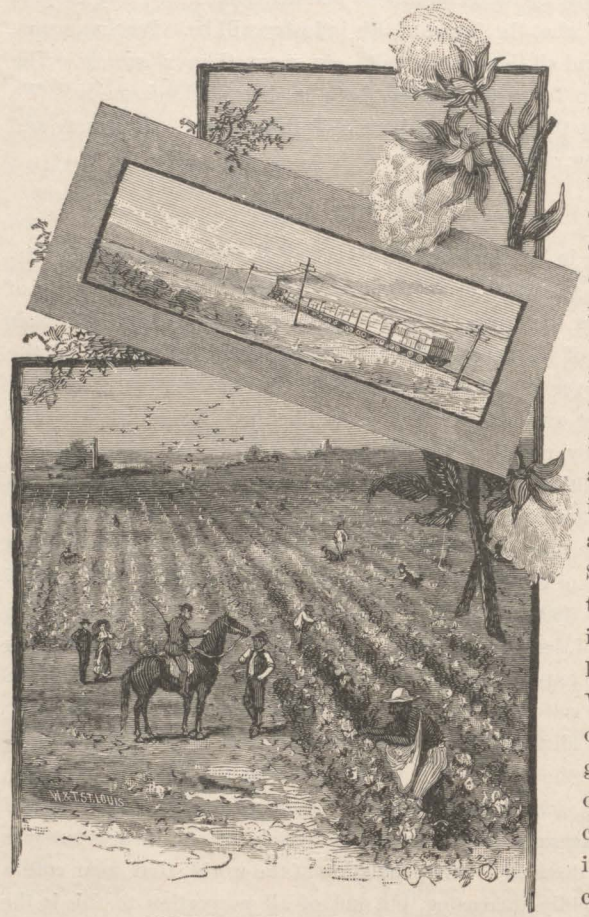
to a variety of products equal to those of Taylor county. Place this list by the side of what can be produced in other parts of the world and see if, for variety, it can be surpassed or even equalled. You find here all the grains and fruits of the North as well as the Southern staples. Tobacco is successfully grown in all parts of Texas. Fruit-raising is but in its infancy. Many orchards have been planted sufficiently long to give an indication of what the future of this industry will be. Peaches, pears, plums, grapes and all the small fruits are more than a success. The peaches raised in Texas are wonders, both in size and lusciousness. We will now take up the leading products of Texas and give an accurate and condensed review of each.

COTTON.

Cotton is king in Texas as well as elsewhere in the South, and by virtue of its title, should take precedence in considering the products of Texas. Texas is the banner cotton State, and produced in 1887 over 1,500,000 bales of the fleecy staple, which put into the pockets of the Texas farmers over $60,000,000 in cold cash. The figures for the crop of 1890 are not yet available, but will, in all likelihood, exceed those of the previous year by nearly 200,000 bales, and add several million dollars more to the wealth of the agricultural population. To the $60,000,000, the value of the cotton crop of 1887, we have to add about one-third, which is the value of the cotton seed oil and meal, and we get the total value of the cotton crop of the State of Texas, making nearly $80,000,000. Texas will produce in 1890, nearly as much cotton as all the remainder of the world, outside of the United States. The demand for cotton products is universal. The expulsion of Adam and Eve from the garden of Eden threw upon the cotton plant, and the sheep, the responsibility of keeping man clothed in all the ages. That decree made self-evident its corollary, man must be clothed. The silk worm may help to clothe the wealthy, but the mass of mankind will depend, for their garments, on cotton and wool. The aggregate of cotton raised outside of our own country is steadily on the decrease. The population of the world, that wear cotton clothing, is rapidly increasing, but out of all proportion to this is the increase in the consumption of cotton products in all quarters of the globe. The cotton crop outside of the United States has decreased about 1,000,000 bales since 1872. The same crop within the borders of the United States has increased about 5,000,000 bales during the same period. The con-

verted heathen at once becomes a consumer of cotton. The missionary offers him his eternal salvation on condition that he buys a shirt. He accepts the bread of life, and the Texas planter gratefully pockets a part of the profit on the shirt.

Clearly we must clothe the world. The demands for cotton will constantly encroach upon our productive area. Where shall we look for territory to meet the ever increasing demand? This demand will be met in two ways: First, by improved cultivation and enriching old soils; and second, by increased acreage in the newer States. The latter responsibility will fall largely on Texas. With her acres of unturned virgin soils she is capable of increasing almost indefinitely her cotton crop. The acreage in cotton in 1887 was about 3,000,000. The numbers of acres in the State reaches the enormous total of 175,000,000. Leaving out of consideration the timber lands, desert and mountain lands, and there is still enough remaining to meet the increasing demands for cotton for years to come.

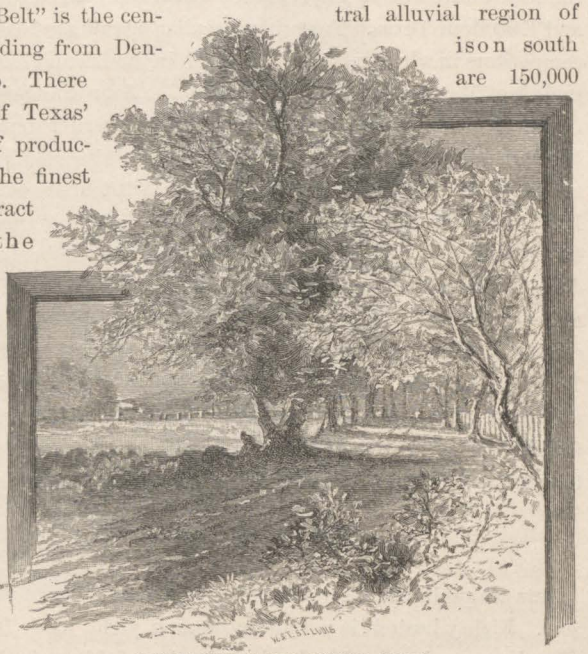


COTTON FIELD, NEAR HEARNE, TEXAS.

There are miles on miles of unbroken lands that are capable of being converted into vast cotton plantations.

Fault has been found with Southern farmers that they cling too tenaciously to the one crop idea. They are abandoning this plan, and, while they are getting into the idea of more diversified planting, still cotton remains king and is the wealth-producing product of the soil. The reason for this is apparent. Cotton is a cash crop. It always commands ready money. It is gold from the time it pushes its first shoot through the ground. Cash can be obtained on it then and at any time thereafter.

The "Cotton Belt" is the central alluvial region of the State, extending from Denison south to San Antonio. There are 150,000 square miles of Texas' area capable of producing cotton of the finest quality, or a tract larger than the combined States of Missouri, Illinois and Louisiana. Much of the western part of the State will grow cotton, and, as we have already seen, it is a product of the Staked Plains.



GARDEN STREET, SAN ANTONIO, TEXAS.

Cotton is of three varieties—upland cotton, the variety grown in the bottoms, and sea island cotton. The latter variety grows well along the entire coast. The upland cotton yields from a half bale to a bale per acre, while the bottom land variety yields from a bale to a bale and a half per acre. The crop is planted late in the spring, during the last of April and the first of May. Picking commences in July and lasts till January. It is light, clean, healthy work, and women and children, as well as men,

engage in it. The market is always ready to receive it as soon as it is picked and baled. It always commands a ready cash price.

WHEAT.

Wheat raising is carried on on a limited scale in Texas. For the year 1887, about 5,000,000 bushels were produced. This is not enough to supply the home market, but is only a suggestion of what may be done in that cereal in Texas. Every year witnesses an increase in the acreage, and in the near future we may expect to see wheat and flour exported to the North and East from Texas. Texas has peculiar advantages over her Northern competitors in wheat raising. It is sown in the fall and harvested from the middle of May to the middle of June. The flour can thus be delivered in Northern cities, by rail direct, fully six weeks earlier than flour from the Western or Northern States. Its weight is equal almost to that of the Dakota article, and it will sustain shipment by sea without sweat or deterioration. It yields on an average 20 bushels per acre, though in the El Paso region, 40 bushels is a common yield. The northern and central regions produce the bulk of the wheat, but all of western Texas is natural wheat land, and with irrigation as a feature of farming, it may be made the most remunerative crop, except fruit, of the Staked Plains, and in all western Texas. The Pan Handle region is well adapted to wheat raising, and it will doubtless give a good account of itself in a few years, when its railroad facilities are improved, and its population has reached a figure sufficient to make its efforts felt in the world of commerce and trade.

OATS.

Oats are prolific and give an average yield in Texas of 40 bushels to the acre. Eighty bushels is not an uncommon yield, while 100 bushels have often been produced. The land productive of this grain is not confined to any part of the State, but it does equally well on all soils and in any quarter of the State. The area sown to oats in 1887 was 370,000 acres, with a total yield of 14,000,000 bushels. Oats are sown in February and early March, and, as the harvest is correspondingly early, the Texas farmers get the benefit of the higher prices which the first products in market usually command. The home demand consumes the whole crop and the price received is the price in St. Louis plus the freight from St. Louis to Texas.

CORN.

In 1887 the farmers of Texas planted 3,000,000 acres of corn and harvested 76,500,000 bushels, thus demonstrating that Texas is not a cotton State exclusively. In rank this makes Texas fifth in number of bushels produced and fourth in value of the crops; it is fifth also in the number of acres planted. It is thus shown that Texas ranks with Kansas, Iowa, Illinois and Missouri in the yield of corn per acre. Planting is begun in the middle of February and is completed by the first of March. Every county in the State produces corn with ease and profit to the farmer. The black, sandy loams and waxy loams return the heaviest of harvests. The yield in the best localities is from 50 to 60 bushels per acre; in less favored localities 25 bushels is a fair average.

CORN FIELD, TEXAS.

FRUIT.

The fruit area of Texas is as large as the State and embraces everything. Peaches, apples, pears, quinces, plums, oranges, figs, grapes and berries of all varieties, flourish in great profusion. Peaches have done well wherever attended to, but apples are not as satisfactory except in a few local-

ities. Plums do well and will grow almost anywhere, while the quince i being slowly acclimated. Oranges on the sea coast about Galveston an thence skirting the entire gulf are as fine of flavor as the far-famed Flor ida specimens. Grapes grow in all the counties of Texas, but thei cutlivation has not been satisfactory except in extreme western Texas about El Paso, and occasionally in the Denison district, near Red river The delicious bunches from the former are now as noted as those of Cal ifornia. The Concords seem to be the hardiest, but the Delawares an others also thrive. The Post Oak and Mustang are varieties not know in the North and East, but grow luxuriantly in western Texas and yiel a wine which, with a few years of age, equals French claret. Of lat years fine vineyards have been planted in the vicinity of San Antoni and Austin and in southwest Texas, which are yielding handsomely an giving promise of great results in the future.

The lands on the western shore of Lake Michigan used to supply th city of Chicago with peaches, and their owners became immensel wealthy. The clearing off of the forests of that State subjected th orchards to the severities of the winters and there is now little attempt a fruit raising in that part of the State.

To-day land can be bought in the fruit belt of Texas at from $3 to $8 per acre, which will produce equally as fine fruit, both as to size and fla vor, as was ever raised on the east shore of Lake Michigan. The land can be cleared and planted with fruit trees of the finest varieties at less than one-eighth the price which it cost to clear and plant orchards in that country.

This fine fruit can be placed in the great markets of the North long before they dream of peaches ripening there, and will bring a fancy price. When fruits begin to be plenty in those markets, fruit raisers can realize $1 per bushel for their peaches for canning pur poses right at their doors. People are just beginning to realize the value of these lands for fruit raising.

There are men of means now planting peach orchards of from 100 to 200 acres. The best of fruit trees can be purchased at $50 per 1,000. Can ning factories are springing up like magic, and the fruit is being con tracted for beforehand at $1 per bushel. Strawberries and blackberries are equally fine and very productive.

The home-seeker can purchase land in any of the counties in this fruit belt at a very low price, plant his orchard and, in less than three years'

time, will find himself in possession of a magnificent income and almost absolutely certain every year, for a failure in the fruit crop in that section is the rarest thing known. Inside of five years, there will be fruit farms in Texas (wild lands to-day) that cannot be purchased for $100 per acre. Pears, peaches, apples, apri cots, plums, almonds,

LOVERS' WALK, SAN ANTONIO RIVER, SAN ANTONIO, TEXAS.

and nearly all European varieties of fruit thrive surprisingly well, especially when judiciously irrigated, in the extensive Rio Grande and Pecos valleys, and in many other sections of the State, although their culture is still in its infancy, so to speak.

Grape culture, although but in its incipient stage, is, in the near future, destined to rival that of California. Its introduction into Texas is due to the Spanish monks, who came from old Mexico and established the first mission and settlement by white men in the territory now comprising the State of Texas, at El Paso, in the year 1582. The good fathers imported grape vines from old Spain, and, since that time and until the present day, grape culture has been carried on in a small way in various places along the Rio Grande. The juice pressed from these grapes, which are still called mission grapes, is, when properly made and treated, fully equal to an excellent quality of sherry wine. As all varieties of the European wine grape succeed in all respects as well in that portion of Texas as they do in California, it is only a question of time when Texas shall successfully compete with California in that pleasant and profitable branch of agriculture.

Strawberries, dewberries and blackberries grow finely, and, where their cultivation and sale are made a business, enormous profits are realized.

For the most successful grape culture, it is in the direction of western Texas, and in the vicinity of El Paso, we are to look. Here the conditions of soil and climate are not excelled anywhere, and now that accessibility to markets has been secured, and all that are raised can be sold at remunerative prices, this industry is receiving, as it is entitled to, a large share of attention.

Thousands, and tens of thousands, of people have ridden through the Rio Grande valley on their way to buy fruit lands in California and have purchased there, at hundreds of dollars per acre, what could have been obtained here, of greater intrinsic value, for one-tenth as much. Their fruit products in California must seek an Eastern market, either in the green, dry or preserved state. Those who go there place themselves at double the distance from market and will, within a short time, be compelled to pay a much larger freight rate than will be charged from here. Such rates are always cheapened as an industry expands, but, at the prices which have ruled for the past three years, the product of the vineyards and orchards in bearing along the Rio Grande has only been as a drop in the sea to the quantity which might have been sold.

ROAD TO FORT BLESS, NEAR EL PASO, TEXAS.

The fruits produced here, especially the grape and the pear, are so exceptional in flavor that the knowledge of them creates an immediate demand. Either of these are grown in all the varieties that are produced on the Pacific coast, and of equal size and beauty. The cultivation of the grape has commanded the attention of the natives for many years, but only for wine-making, and there has been but little attention to choice of varieties. Until the railroads came there was no market except at home, and that not a discriminating one.

In the Mesilla valley, forty miles north of El Paso, and a garden spot as to fertility, there has been more attention given, perhaps, than elsewhere, though the fine vineyards of Dr. Alexander and others below Paso del Norte, and still others in the vicinity of Ysleta, a few miles below this city, are all doing their share for the coming great industry.

Thos. J. Bull, at Mesilla, planted thirty acres to vineyard and orchard some years before the railroads came, and utilized his products in making wines and brandies. He realized about the same as now from his crop and finds that his grapes are worth four cents a pound if made into wine. The thirty acres have yielded above ten per cent interest on $60,000 since they came into bearing eight or ten years ago. Others, noting his success, have been following his example and large vineyards have been planted and are already bearing. The increase is greater each succeeding year. Lands in that vicinity have more than quadrupled in value during the past ten months and still are selling for less than a quarter of what they will pay twenty per cent interest on annually.

It is the home of the pear. Probably some of the largest pear trees in the world are growing to-day, in perfect health, near Ysleta and Socorro, one of them almost rivalling the giant trees of California as to girth of body.

The apple grows to perfection and the trees are prolific bearers. The fruit is large, perfect and well flavored. Those who visit Paso del Norte will note the healthy appearance of the garden orchards. Peaches come in bearing here a year earlier than usual, or the second year after setting the year-old tree. They, too, are of choicest quality.

Prunes do well, even as far north as Santa Fe.

Small fruits, though but little cultivated, all grow to perfection.

It is not alone the Rio Grande valley that is so well adapted to horticulture. The valleys of higher altitude, along some of the mountain streams,

produce equally as well, the apples being, possibly, of superior quality to those raised lower down.

On the Mimbres river several orchards are producing large revenues to their owners, and many thousands of trees have been set within the past three years.

The industry is but just in its infancy. It has fairly passed the experimental stage, and the results are so uniformly and so eminently successful that its further development will be very rapid. The opportunities offered here can hardly be equaled elsewhere. The rapidly growing mining interest, and the increase in population otherwise is constantly enlarging the home demand.

As before stated the fruits of this section command ready sale wherever introduced, and a car-load of grapes from the Mesilla valley—the first ever offered there—was quickly sold in St. Louis last season. It only requires a sufficient production to enable a larger shipment and justify lower freight rates to extend the market indefinitely.

There are no people anywhere who use so many canned goods, fruits especially, as the inhabitants of a mountain district, and to supply even the consumption of the immediate district under consideration would justify the establishment of a large canning factory, and would absorb the product of very many acres.

The raisin grape has been cultivated to some extent, and the raisins produced from them are found equal to the California goods.

In truth, there is no predicting the extent to which this industry may expand. It has all the advantages and few of the drawbacks here which have to be contended with elsewhere.

In western Texas, then, we see that nearly all varieties of fruit reach their greatest perfection, but it is not in the vicinity of El Paso and in the Rio Grande valley alone that the best results and the greatest success are achieved. All the great Staked Plains region is similar in soil and climate to the prosperous fruit country of California; and, with the aid of irrigation, which has to be practiced in that State, will produce as successfully all the fruits produced there, except oranges. We have the utmost confidence in our prediction that the Staked Plains will be the great wine and raisin-producing center of the United States. We earnestly invite the attention of the right kind of men—men with some capital and a good deal of push, enterprise and knowledge of the business, to the outlook in this part of the country for the fruit industry.

THE STOCK INDUSTRY.

STOCK raising in Texas must be considered in two phases. There is the old method of free ranges, where herds were allowed to roam at will over the whole surface of the State, being kept together by

CATTLE RANCH ON BRUSHY CREEK, NEAR TAYLOR, TEXAS.

the traditional cowboy. The only time in the year when they were robbed of their freedom and put in duress was at the annual round-up,

when the calves were branded and the fat steers assorted for market. This method still prevails to some extent in the wild, more remote and sparsely settled districts; but in the greater part of the State the old way has been superseded by the modern idea of "stock farms." This is rather an elastic term, and embraces the small stockman with his few dozen head of cattle and his half section ranch, to the wealthy cattle barons who own millions of acres of grazing lands and who number their cattle by the hundred thousands. On the larger ranches much of the original free, wild life of the prairie still remains, but the days of the cowboy are numbered in Texas and he is hard on the trail of the buffalo and the red Indian, whom he superseded, to that vague and unresurrectable condition known as extinction. Or if, by chance, his name survives, it will be a name only; his empire will be wrested from him. He may retain the crown, but his scepter will be ruthlessly broken and taken from him by the inexorable demands of commercial and industrial exigencies.

To more clearly understand the changed and changing conditions under which cattle in Texas are now reared, as compared to the methods of a few years ago, will require a short sketch of the then prevailing system, or mode, of conducting a profitable business without much system.

At the close of our "late unpleasantness," and, in fact, to within the last ten years, it was a very simple matter to "get a start" in the "cow business," as about all the capital required was a good saddle, bridle, pony, lariat, branding iron, and a conscience sufficiently elastic for the length of the lariat. With this outfit and a bob-tail bull to carry your "coat-of-arms" or "sign manual" in the shape of a conspicuous brand, and to act in the shape of a nucleus to build to, you were in a position to go into the business. The main source of supply was the "mavarick"—unbranded cattle, resulting from careless gathering up of the calf crop at branding time by the original owner, or from cows straying long distances from home, thus missing the branding iron and becoming, as it were, a sort of "Flotsam" of the prairies. This of necessity was not uncommon, since cattle, unrestrained, often "drifted" a hundred miles or more.

As cattle were worth but a few dollars per head—not as much as a fat Christmas turkey is worth in New York City—and the cattleman could "average up" on mavericks in his own neighborhood, this slight loss was of little moment.

Mavericking was general, and whatever a man's theory or philosophy might be, he had to do it to keep up with the herd. Some very active, lucky men at this period acquired very large herds in a short space of time; but then cattle bred faster at that time than since; some times reaching 150 per cent per annum, some men's cows turning up regularly with twins, while their neighbor's cows, by this same freak, would not breed, or would lose their calves.

However, where the business was conducted legitimately, the increase was rapid enough, as the estimate was that a mixed herd would double itself every three years, and it is conceded that southwest Texas as a breeding ground was, and still remains without a rival on the continent. No ownership of land was necessary. No outlay for barns, fences, nor agricultural machinery. The business was essentially nomadic, cattle had unlimited range, and when droughts or over-stocking rendered it necessary, the cattle of their own sweet will, or perhaps directed by their owners' sagacious afterthought, sought pastures new, for there was scarcely a fence to turn them from any course a single mile, from the Colorado river to the Rio Grande—three or four hundred miles.

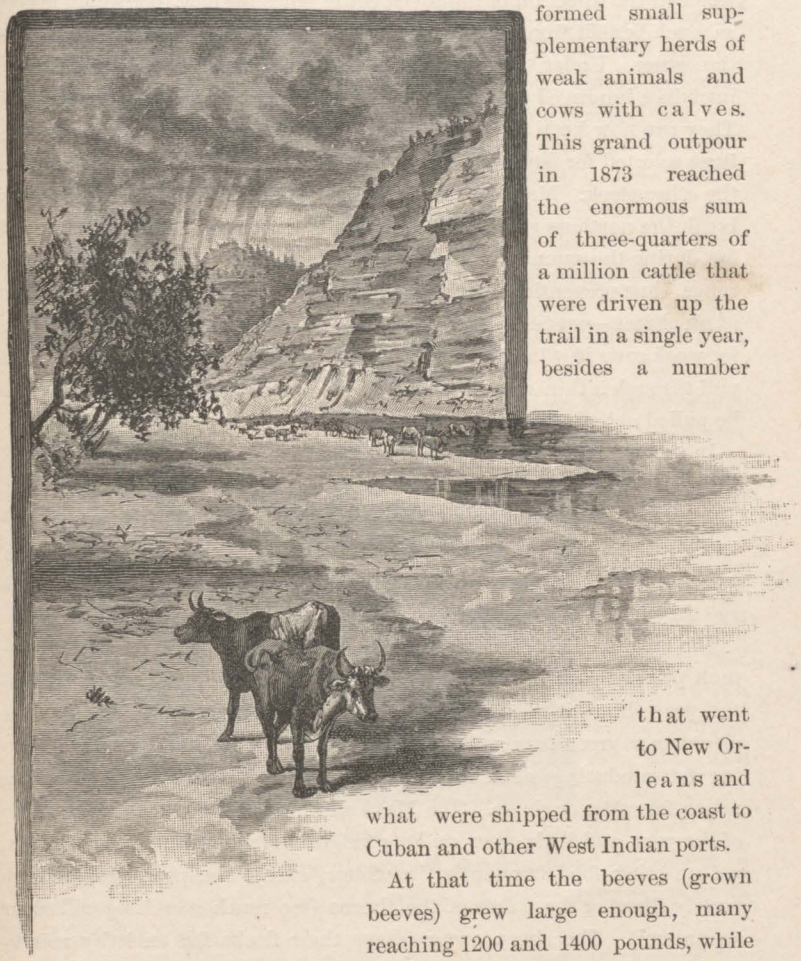
Grass cured, as now, in the fall as it grew, for stock equal to any hay for winter use.

In the spring and fall the cattle were gathered together for the purpose of branding the calves; turned loose and perhaps not seen again until next branding time, unless a few steers were to be cut out for sale. There were but few losses, save about four or five per cent allowed as a sort of a sinking fund; for the climate is so mild that all the old Spanish houses in this region were built without a single fire place, and a stove was unknown. In the southwest counties grass grows every day in the year, and the cold spells (northers) seldom last more than a couple of days.

Then began the business of driving several thousand head of beeves to Kansas and Nebraska, thence to be shipped to the Eastern and Western markets.

At first only grown beeves composed the herds which started on the "trail" in early spring, grazing along a few miles per day, the trip occupying several months and the cattle fattening on the way. The next step included two-year-olds, as the grown beef supply diminished. Then cows and yearlings were taken to stock up the vast ranges of Kansas and the Western Territories—this country stocked up all that region, save a few cattle taken there from Mexico and also a very few from the older

Western States. Young calves, and those dropped on the trail, were knocked on the head until a cow and calf reached the $25 and $30 standard, when the calves were even carried in the mess wagon and formed small supplementary herds of weak animals and cows with calves. This grand outpour in 1873 reached the enormous sum of three-quarters of a million cattle that were driven up the trail in a single year, besides a number that went to New Orleans and what were shipped from the coast to Cuban and other West Indian ports.



SCENE ON THE BRAZOS, TEXAS.

At that time the beeves (grown beeves) grew large enough, many reaching 1200 and 1400 pounds, while of late years the cry is, "They won't grow big;" but until three years back none were left to get their growth, and the range has been overcrowded.

During the latter part of the last decade the pasture system was inaugurated, and at this time it has relegated to the by-gones and about

closed up the trail. All ranching is now done in inclosed pastures, save in portions of the northwest and Pan Handle.

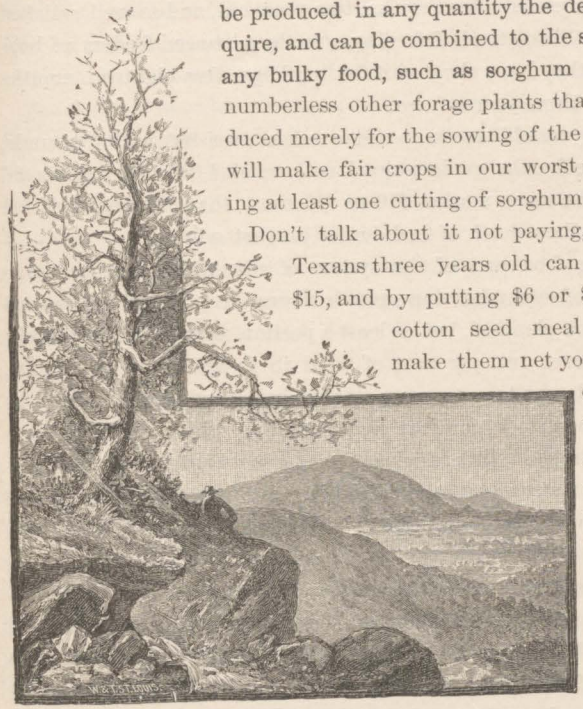
Under the old system no individual enterprise could benefit the projector in the direction of improved cattle, since his neighbor would derive as much benefit from the blooded bulls turned loose on the common as the owner. Under the new order of things the ranchman is enabled to introduce improved stock and be the sole beneficiary of his enterprise. They can now keep the beeves apart from the rest of their cattle in pastures selected for fattening; obviating the running off of flesh in handling the other stock. Many provide a winter pasture with brush or hills to break the northers, and where the grass has not been eaten and tramped out during the summer. Stock can now be limited to the capacity of the range, thus preventing, where desired, about the most common mistake of ranchmen—overstocking. It enables the stockmen to provide forage for weak cows in winter, when $1 or $2 worth of hay or sorghum will pull through a thin cow worth $10 or $20 that would otherwise have to be pulled out of a bog to secure a $1 hide.

In the last ten years much improvement is apparent in Texas cattle, the result of introducing bulls of the improved beef and dairy breeds. The typical longhorn is now rarely seen, in fact it is difficult now to obtain good specimens of horns, which are readily bought for mounting or to be used in the ornamental horned chair business, while a few years ago they had no value at all.

The great food and fattening staple of the future for Texas is the common prickly pear in combination with cotton seed meal. Analysis of the pear shows it to contain about the same nutrient properties or food elements as green corn stalks. The cotton seed meal supplies the lacking fat producing elements, making a completely balanced fattening ration for cattle or sheep. The Mexicans have always known the value of the pear, and their oxen, on long freighting trips of hundreds of miles, got no other food frequently, in winter, except the pear, prepared by merely singeing the points of the thorns (too much scorching will scour an animal). The sheep owners have their flocks fed on it by merely slashing off the upper fringe of the leaves (where the thorns are thickest) with a huge sword-like knife—the Mexican "machete"—when the sheep follow, doing their own harvesting. The pear is prepared by cutting it up in one-half to three-inch pieces in a machine similar to the large power feed or ensilage cutters now extensively used through the Western

States. The thorn is broken up by the same operation, and does no harm. Meal and pear are mixed and fed. It requires ninety to one hundred days to fatten a beef, and the meat is as sweet, juicy and tender as the corn fed.

This is the solution of the profitable cattle raising problem, at least in this section of Texas, where there is enough pear to fatten every steer of marketable age west of the Mississippi river, while the cotton seed can be produced in any quantity the demand may require, and can be combined to the same end with any bulky food, such as sorghum or any of the numberless other forage plants that may be produced merely for the sowing of the seed, and they will make fair crops in our worst seasons, returning at least one cutting of sorghum.



SIERRA BLANCA, TEXAS.

Don't talk about it not paying, when straight Texans three years old can be bought for $15, and by putting $6 or $7 in labor and cotton seed meal into each and make them net you above all your outlay $23 to $26, when the same grade animal on the same market would not bring over that amount with freight, commission, etc., still to come out, **if it had not** been so fed. The above is no theoretical possibility, but the figures of actual fact from market reports and account of sales of transactions of last winter and spring.

One improvement or innovation begets another in furtherance of the universal scheme of the eternal fitness of things. So if feeding is to be done in Texas, and the rolling ball of inevitable fate decrees that it must, they should carry to the mill that will soonest mature their grist in the shape of the quickest fattening animal on the same amount of food, which

is not found in three or four-year-old steers. While the three-fourths or seven-eighths blooded grade may not be so good a rustler, this is only half of his mission from the feeders' standpoint (and that will henceforth govern) but the above grade at two years old will weigh more than our native four-year-old, reached on one-half the amount of food; as it is universally known by progressive feeders and breeders that a given amount of grain will make three pounds of flesh up to one year old where it will make one pound after they are two years old, and so well satisfied of its profit of this method of feeding, are the advanced feeders of hogs and beef, that they have about quit feeding hogs after eighteen months and steers after three years of age.

Native three-year-old steers do not average over 800 or 900 pounds, while the three-fourths grade animal will weigh 1,000 at two years old and bring on the same market $10 to $15 more than the native, if fed only a couple dollars worth of feed during his first winter.

Of course, the feed part of the system of advancement on the large ranches will be of somewhat slow growth where the pear and cotton seed or the meal is not plentiful, but at least a portion may be fed by merely putting ten, or even two per cent of land in forage crops as a start, which will enable you to carry more stock in better condition. It can't be done with common stock, common care, poor cows, whose calves are runts when they are dropped, and, of course never recover, on overstocked pastures where it is a struggle for mere existence during the winter, with the morning dew for a water supply and a barbed wire fence as a protection against northers or cold rains.

It pays to raise good cattle in the Eastern States on land worth $50 to $100 per acre; in the name of common sense why can't it be done in Texas on $3 to $5 land, with no costly barns to provide, with about one month all told of bad weather in winter, hence one-fifth less artificial food to supply (for they have four or five months to feed) and less waste by loss of animal heat during very warm weather, with the best and cheapest food for fattening.

CHEESE.

A new industry has been inaugurated in the State of Texas. It is proposed to manufacture cheese. After thorough investigation by careful men interested it is found that more feed can be produced per acre, with less labor, in Texas than in any of the Northern States.

The dairy and plant will be located twenty miles south of Austin, being in Bastrop county. The farm consists of one thousand acres. Four hundred acres of farm lands, which will be devoted wholly to raising feed, remainder in pasture. They commence with two hundred cows, which will soon be increased to four hundred. Holstein bulls will be used for breeding, selected with great care from some of the most noted milk strains. The factory, and all machinery pertaining to the manufacture of cheese, will be of the latest and most improved make, as also the agricultural implements, the whole outlay in farm plant, stock, etc., being about thirty thousand dollars.

Ten families have been brought from the Northern States to engage in the work connected with the business, all of which have a practical knowledge of the industry; also, a practical cheese manufacturer, who has spent years in the business, and who has a reputation second to none as one of the best of manufacturers.

There is no doubt that this enterprise will prove a success and that soon there will be many factories of similar character scattered throughout the fertile State of Texas.

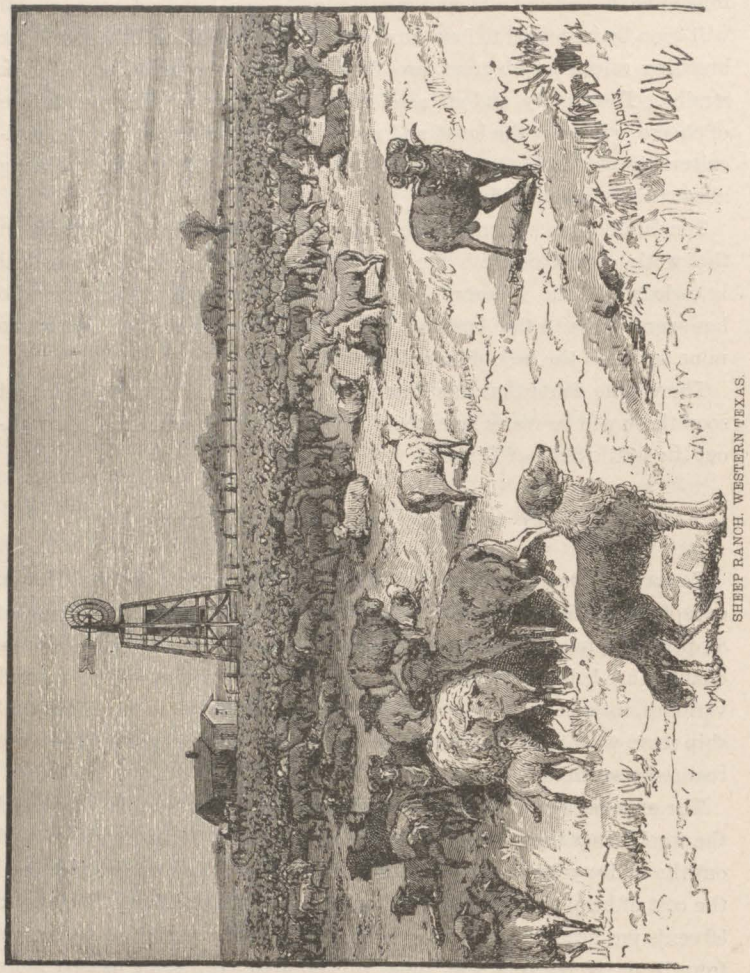
SHEEP RAISING AND WOOL GROWING.

Texas now produces more wool than any other State in the Union, except California and Ohio. As the flocks are increasing at the rate of 80 per cent, not including the importations, and, as the wool-bearing qualities are being increased by the introduction of the best imported varieties, there is no doubt that Texas will soon contain more sheep and ship more wool than any other State, at by far greater profits than are realized elsewhere.

The expense of raising is 30 per cent less in Texas than in Ohio, and the wool brings the same price for the same grade. Here the sheep feed out the entire year, require no more care in winter than in summer, and the cost of keeping is merely nominal, being estimated from 30 cents to 50 cents per head by different owners. In ordinary years the profits are from 75 to 100 per cent, the value of the wool crop being usually more than double the cost of herding, while the natural increase varies from 70 to 90 per cent.

Regarding the profits in sheep culture, 75 per cent is an average estimate, and 90 per cent not an excessive one in most cases. Where the

range is free, the maximum profit is reached; but as long as good sheep pasture can be had for $1 an acre, and three acres will sustain a sheep, the interest on the money invested in land is merely nominal, and the



SHEEP RANCH, WESTERN TEXAS.

best sheep men argue that the improved health of the herds, and the reduced losses from estrays, more than pay the interest on money invested in fenced pastures.

The following shows the cost of keeping sheep and the returns:

EXPENSES.

Shepherds and wages at $11 per month and rations	$250 00
Shearing and sundry expenses at shearing time	77 00
Dipping for scab, 4 cents per head	44 00
Sheep dip for worms	5 00
Extra labor	20 00
Total	$396 00

RECEIPTS.

1,100 sheep, at 5 lbs. per head, equal pounds wool	5,500	
At 20 cents per pound	20	
Cash receipts	$1,100 00	$1,100 00
80 per cent increase, 880 head at $3		2,640 00
		$3,740 00
Less expenses	$ 396 00	
Interest on $5.000 at 12 per cent	600 00	
Rent of place	100 00	
	$1,096 00	1,096 00
		$2,644 00

In this statement the expenses of the overseer are not included.

There are men all over the State now counting their money by hundreds of thousands who came from the North a few years ago almost penniless. Some of them started by taking care of other people's sheep on shares—that is, taking charge of a herd and becoming responsible for it for one-half of the wool and of the increase; and as many of the herds breed and are sheared twice a year, these persons soon became large owners. Others, coming with small capital, invested in Mexican ewes, which can be bought at from 75 cents to $1 per head, and then put in some good merino rams.

In a few years time, by this process, they have been enabled to dispose of the original stock, retaining a surplus of improved sheep, valued all the way from $2 to $5 per head. The lands upon which these sheep feed are, as a rule, either school lands, rented of the State for a small consideration annually, or land rented of the different railroad corporations.

The great advantage of sheep culture is that it can be conducted by farmers on a very small capital in connection with agricultural pursuits, and at a very small cost in trouble or expense. In every township there is more or less "free range" on school lands, or lands that are not adapted for agriculture, and a small boy with a good dog can herd a flock without any difficulty and at merely a nominal expense. A few hundred sheep, increasing at a ratio of 80 per cent per year, soon number thousands, and the proceeds of the sale of wool more than pay all the expenses of herding and shearing, thus leaving the increase clear profit. It does not require a large range and a large amount of capital, as in the cattle business, and the profits are proportionately greater.

If a man wants to go into the sheep business on a large scale, his pasturage does not cost him from $25 to $75 per acre, as is the case in the Northern States; but he can buy all the land he wants from the railroad company at from $1 to $2 an acre, and have six years to pay for it. There is a vast amount of State land to be had at about the same prices, but it must be paid for in cash. A man with a few thousand dollars can acquire a pasture of 10,000 acres and a flock of 1,000 sheep, which will not only pay for themselves and the land in a few years, but will afford an income of from 40 to 60 per cent per annum besides.

The profits of sheep-raising are even larger than those of beef cattle, and the cost is less in proportion, but the risks are greater, principally because of diseases which mutton is heir to. Texas sheep have suffered less from the foot-rot and scab than those of any other part of the country, and the ratio of losses has been very small during the past few years.

ABOUT TIMBER.

THE 67,508,500,000 FEET IN TEXAS.

THE timber belt of Texas embraces all the counties of the east and southeast and covers an area of 46,302,000 acres. This embraces a tract as large as the combined areas of Missouri and Connecticut, or is equal to those of Illinois, Maryland and Delaware, and forms a vast, trackless forest of waving, sounding timber. The timbers growing here are of the choicest varieties. Tracts of pine and oak, ash, walnut, cypress, cedar, pecan and gum, hickory and elm, all are covered with flourishing timber adapted to all the uses and requirements of mankind. There were one hundred and sixty-four varieties of timber collected from this region on exhibition at the New Orleans Exposition. We find here all the kinds of timber available for all grades of ornamentation and practical use. The sweet gum and beautiful grained yellow pine are largely used for finishing passenger cars, dwellings and public buildings, both in the cities and in the country. The hickory and different species of oak furnish a vast amount of material for the manufacture of wagons, reapers and cooperage, and are as well adapted to furniture manufacture as the timbers of Michigan. Ship-builders are beginning to turn their attention to these rich forests for oak with which to construct their vessels. Railroads are plunging into these depths and are using all the facilities possible for bringing this magnificent timber into the market. Millions of railroad ties, telegraph poles, timber for piling and for fencing are annually shipped to all parts of the country. In face of the fact that the vast forests of the northern lake regions are fast being depleted of their forests, this valuable land is on the market to-day at from $2.50 to $5 per acre, and this land, when cleared, is valuable for farming purposes. The curly pine is found in abundance and is coming rapidly into favor for wainscoting, doors, etc., of hotels and dwellings on account of the beautiful finish of which it is susceptible. The Bois d' arc, grown in northern Texas in a belt twenty to thirty miles wide and one hundred miles long, is strong, tough and elastic, and, best of all, has absolute freedom from shrinkage, so it may be worked green or dry. Neither rain or sunshine can change it, and no wood equals it for wagons, fence posts, paving, furniture, etc. To the mill man and lumber man no field superior to eastern Texas can be found anywhere. With her own manufactories here, Texas would add millions to her wealth. The little village of Grand Rapids, Mich., began manufacturing furniture simply because it was set in a timber district. It is now a great city and sells $10,000,000 worth of furniture every year, in making which 12,000 men are employed and 40,000 people supported. The best pine districts in the world are in eastern Texas. With less competition and wider markets than Grand Rapids has, will she ship her forests at prices that barely support the wood-chopper and sawyer to be returned in the making of which great cities are built and maintained. Why not have this in Texas? Who will start the ball rolling?

THE FOREST PRIMEVAL, WESTERN TEXAS, REACHED VIA IRON MOUNTAIN ROUTE.

The growth of trade in yellow pine is steady and encouraging. It has doubled several times in the last few years, and indications seem to point to the conclusion that it is now only getting fairly started. Begun as an experiment, the business in this wood has grown to such proportions as to threaten a serious inroad upon the trade of the white pine dealers, though it is not improbable that they may be forced into handling yellow pine themselves, as a defense against a competition they are beginning to feel. Yellow pine is gradually falling into a place that it seems to fill admirably. It is wanted now largely for a certain style of medium class finish, not costly enough to warrant the use of oak, or cherry, or ash even, but that needs something better and more adapted to a natural finish than the soft white pine. Yellow pine seems to be just about the thing for such purposes, and builders are using it freely. There is also a growing demand for yellow pine timber, which on account of its strength is found by architects to be excellently adapted to the framing of large buildings. Some of them prefer this wood to iron for heavy beams, claiming that while it makes quite as strong and a more elastic frame work, it is but little, if any, less fire proof than metal. It is especially desired for floor timbers, where heavy and varying loads are to be carried, and for this reason is largely used in the structures designed for manufacturing purposes.

The following are the best of reasons why investments in timber lands and the lumbering interests in Texas will be profitable:

1. The land and timber are now selling at a low price.

2. The locations of the timber of the southwest is favorable to market, and most convenient when the white pine supply is reduced greatly, or exhausted.

3. The certainty that the white pine supply cannot continue many years, and that a substitute must be found.

4. A field for investment must be found to absorb the large amount of money now annually produced by cutting white pine.

That the location of the pine of the South is favorable for supplying Western markets can be shown by placing one point of the dividers at the center of Kansas, and drawing a circle with the other will include Ashland, Wisconsin; Menominee and Grand Haven, Michigan; all of Arkansas, Indiana, Mississippi and Texas, and part of Alabama. And, should Saginaw be the most distant point in Michigan, Pensacola will come within the radius, and be as near Kansas.

The pine of every Southern State is, by a direct line, nearer Chicago than Boston; and the railroad haul from Chicago to Boston is not an unusual one.

Transportation is a very large item in the aggregate cost of lumber to consumers, and freight will be expensive when transferring Southern lumber to Northern and Western markets; but less than the rate on shipments from the Pacific States to the same markets. So little is understood at the North of the present shipping facilities of the South that a want of transportation will be suggested, but there are more miles of railway freighting lumber in the South now than penetrated the timber of the lake States in 1865, and it may be safely added that the quantity of lumber produced in the South in 1888 will exceed the quantity reported as having been cut in Michigan and Wisconsin in 1869, or about 2,000,000,000 of feet!

Climate is urged as unfavorable for manufacturing lumber at the South, owing to the extreme heat of summer; but this may be overcome, where logs can be hauled and sawed any day during the entire year, by suspending work from June 1st to October 1st, and then have one month longer to saw than in the Northern States.

And again, even though the mercury may range somewhat higher in these Southern latitudes, the atmosphere is not so oppressive during summer as in the timber lands of the Northwest, on account of its nearer proximity to the sea, and sunstrokes are very rare.

Some doubt exists as to whether the hard pine of the South can be substituted for white pine, for ordinary consumption, but the fact that when white pine dimension sells at $10 to $12 per thousand feet, Southern pine is being sold daily in Chicago and Kansas, indicates that in the absence of other pine all classes of consumers will readily substitute and use hard pine in any market where it can be found.

Forest fires will have destroyed a vast amount of timber also, and more pine will be shipped from Wisconsin and Minnesota to Winnepeg in the future if free lumber is permitted by Canada and the United States authorities than will ever be consigned from Canada to the United States west of Buffalo.

The year 1900 will find many prominent lumber ports of the West unable to ship lumber. Fifteen prominent Western lake ports, including Oshkosh, have almost ceased to export lumber. Among them, Depere,

Pensauka, Suamico, Manitowoc, Two Rivers, Saugatuck, Kewaunee, etc., and the list is steadily being enlarged.

These estimates are open for amendment and contradiction, as only an estimate can be made of the remaining stock; but with all the knowledge lumbermen have of the supply and demand, they can safely invest in the Southern land at present prices, and with a hope of profit and no fear of loss.

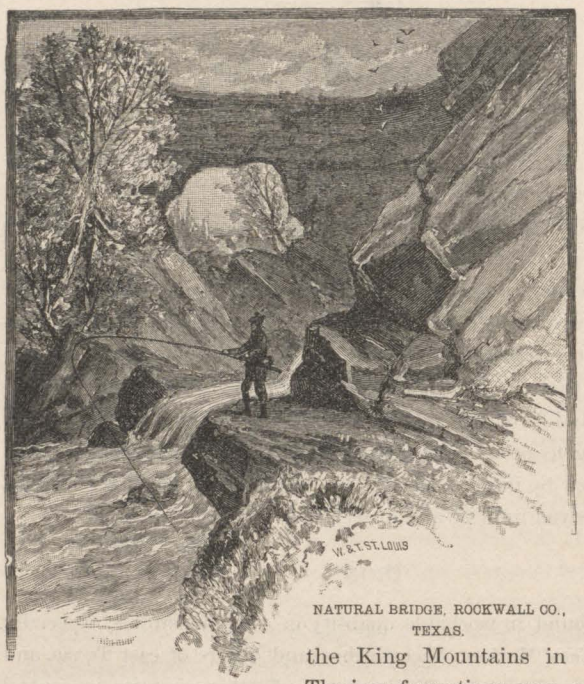
MINERALS, ORES, ETC

GEOLOGICALLY, this is a region of surprises, and yet, though boundless in extent and unrivalled in richness, the mineral resources of this State are to this day unexploited, untested, and almost unknown. It stands as a discredit to Texas that it is without any adequate report, or any State provision for information, concerning the marvelous wealth that lies concealed in these hills and valleys, clustering around the finest water power in America. It needs but the enlightenment that the good geologist can quickly furnish to fill with flaming forge and furnace a hundred counties and several scores of cities that will spring to prominence and prosperity when the pick and axe shall be directed by intelligent guidance as to where they can be most profitably employed in mine and quarry.

IRON.

This ore is found in workable quantity in several counties, especially in Cherokee, Cass, Marion, Nacogdoches, and others of east Texas, and in Blanco, Llano, San Saba, Williamson, and other counties in central Texas. In Llano, especially, vast fields of the richest quality of hematite, limonite, and the magnetic ore, are found in ready accessibility. Analyses of some of these ores prove them to be the equal of any in the country. Brown hematite of fair quality is found in beds of considerable thickness in the sandstones and limestones along the upper Brazos and Big Wichita rivers. In Bastrop, Caldwell and Guadalupe counties there exist some ores, though too much mixed with sand for profitable mining. The Llano ore region is situated in the county of Llano, about ninety miles

northwest of Austin, the capital of the State, one hundred and eighty-five miles northwest from the Gulf of Mexico. The altitude is about one thousand five hundred and sixty feet above sea level, while the topographical features are mere irregularities of surface produced entirely by erosion. The valley of the Llano, however, is skirted by mountains which project one hundred to five hundred feet above the surface. The King Mountains bound it on the west and northwest, Riely and Packsaddle on the south and southeast, and the Babyhead Divide on the north and northeast. The Llano river is the main water course and drain of this system of mountains and valleys. The chain of hills runs about northwest and southeast, in a northwesterly direction from the Colorado river, the boundary of Burnet and Llano counties, up to the King Mountains in Mason county. The iron formations crop out prominently throughout the valley, mostly in quartzite belts. On the table lands and ridges mica, schist, ferruginous sandstones, black shale and tilted veins of slate are encountered at various places. These formations cover a large portion of the foot hills and ridges. Along this valley runs a fissure of iron ores. The lode or vein can be traced for a distance of twenty-six miles, running through granite and quartzite.



NATURAL BRIDGE, ROCKWALL CO., TEXAS.

The production of pig iron in the State for 1887 was about 4,000 tons, of which 1,000 tons were rolled into rails. Texas has all that is needed

to manufacture her own plows, stoves, axles, shovels, nails, cotton ties, chains, agricultural implements, rails, etc., just as good and more cheaply than they can be bought anywhere else and brought here.

A Chicago syndicate have recently purchased 30,000 acres of land at Jefferson, Texas. They will immediately erect a blast furnace, with a capacity of fifty tons per day and car wheel works of large proportions.

COAL.

While coal of fair enough character and quality has been discovered in various parts of the State, it has not yet been found in known sufficient quantity, depth of seam and purity to warrant heavy expenditure, though it is firmly believed by scientists that in Jack, Montague, Palo Pinto, Wise, Young, and other counties, deeper borings will certainly disclose most superior beds of fine bituminous coal, as those localities are in the direct line of the carboniferous range and formation.

The Wise county article, nine miles northwest from Decatur, as also the Palo Pinto, at Strawn, shows a percentage of carbon of forty-five to fifty, with thirty-five to forty per cent of volatile matter, impregnated with but little sulphur or slate. The Strawn mines have been successfully operated on a limited scale.

The Young county coal, at Fort Belknap, when first taken out is usually hard, compact and of a pitch-like luster, soiling the fingers but little, and breaking with a smooth, square fracture. It soon softens, however, and separates into thin laminæ, burning with a reddish flame, and much smoke, ashes and cinders.

The central area is located in the counties of Clay, Jack, Young, Stephens, Shackelford, Eastland, Callahan, Wise, Brown and Coleman.

The third, or mountainous area, lies along the Rio Grande, and between the river and the Pecos.

Near Laredo the seams vary from one and one-half to three feet in thickness. The bed is five and one-half feet thick.

Texas' production last year was 110,000 tons, valued at $200,000.

COPPER.

The ore of this metal is found almost pure in Archer county. In its geographical center on a prairie, it lies over a surface of several hundred feet, in a sort of pocket. It has never been exploited enough to ascertain the depth to which it goes, or the breadth of vein. The samples promis-

cuously picked up have given to the chemical tests the extraordinary yield of seventy-five to ninety per cent of pure copper.

PETROLEUM.

Recently wells flowing freely several hundred barrels of this mineral oil have been reported from Nacogdoches county. The article has been refined and produces a splendid lubricator. Near Sour Lake, in Hardin county, it abounds plentifully.

NATURAL GAS.

This has lately been found welling up in apparently limitless quantity in Palo Pinto county. This, however, is so uncertain a thing in all States and countries in the matter of constancy of supply that it remains yet to be determined on here.

Still, it is a matter worthy careful consideration. Within less than a decade it has grown from indifference with the public to an immense favorite where properly handled. Many years ago it was used to a limited extent in Liverpool for evaporating brine from salt manufacture, as also in other places for baking pottery, as in England; making lampblack in Ohio, glass-making in Rochester, etc. In 1883, however, it began to be utilized on a grander scale, being piped to Pittsburg, Pennsylvania, for manufacturing, culinary and illuminating purposes. In two cities alone of that State over 5,000 dwellings are now lighted by it, and many boilers heated, displacing there over 10,000 tons of coal daily. Its geological horizons are the same as petroleum, the wells in this country being nearly all in the valleys, and the fuel being stored in the pores of the rocks. Who knows but what Texas may be full of both elements of wealth and surpass Persia of old, whose people, it is said, as fire worshipers, supplied their altars with unceasing flame by this gas conveyed through pipes of bamboo?

BUILDING STONE, CLAYS, ETC.

GRANITE.

No more superior or handsomer granite than the Texas article can be found in Scotland, Massachusetts or New Hampshire. Though frequently seen here and there, Burnet county seems to have the call with its boundless masses. The red or pink variety, of which the State Capitol is built, is soft and beautiful to the eye, and susceptible of the highest polish. Its weight is 164 pounds to the cubic foot. It sustains, by actual test, a crushing strain of 12,000 pounds to the square inch. There is enough here to build many cities the size of New York or London. The advantages possessed are, first, that it contains comparatively no iron or other foreign matter which runs and discolors in most others imported when the dressed rock is exposed to the elements; second, being ready stripped by nature and lying in regular strata, it is far more easily quarried and cuts and polishes better than the Massachusetts product.

MARBLE.

This crystallized limestone crops out in several localities, but, as reported thus far, more conspicuously in Travis, Burnet and San Saba counties. The coralline, or shell variety, is the admiration of all beholders and makes the handsomest of mantles, monuments, trimmings, etc. The diversity of color, beauty and susceptibility of fine polish, together with the strength of the Burnet marble, make it without a superior in America. The United States test shows a strength of 14,782 pounds to the square inch. The mahogany colored, the Stellar, or blue crystalline, and the orange red are unequalled in fineness of grain and beauty of tint by any worked elsewhere in the United States.

SANDSTONES AND LIMESTONES.

Like the granite, these stones exist by miles and miles of acreage, the colors of the sandstone alternating from black to brown, yellow and gray. This has been more extensively quarried in Travis and Parker counties, though other counties show it considerably. Its texture and toughness

adapt it to large buildings, bridges, piers, roads, etc. The United States court house and postoffice and the Grand Windsor Hotel at Dallas are built with the Parker county stone.

From Dallas to San Antonio, and perhaps beyond both points, a ridge of limestone can be noticed, and it is being more and more appreciated and used. While much of it is clear, many of the layers are highly fossiliferous. Like the sandstone, it is durable and hardens by exposure and time, and this is true, even where when first quarried it may be cut with a knife.

CEMENT AND LIME.

The limestone, chiefly the blue, affords a hydraulic cement equal to the Rosendale and Louisville. Works are in operation in Austin and San Antonio, and the State Capitol contractors used it exclusively in the construction of that massive building. Lime works are being operated generally through the States, but the largest are located near Austin, not only supplying much of Texas, but shipping even to California.

KAOLIN.

Inexhaustible beds of this inestimable clay, in its purest and whitest condition, are found in all sections of the State. Robertson, Limestone, Edwards, Fayette, and counties in east Texas, vie with each other in claims for the best, free from iron and discoloration. It manufactures into the finest and toughest of porcelain. The near future will witness many factories engaged in this latter industry, until Texas outrivals even that high Parnassus of pottery, New Jersey.

FIRE CLAY, ETC.

Of equal omnipresence as kaolin are the fire clays. By careful experimentation the better grades are said to resist a heat of 2,000 degrees. In the coal measures it is often seen overlying the shales and sandstones, and immediately superincumbent. I have seen the best of quality in the coal tunnel at Bridgeport. Pottery clay is equally abundant, and much tiling and piping has been made at Kosse and elsewhere.

GYPSUM.

This mineral or clay—for scientists vary as to its classification—is a sulphate of lime, and appears to be all prevalent. I have seen it in all sections of Texas, but the gypsum field of northwest Texas, 300 miles

square, is reputed to be the largest on the globe, and must soon prove as a fertilizer and for other purposes of inappreciable value to this State and its neighbors. On Red river beds of snow white range from a few inches

WINTER PLOWING, NEAR TAYLOR, TEXAS.

to thirty feet in depth. Between the Big Wichita and the Brazos rivers there loom up hills composed entirely of gypsum, some of them being nearly 700 feet in height.

MANUFACTURING.

ACCORDING to the census of 1880, Texas had about $9,250,000 in manufacturing, yielding an annual product of about $20,000,000. This has now, without doubt, about doubled. With farm products to the aggregate value of $137,000,000 yearly, and a taxable wealth of $750,000,000, and with more of the raw materials at hand than any other State can boast of, this is not a good showing for the various manufacturing industries. Texas, with her unexcelled water powers and abundance of coal should manufacture her immense cotton crop, her billions of standing timber, her inexhaustible minerals, and her hundred other products. Her raw materials go out of the State and come back with a double value. Why cannot a part of this increased value be kept in Texas?

Considering the fact that through certain sections of Texas flow some of the finest mill streams in the world, which never freeze, and are fringed with fertile fields of cotton, and wheat, and sheep pastures, near to inexhaustible forests and mines, it is a little remarkable that the manufacturing industry has not long since taken stronger foothold. Vegetables and grass for man and beast are green the whole year round, food is cheap, clothing light, and fuel almost *nil*. Surely these are reasons why the factory should come to the sites of the raw material, especially of cotton, wool and beef, and so save the expenses of transportation, handling, hauling, insurance, shrinkages, etc., etc., between the bulky native product and the manufactured. The solution of what would seem to be mysterious lies perhaps in the fact that money is scarce and in heavy demand, at high rates and quick returns. To capital and skill no grander opportunities present themselves than along the water powers of Jasper, Newton and Tyler counties of east Texas, and Burnet, Comal, Hays, Llano, Travis, etc., of west Texas, for foundries and factories, for agricultural implement factories, paper mills, flour mills, cheese factories, tanneries, ice, carriage, soap and starch works, and a hundred others.

For instance, at Marble Falls alone, on the Colorado river, in Burnet county, as also at New Braunfels on the Comal river, there is water power enough to manufacture all the cotton and woolen goods that Texas is likely to need for the next century. At the former place one fall

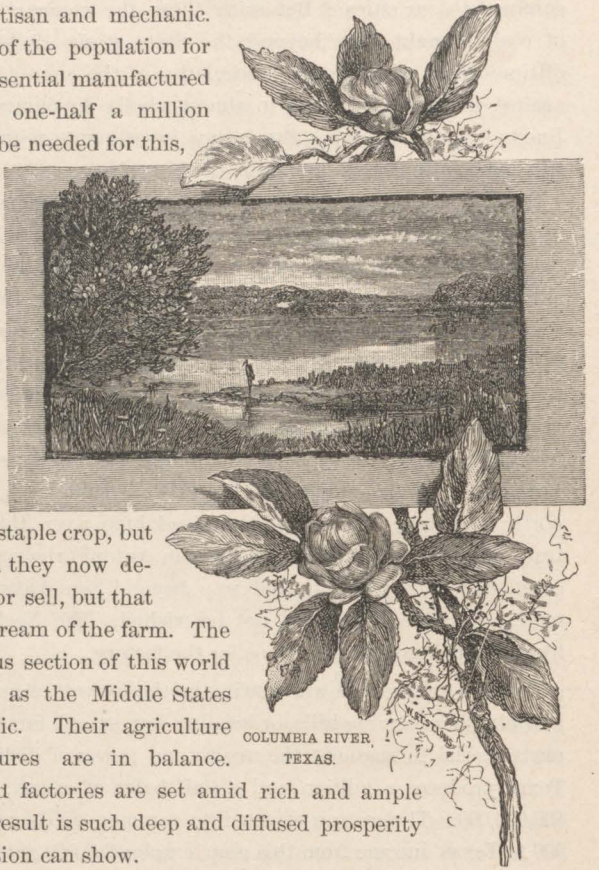
of twenty-five feet furnishes 16,000,000 horse power at an average stage of water, while fourteen other falls aggregate near about sixty feet, coming from a beautiful romantic lake three miles long, over immense adamant ledges that span the entire river.

Thus far are manufactories of the larger and smaller kinds principally confined to our cities. But with these the comparatively high price of coal, brought from beyond the State at six dollars per ton, and ofttimes more, added to the irregularity of the supply, has so operated against such enterprises as to almost wholly discourage ventures in this line to extents involving the heavy investments required to prosecute the business in the manner done in older places.

Indeed, almost anywhere on the perennial streams (omitting those of the alluvial and sluggish character), excellent localities for mill sites may be found. On the head waters of the Angelina, Neches, San Jacinto and Trinity rivers of east Texas, there are several. More centrally we come to the Colorado, which has a fall of nearly seven hundred feet from Austin to the Gulf; between these two points an indefinite number, that rival New England's boasts, may be had. At and about San Marcos, on the river of that name, for many miles, and at and about New Braunfels, there are scores of sites that might splendidly sustain dozens of Lowells the whole year through. From Seguin south to Gonzales, and north for a long distance up the Guadalupe river, the same remark is true. And so from Goliad on the San Antonio river all the way to the coast, fifty miles, and up and way beyond San Antonio to the north, more admirable sites could not be wished. The Neches and the Frio likewise offer superb attractions for the factory.

Texas is not profited when stripping the harvest of her cotton fields or stripping her teeming hills, or leveling her superb forests, she sends the raw material to augment the wealth and power of distant communities. Texas produces a million and a half bales of cotton, which yield her $60,000,000. That cotton woven into common goods would add $75,000,000 to Texas' income from this crop, employ 220,000 operators, who would draw and spend within her borders more than $3,000,000 in wages. Massachusetts manufactures 572,000 bales of cotton, for which she pays $31,000,000 and sells for $72,000,000, adding a value nearly equal to Texas' gross revenue from cotton, and yet Texas has a clean advantage for manufacturing this cotton of one cent a pound over Massachusetts, where her farmers and herdsmen draw from her cities $137,000,000 as the price of their

annual products. Shall this enormous wealth be scattered through distant shops and factories, leaving in the hands of Texas no more than the husbandman's support and the narrow brokerage between buyer and seller? A single source of commercial exchange cannot support a city. Texas wants immigration. How can it best be attracted? By furnishing work for the artisan and mechanic. If the demand of the population for cheaper and essential manufactured articles is met, one-half a million workers would be needed for this, and, with their families, would double the population of the State. In these mechanics and their dependents farmers would find a near and growing market, for not only their staple crop, but for truck which they now despise to raise or sell, but that is at least the cream of the farm. The most prosperous section of this world is that known as the Middle States of this republic. Their agriculture and manufactures are in balance. Their shops and factories are set amid rich and ample acres, and the result is such deep and diffused prosperity as no other section can show.



COLUMBIA RIVER, TEXAS.

The idea is abroad in the land that Texas is almost exclusively a pastoral and agricultural State. While there are considerably more than twice as many acres of arable land in Texas than in any other State of the Union, and five or six times more cattle than in any other State, still Texas is by no means an exclusively agricultural and stock-growing country. The mineral resources of the State are highly important and

just now there seems to be a general movement in favor of developing them.

It has been known for some time that the great Pan Handle region is rich in gold and silver-bearing quartz; and the entire eastern tier of counties have unlimited deposits of iron. The development of the iron industry in Alabama opened the eyes of Texans to the great possibilities that confronted them; and, from present appearances, the blast furnace will not be a stranger in eastern Texas in a few years. The counties of Marion, Garrison, Cass, Upshur, Gregg, Rusk and Cherokee are especially rich in iron. In many places the ore crops out at the grass roots and extends in solid bodies for 60 or 70 feet into the earth. In Rusk county there has been a good deal of successful development, and in Marion a little foundry has been at work for a couple of years past.

The dawn of a brighter era seems to be breaking for Texas. At Jefferson, in the heart of the eastern iron region, a Chicago syndicate have recently purchased a tract of 30,000 acres of iron lands and propose at once to erect a valuable plant for iron manufacturing. This tract is said to be superior to anything in the Birmingham, Alabama, district, and was obtained for about $4 per acre. The first furnace they will erect will have a capacity of fifty tons daily. Two smelters are running at full capacity, near El Paso, all the year round. This is another promising field for the iron industry. It is the center of vast iron deposits as rich as the older fields of Pennsylvania and Alabama. Coal is also found here in inexhaustible quantities, which will make the industry so auspiciously begun a glorious success.

San Antonio is fast coming into prominence as a manufacturing center. At Dallas the spindles of a large cotton and woolen mill were recently started. Money was put into this enterprise by all classes of Dallas' citizens, from the capitalist and professional man to the servant girl. Texas is becoming alive to the situation, and the next ten or twenty years will witness a revolution in her manufacturing interests.

EDUCATION

WE have given a review of the advantages which Texas offers to those from all parts of the world who desire to improve their material interests. But there is something of higher importance than any of these yet to be considered. The desire to accumulate wealth for its own sake is the motive of a sordid and depraved nature. If no satisfaction is looked for beyond that, then indeed all is vanity. The man with a family will inquire, What are its educational advantages? What are the social conditions and status? What facilities will I have for improving myself and family otherwise than financially?

The most wonderful of the wonders of Texas which should be brought to the attention of the farmer, mechanic, stockman, merchant, laborer or professional man, is the amount of available funds for school purposes, and the admirable use to which they are put in providing school buildings, teachers and other facilities for the free education of the coming men and women of Texas. This is the record:

$5,873,174 as a permanent free school fund, invested in State and county bonds.

40,000,000 acres of school land, valued at $3 per acre, controlled by the State.

17,712 acres to each county, controlled by the counties, valued at $3 per acre.

The available school fund is:

Interest on above fund invested in bonds.

Interest on land notes of lands sold.

Rentals from lands leased.

One-third of whole State tax.

One dollar on each poll.

It will at once be surmised that, from the rapid sale of lands now going on in Texas, this fund is rapidly increasing.

Ultimately, on the sale of all school lands, at the average price of $3 per acre, the permanent school fund of the State of Texas will be $147,739,202.

The total sum expended for educational purpose for 1888 will be about **$2,300,000.**

Texas is not content merely with giving her children a common school education, but she carries the work to completion, believing the better and more complete the education the better and more valuable the citizen, and the greater the benefits accruing to the State. With this end in view, a State university has been built at Austin, having a total university fund, invested in bonds, of $555,916. Besides this, it has 2,221,400 acres of land, which, being located at an early date, are now among the most valuable unoccupied lands in the State. At an average of $6 per acre, this would be worth $13,328,400, making a grand total of $13,884,316, as a permanent university endowment fund. It is proposed to go right on improving the university and adding to the buildings now erected as fast as the funds become available and the requirements of increased attendance require, until it is placed on a footing where it can offer advantages equal to those of Yale, Harvard, Ann Arbor, Princeton, etc. The accruing funds will enable the trustees to more than accomplish this object, as it will ultimately have the richest endowment of any university in this country. It is open to both sexes and the tuition is free.

The State Agricultural and Mechanical College, located near the city of Bryan, Brazos county, is endowed with $209,000, invested in bonds, also a large endowment from the United States Government. Ninety-four students, one-half of whom take a mechanical and one-half an agricultural course, receive free board and tuition. The cost of board and tuition for other students is $130 for the scholastic year. The Sam Houston Normal School, for the education of white teachers, and the Prairie View Normal School, for the education of colored teachers, are supported by the State, and 155 white and 45 colored students receive tuition and board free, in proportion to white and colored population.

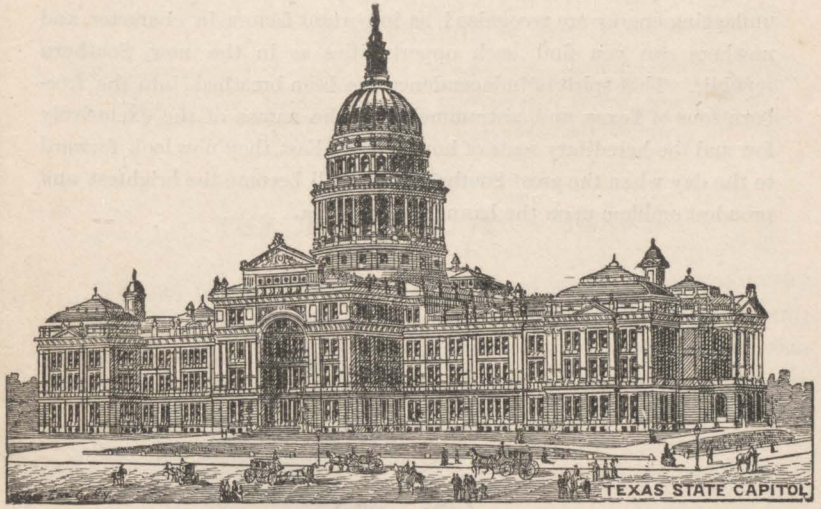
The public schools, as conducted in the cities and towns of Texas, are equal in grade and thoroughness of work to those of New England, and the country schools, except in the sparsely populated localities, are as good as those of any other State.

SOCIETY

TO one acquainted with Texas, it seems unnecessary to write anything about the condition of society within its borders, and we freely offer the only apology there is for such an act, *i. e.*, on account of the erroneous opinion prevalent in those parts of the country remote from Texas and Texans. It is the most difficult matter for persons dwelling in the East, and who have never been outside the borders of their native State, to comprehend the growth of the Western country. When they studied geography the territory west and south of the Missouri was marked desert, and of course it must be a desert still. It was then inhabited by Indians and outlaws. There has been a change, no doubt, but only in the relative numbers of the two classes, there being now fewer Indians and more desperadoes. Everybody cannot come and see for themselves, of course, and, as we desire to set the progressive people of the Southwest, and especially of Texas, aright before the country, we must reach them by writing and try and convince them that every Texan is not a mounted arsenal, that there are other inhabitants in the State besides cowboys and greasers, and that other callings and pursuits are engaged in besides herding cattle, raising sheep and shooting at sight. We would like to have it known that there are wealthy farmers who have acquired splendid estates raising grain and cotton, are educating their children in good schools, and laying the foundations of the most progressive and powerful commonwealth in the Union, and planting them deeply and firmly in the soil. There are merchants who have acquired fortunes in trade in cosmopolitan cities within the borders of the State, and have around them all the things that contribute to comfort, elegance and culture. There are professional men whose names are not confined to the State of Texas, large as it is. She furnishes more than her share of prominent statesmen whose eloquence resounds in the halls of Congress, and whose measures of statesmanship echo around the world. She has artisans and laborers who are more than well paid for their labor and are able to educate their children and live among the comforts of life. She has churches and schools and teachers *ad libitum*,

and successful and law-abiding men carrying on all branches of industry and business.

Texas is filling up with intelligent and enlightened people from every state and clime. They are your more progressive neighbors everywhere, and it is not fair to suppose that the climate of Texas is going to transform them into desperadoes, when, the truth of the matter is, they are transforming Texas into a populous and wealthy State. Society is well organized all over the State, and presents every characteristic of refinement and culture.



AUSTIN, TEXAS.

Composed of and directed by an aggregation of people, at an earlier and later period, from the best circles of distant society, the influences have always been toward elevation, and, as a result, there is to-day a well governed community upon the highest planes of moral worth, intelligence, hospitality and refinement. The factors composing society—religious influences associated in church organizations with their handsome and substantial edifices—civil government evidenced by the choice of able guardians conscientiously performing their duties—commercial usage characterized by the highest degree of integrity throughout its various channels—educational provision shown by the interest taken by private individuals, the city, county and State, in organizing school communities,

supplying competent educators and providing good school buildings—home society adorned and honored by men and women of superlative worth and character, combine to stamp Texas as lacking nothing to place her society in the front rank of the country.

The tailor and powerful mantuamaker are here; the addenda of a rushing civilization, with all the arts and graces with which love and beauty delight the eye, are here, and, with unfailing index, point the way where the cultured tread and fashion holds her court. The apparel oft proclaims the man, is true here as elsewhere; it is true now as when the sublime jurist poet tuned his immortal harp; notwithstanding brain and unflagging energy are recognized as important factors in character, and nowhere can you find such opportunities as in the new Southern republic. That spirit of independence has been breathed into the free-born sons of Texas, and, untrammeled by the names of the exclusively few and the hereditary seats of honor in the East, they now look forward to the day when the great Southern Star shall become the brightest and proudest emblem upon the banners of America.

Texas as a Resort

THE CLIMATE OF SOUTHWESTERN TEXAS, AND ITS ADVANTAGES AS A WINTER HEALTH RESORT.

READ BEFORE THE AMERICAN CLIMATOLOGICAL SOCIETY, 1888,

BY

M. K. TAYLOR, M. D.,

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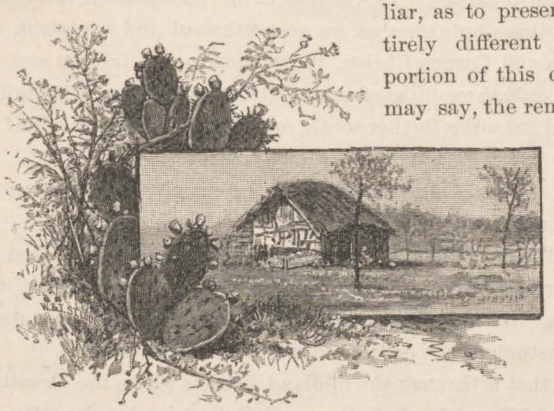
THE CLIMATOLOGY OF TEXAS.

It is not possible, in the brief time allowed here, to do justice to the climate of Texas as a health resort. Its physical relations to the continent and the great seas, and its climatic features are so various and peculiar, as to present conditions entirely different from any other portion of this country; and, we may say, the remarks may be extended to any portion of the civilized world.



MEXICAN JACAL.

A brief description of the magnitude of the State and its topography, will give a better understanding of our subject. A glance at the map will show that it is situated in the axis of the continent, midway between the Atlantic and Pacific Oceans, and that it borders on the great Gulf, which is a sea of itself.

The water-shed is to the southeast, and it takes its winds from the oceans three-fourths of the year, and for the other fourth from the Arctic regions.

The eastern portion is heavily timbered, and there is some timber along the coast, but as a rule, excepting the river bottom lands, it is not heavy. In the central portions there are sparsely timbered districts of post oak, and in the southwestern district and on table lands east of the Chinati and Guadaloupe Mountains, the mesquite constitutes the principal timber growth, though there are some live oak and post oak groves, suitable for fuel, on the high lands, and excellent pecan and cottonwood forests along the streams. With the exception of its eastern portion, it is in no sense a timbered country. Most of the mesquite has grown up in the past 30 years, since, in fact, the country has been reclaimed from the native Indians, and the annual burning of the prairies stopped. With the growth of the mesquite, there appears to have been a decided increase in the annual rainfall of the central portions of the State. The observations at the Blind Asylum, at Austin, for a series of years, indicate that this increase has been from about 29.5 inches to 35.75; a sufficient amount for all agricultural purposes. In the southwest, along the Rio Grande valley, the precipitation is from 20 to 25 inches, while at El Paso it is 13 inches, subject, however, to great variations; in some years the rainfall has been less than 5 inches. At Galveston the precipitation averages 52.3 inches, but this diminishes as we go southward and westward, so that at Indianola and Corpus Christi, it amounts to 38.7 inches, and at Fort Brown it is only three-fifths of that of Galveston, although 175 miles further west, and 350 miles further south, or within a degree and a half of the tropic.

The extremes of rainfall for the State may be stated for Galveston at near 60 inches, or about five feet, and at El Paso, $4\frac{3}{4}$ inches.

The effects of these differences in precipitation are seen exemplified in the abundant forests of the eastern portions of the State, and the absolute barrenness at El Paso, where only by irrigation does any vegetation grow, save a few stunted cacti on the hill sides and barren mesa.

Intermediate, that is through the midland districts where the elevation does not exceed 1,000 or 1,500 feet, the precipitation is abundant for all agricultural purposes, and the whole country is fruitful and prosperous.

Along the valley of the Rio Grande, the country is adapted to grazing chiefly. In some of the valleys where irrigation has been instituted, good

crops are obtained, and with certain kinds, like garden vegetables and the grasses, two and three harvests are obtained during the year. In other words, the cultivation is continuous.

As may be expected, the difference in precipitation indicates in a measure the difference in the degree of saturation of the atmosphere, or relative humidity, but there are several important exceptions, as the following table will show.

RIVER VIEW, SAN ANTONIO, TEXAS.

TABLE SHOWING THE RELATIVE HUMIDITY AT SOME OF THE MORE IMPORTANT STATIONS.

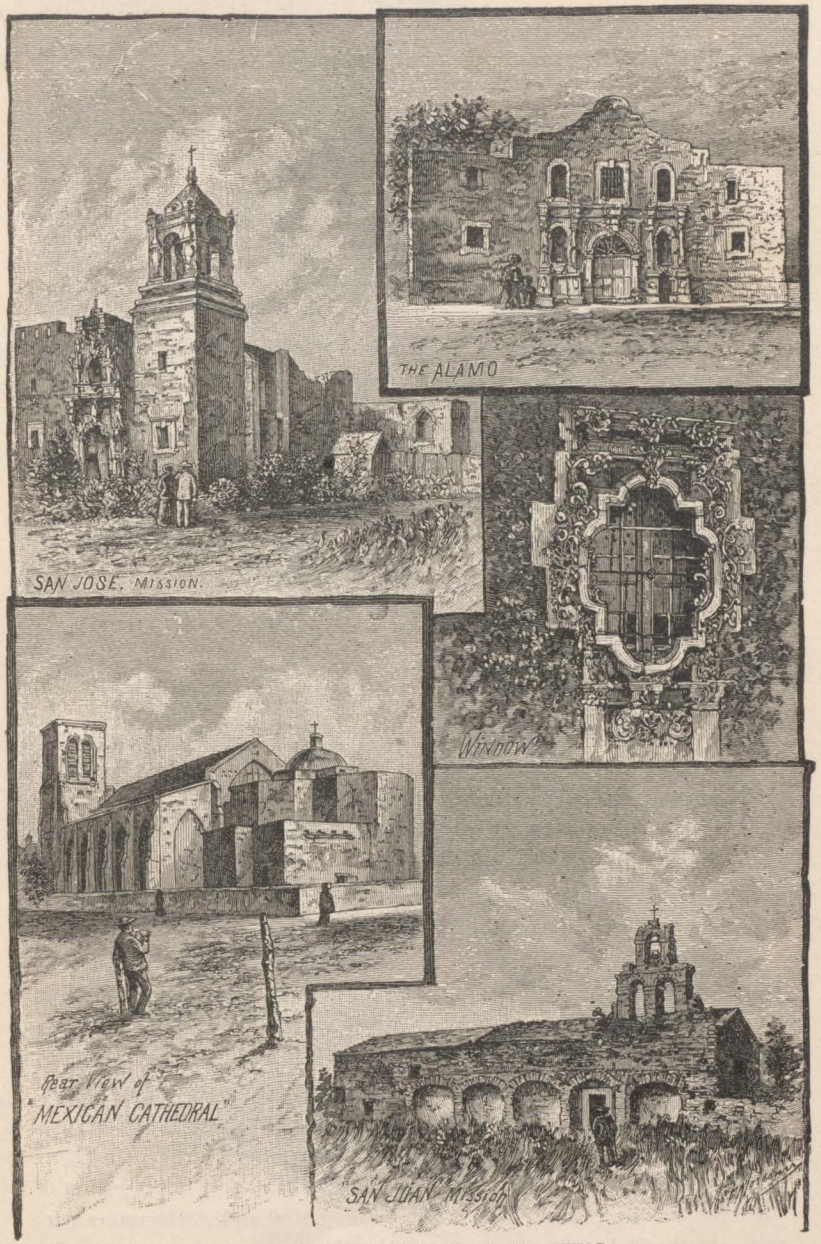
Place.	*Annual Precipitation.*	*Relative Humidity or per cent of Saturation.*
Fort Brown	33.01 inches.	80
Indianola	38.72 "	79
Galveston	52.30 "	77
Palestine	47.56 "	71
Denison	41.44 "	68
Clarksville	39.85 "	70
San Antonio	32.31 "	68
Fort Concho	30.99 "	66
Fort Clark	29.12 "	64
Fort Griffin	24.57 "	59
Fort McKavette	23.58 "	62
Fort Ringgold	22.52 "	68
Fort Davis	20.38 "	55
Fort Stockton	20.09 "	61
El Paso	13.14 "	48

It will also be observed that commencing at Galveston, and going northwestward and southwestward, there is a gradually decreasing precipitation, until we reach El Paso in the north, which has one of the dryest atmospheres in the Union; Fort Yuma and Fort Grant, Arizona, Winnemuca, Nevada, and Salt Lake City, having a small per cent less.

But it will be further noticed, that away from the coast the air is relatively dry, notwithstanding there is a medium rainfall all through the central portions of the State, so that in so far as the human constitution is likely to be affected in the transportation and evaporation of the excretory fluids, there are all the physical conditions present to facilitate these processes to any extent necessary to promote healthy action. The reason for this is that when it rains the precipitation is abundant and of short duration, as a rule, after which the usual moderately dry winds prevail and clear the atmosphere. But more than this, the condition of the atmosphere is such in the western portions, that many substances which in more humid regions readily undergo putrefactive decomposition, become desiccated—innocuous; and it is quite certain that in our surgical experiences, many operative measures are more successful here because of this dryness, than they appear to be in other localities where the humidity is greater. We know very well that a damp and warm atmosphere promotes zymotic action, and that all forms of contagious elements, and cryptogamic life are abundantly more active in these conditions than when the atmosphere is relatively dry.

The coast is humid as is always the case near the sea, but in this it has as favorable conditions as San Diego or the coast cities of Florida. Parkes says that the degree of saturation most agreeable to the majority of persons, is found to be between 70 and 80 per cent, and it is rare, indeed, except during storms, that the saturation on the Gulf coast exceeds 80.

Away from the Gulf, however, at the distance of one or two hundred miles, the air loses its relative high saturation, and becomes moderately dry without any precipitation taking place intermediately. It is a singular fact, that at San Antonio the winds are the trades from the Gulf, coming, however, from the south and southeast, and one would naturally expect them to be laden with moisture, inasmuch as there are no intervening elevations to cause a precipitation between the coast and the city, yet the atmosphere is saturated only to the extent of 68 per cent, while at Indianola, the point from which the winds come directly, it is 79. The difference in temperature does not explain the difference in satura-



JESUIT ARCHITECTURE, SAN ANTONIO, TEXAS.

tion. Most of the winds in the northwestern part of the State, excepting in the region of El Paso, come from the direction of the Gulf coast, but we see how little rain is annually precipitated, and what a low degree of saturation prevails at Forts Stockton and Davis, though there have been no extraordinary precipitations between.

I enter upon the subject of the temperature of that State, with a feeling of diffidence.

The climate of central, and more especially southwestern Texas, away from the Gulf coast and valley of the Rio Grande, is a delightful climate. Three-fourths of the year it is unsurpassed by any country in all that contributes to the health, comfort or pleasure of its inhabitants, and only because of the length of its summers can it be considered objectionable, in any sense.

The extreme temperatures are not as high here as in the Northwest, or in the interior regions, away from the seaboard and the Great Lakes. At Omaha the past season, the temperature ranged from 104° to 108° F., with extremely hot nights, while at San Antonio, at the same time, the thermometer recorded 94°, and the nights were cool enough to require light coverings.

No less mistakes are made in respect to its winter season. The popular notion is to the effect that the Texas northers are something terrible; that they come down unheralded, and freeze people to the very marrow of their bones, as stiff as an icicle; and it cannot be truthfully denied that they are a little cool sometimes.

The northers are not of Texas origin; are not unheralded; they always give due notice of their approach; they are not a curse, but on the contrary, one of the greatest blessings that Providence, in all its bounties, can bestow on any land.

They are moderately cool, dry, stimulating, highly electrical and healthful. They are but the thinning out of the cold waves or blizzards of the North, which come down overwhelmingly on the Northwestern States with such disastrous results, and they hold to their northern cognomen until the northwestern boundary of Texas is reached, when they have their names changed. Fortunately for the people of the State, they have their temperatures changed at the same time, and their fierceness subdued. The temperature rarely goes to zero, only in the region of El Paso and the Staked Plains, while in the central and southwestern portions of the State, it is rare, indeed, that the thermometer records a fall

VIEWS OF SAN ANTONIO, TEXAS.

below 20°, or 12° below freezing, a temperature which in the North is considered as very moderate and healthful. But between the blizzard of the North, and the norther of the South, there is a great difference as to their ultimate ending. In the North they are generally followed by days and weeks of extremely low ranges, while in Texas, if the cool spell lasts more than three or four days, or at most, a week, it is considered remarkable.

A recent writer, in one of the leading great works on medicine, says of the climate of southwestern Texas, "that it is one of extremes, and should be avoided except in special cases." It is evident that he had never spent a winter there, and was very ignorant of its charming winter seasons.

This, indeed, must be true, otherwise in mentioning prominent health resorts in this country, he would not have ignored utterly, San Antonio, one of the most deserving and popular in the United States. To indicate how groundless are such statements, we have but to mention the fact that the Signal Service Reports show that for a series of years the average number of days during any portion of which the thermometer goes below the freezing point at San Antonio, is 14; or in other words, that we have freezing nights about two weeks only during the three winter months. As a rule, we have no frost before the middle of November, and no cold winter weather, worthy of being so called, until about the first of January. One year with another roses are in bloom until Christmas; the rose-bushes and honey-suckles hold their green leaves until spring, and more frequently bloom every month of the season, unprotected, in the open air, while the huisache commences to bloom in February, and thereafter spring opens. Is such a climate as this to be classed as extremes?

Much has been said about the relation of the daily range of temperature to the dew-point. A daily range in dry, warm climates of 25°, is very agreeable. The difference between the mean dew-point and the temperature of El Paso is 23.8°; at Fort Davis, 17.5°; Fort Stockton, 12.2°; San Antonio, 10.7°; Fort Concho, 9.8°; Fort Ringgold, 9.6°; Galveston, 7.3°; Indianola and Corpus Christi, 6.1°, and at Fort Brown, 4.5°. These comparisons are made from observations taken at 11 P. M.

This table has reference solely to the night observation, at 11 o'clock, Washington time, and its value consists in showing the relative dryness of the evening air. For the three winter months at San Antonio, the difference between the mean minimum temperature and the dew-point, is 13.2°, a condition certainly quite dry enough to meet the ideas of any

reasonably exacting dry air advocate, and it indicates that in nine-tenths of this season of the year, feeble persons may go about with few or no wrappings at that hour. There is rarely that sense of dampness which is common to high altitudes near the cloud line or on the sea-coast.

The winds play an important part in making an estimate of the adaptability of the climate of any resort to the needs of invalids. They contribute to the comfort or discomfort of this class of people, according to their velocity and the direction from whence they come in the different seasons of the year. A harsh wind in the winter is unbearable to the sick, but a tolerable stiff breeze in the summer season, is a delight to most people.

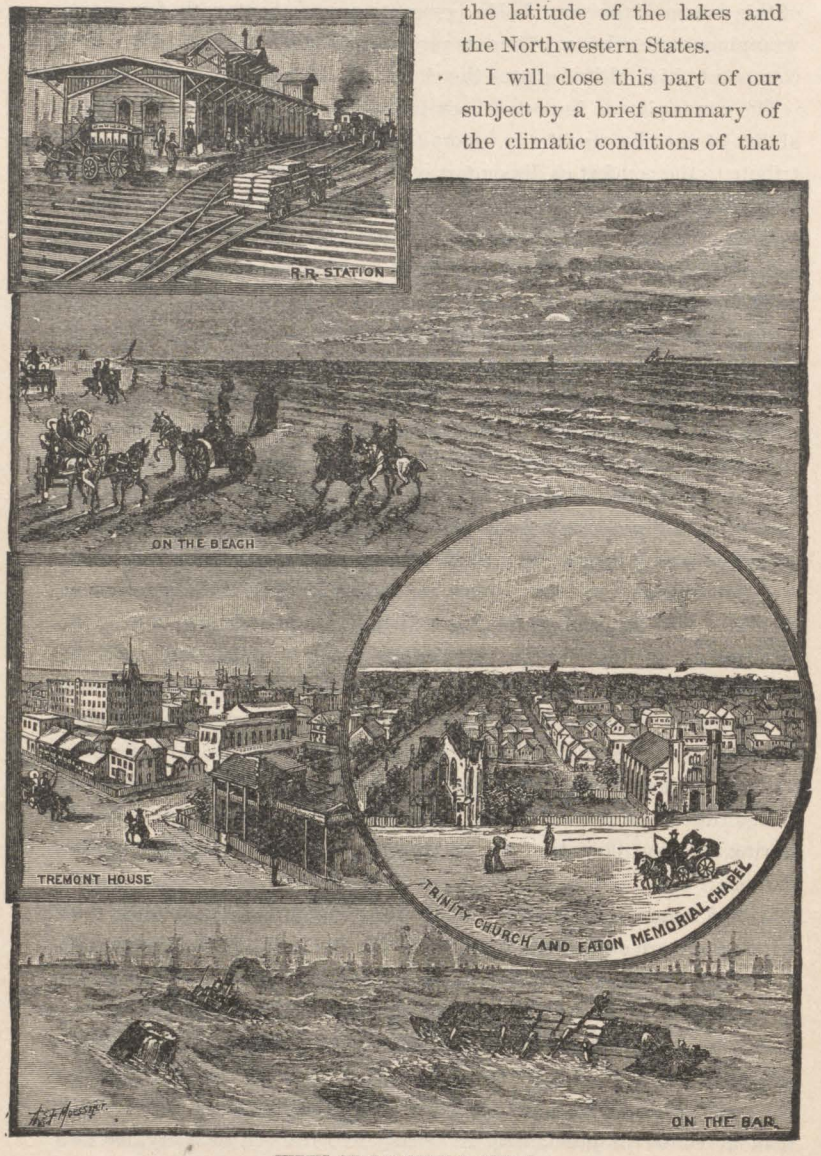
Now, there is a somewhat singular phase of this subject, presented by the atmospheric movements in Texas. At Indianola and Corpus Christi, on the northwest coast of the Gulf, the velocity of the wind for the year averages 12.9 miles per hour; at San Antonio, 100 miles northwest, 4.5 miles; at Fort Stockton, 250 miles further northwest, it is 9.6, while at El Paso, 300 miles still farther, the velocity is the same as at San Antonio, but with this difference in the direction, that the winds from the former place are mainly from the south and southeast, while at the latter they are from the north or northwest. At San Antonio the currents come from the southeast and northwest in about an equal degree, during the winter season. In order, perhaps, to get a better understanding of the wind movements, it will be well to give the velocities of other localities.

The rate at Indianola is excessive, there being but eight signal stations where the average annual velocities exceed that rate; *i. e.*, 12.9 miles. These are Pike's Peak, Mount Washington, Cape Mendocino and some of the stormy capes of the Atlantic, but as they come from the Gulf, except during the short periods of the northers, they are not cold, though quite damp.

At San Antonio, the velocity, as has been stated, is only 4.9 miles, than which there are only eight stations having less. When compared with Jacksonville, where the average is 6.6, and at Denver, 6.4, and San Diego, 6.0, we see that the winds at San Antonio are of the gentlest character, and excepting storms, only such as all persons and places need for comfort and health. As for the prevalence of storms, they are less in number and intensity by far, than is witnessed in the Northern States; and it may be stated in proof, that in twenty-five years in that city, but two storms have occurred of a character to do any damage worth mentioning.

Lightning and thunder are not a moiety of what is yearly witnessed in the latitude of the lakes and the Northwestern States.

I will close this part of our subject by a brief summary of the climatic conditions of that



VIEWS OF GALVESTON, TEXAS.

southwestern country. One extreme is seen at El Paso, where the elevation above the sea is 3,950 feet, and where the temperature is subject to great daily and yearly variations, an exceedingly dry air, a nearly cloudless sky, and where the northers strike with considerable force. Out of the sun's direct rays in the summer, the climate is tolerably cool and delightful, while during the winter, excepting during the prevalence of the northers and sand storms, the climate, owing to the thermancy of its atmosphere, is genial, and one could hardly find a more agreeable and bracing air in the daytime; but the nights are so cool as to require considerable outer covering, if one would be out of doors. The mean maximum temperature for January is 57°, and the minimum, 30 and the relative humidity 48, or 1 per cent. less than Denver.

The Gulf coast is the opposite of El Paso, and bears a close relation to the coast stations in Florida and Southern California. The climate is essentially humid, more windy but not harsh, and with temperatures of 70° at Indianola, and 78° at Galveston, and a saturation at the former of 79 and at the latter of 77 per cent., and an average cloudiness of 42 per cent. San Antonio holds a medium portion in all these climatic elements; the mean maximum temperature for January is 62°, and its minimum 42°, with a yearly relative humidity of 71 per cent, or about the lowest degree stated by Parkes as most conducive to health. Its cloudiness averages 46 per cent; its altitude is 700 feet, the surrounding country rolling, well drained, and healthful.

The number of clear and fair days at El Paso averages 330, on the coast 275, and at San Antonio 287.

As a health resort, the southwestern portion of the State is the most noted, and of this San Antonio is the principal city and the only place away from the Rio Grande and Gulf stations where systematic meteorological observations have been kept up for a series of years. Stations were maintained for short periods at Boerne, 30 miles northwest, and at Castroville, 35 miles west of San Antonio, but they have been abandoned for some years, so that for the present, the observations at San Antonio are the only reliable data available away from the Rio Grande. Its central position is such however, and the general features of the surrounding country so nearly in common in respect to soil, drainage, rainfall, winds and temperature, that the statistics of its climate are fairly expressive of a large area of territory.

It may be proper here to say a few words in regard to the nights, and in doing so I feel quite safe in stating that it will be difficult to find another place on the continent where the hours of sleep and repose can be enjoyed the year through in a greater degree than in this section. The cool, dry breezes enable one to sleep in the draught without risk, as nearly everybody does; and the evenings, with their clear skies after sundown, and the cool morning winds up to 9 or 10 o'clock, are something that persons must see and feel for themselves to thoroughly appreciate. Not a night for the past summer has there been in the city that sultry condition so oppressive to everyone during the warm season in the North. The fresh morning air, at a temperature of from 68° to 75° is a delight.

And the question now arises, What are the practical benefits to be derived from the climate of southwestern Texas? The answer is, there are many. Chronic catarrhal affections, except, perhaps, the nasal region, which is occasionally seemingly irritated by the dryness, and the earlier stages of tuberculosis are almost invariably benefitted if the patients remain long enough for the climate to do any good; chronic rheumatism and disease of the kidneys, both of which require a long time to effect a permanent benefit, and some nervous affections in which out-door exercise is an essential feature in the treatment; these we say may go to San Antonio and the southwest country with the assurance that their ailments will be alleviated or cured by a prolonged residence. In making recommendations for a change of climate, however, it is not necessary to draw the fine lines of diagnosis which some authorities recommend. We have no mathematical rule for measuring disease, nor have scientific methods become so exact as to specify the particular origin in a given cure.

It is folly, however, to have patients go to that country expecting a radical cure by a stay of a few weeks. Radical changes are effected slowly in these lingering cases. They exemplify the truthfulness of the eminent Trouseau's remark, that "chronic cases of disease require chronic treatment."

On the other hand, if they go there for the purpose of avoiding a rigorous and dangerous season at home, hoping to find enjoyment and recreation for the time being, and with the purpose of returning northward with the approach of the milder seasons there, then everybody may go and be benefitted. Nor would I exclude those in the second stage of

consumption. They are frequently improved greatly by a winter residence in that country, but it is useless to send those in the third stage, with the expectation of ultimate recovery, other than in the exceptional cases of what may be called acquired tuberculosis, and when the tubercular infiltration has not invaded the whole pulmonary structures. As a pleasure resort simply, and where one desires to engage in out-door sports, San Antonio holds a central position, and one which enables visitors to reach the Gulf within a few hours ride by rail, where the fishing and water-fowl hunting can be enjoyed to the heart's content, or if bolder and larger game be the object, the mountains, 30 and 40 miles away to the northwest, also within easy access by rail, afford every opportunity for that kind of enjoyment. Ladies will find every facility for out-door exercise, on horse-back or in driving, that they can wish for the largest gratification of their desires, while young children can be taken into the open air four-fifths of the winter season.

The opinions which have been presented are the result of a pretty large experience in the various sections of the United States.

Born, raised and educated in the North, and with professional and personal experience on the ocean and Gulf seaboards, and some experience in climbing the Colorado mountains, I think that I speak advisedly when I say, of them all I prefer that southwestern country where the most comfort can be had for the least trouble and expense. The social relations are excellent, business is thriving, and for those who wish to take their families with them and have their children continue to pursue their studies, the schools of San Antonio afford excellent advantages. For delicate children who require the invigorating influences of moderately cool weather and active out-door life, that climate is all one could wish during the winter season, while the spring, with its multitude of flowers, its fragrant breezes, its genial sunlight, and its evenings, with their soft, sweet repose, give one a better idea of an earthly paradise than any place we have ever seen, or hope to see in this broad land.

(Signed) M. K. TAYLOR, M. D.

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