LOUISIANA


The
Co.

A R K A N S A S
Pittsburg
Jefferson
Gilmer
Big Sandy
Marshall
Longview
Overton
Carthage
Timpson
Center
Nacogdoches
San Augustine
Lufkin
Corrigan
Colmesneil
Jasper
Campwood
Warren
Call Jc.
Kountze
Buna
Silsbee Jc.
Beaumont
Orange
Galveston
T E X A S
Neches River
Sabine River
Caddo Lake
Shreveport
Greenwood
Keithville
Bossier
Benton
Minden
Sibley
Homer
Claiborne
Lincoln
Ruston
Monroe
Ouachita
Union
Bernice
Farmerville
Morehouse
Bastrop
Mer Rouge
Richland
Delhi
Rayville
Bienville
Jackson
Vernon
Winnfield
Winn
Caldwell
Columbia
Franklin
Winnsboro
Gilbert
De Soto
Mansfield
Logansport
Benson
Red River
Coushatta
Natchitoches
Robeline
Sabine
Many
Zwolle
Ft. Jesup
Provencal
Kisatchie
Grant
Colfax
Pollock
Catahoula
Harrisonburg
Jonesville
Rhinehart
Rochelle
Boyce
Alexandria
Pineville Jc.
Rapides
Cheneyville
Avoyelles
Marksville
Bunkie
Cottonport
Orange
Leesville
Trout
Vernon
Pickering
Neame
Slabtown
DeRidder
Bon Ami
Sugartown
Redbuck
Calcasieu
De Quincy
Ruliff
Sulphur
Lake Charles
West Lake
Welsh
Jennings
Mermenton
Lake Arthur
Cameron
Calcasieu Lake
Lake Sabine
Grand Lake
Grand Chenier
Sabine Pass
Calcasieu Pass
St. Landry
Washington
Opelousas
Eunice
Acadia
Rayne
Crowley
Lafayette
St. Martin
Gueydan
Abbeville
Vermilion
White Lake
Avery Island
New Iberia
Jeanerette
Weeks
Vermilion Bay
Marsh I.
Southwest Pass
Atchafalaya Bay
Tensas
Vidalia
Ferriday
Concordia
Pointe Coupee
West Feliciana
Bayou Sara
New Roads
Iberville
Plaquemine
Franklin
St. Mary
Baldwin
Cypremort
G U L F O
Longitude
BORMAY & CO. N. Y.


LOUISIANA.
Scale of Miles.
0 5 15 27 35 45 53 75
Capitals: ⊛ County Seats: ⊙ Other places: •
Railroads: —— Canals: ---
Cities with over 200,000: New Orleans
Cities with 15,000 to 40,000: Shreveport
Cities with 5,000 to 15,000: Baton Rouge
Towns with 1,000 to 5,000: Leesville
Villages with 500 to 1,000: Delhi
Villages with less than 500: Bienville
91° 90° 89° 88°
33 32 31 30 29
Rolling Fork
Yazoo City
Lake Providence
Vicksburg
Jackson
Crystal Springs
Port Gibson
Hazlehurst
Mendenhall
Saratoga
Laurel
Fayette
Brookhaven
Wesson
Meadville
Summit
Mc Comb
Hattiesburg
Liberty
Magnolia
Pearl
Kentwood
Clinton
Greensburg
Jackley
WASHINGTON
Franklinton
Poplarville
Perkinston
Mobile
Roseland
Amite
TANGIPAHOA
Natalbany
Mc Coy
Howison
Bay St. Louis
Gulfport
Biloxi
Ocean Springs
Pascagoula
Mobile Bay
Hammond
ST. TAMMANY
Covington
Baton Rouge
Ponchatoula
Mandeville
Slidell
MISSISSIPPI SOUND
Lake Pontchartrain
New Orleans
Carrollton
Rigolets
Lake Borgne
Chalmette
St. Bernard
CHANDELEUR ISLANDS
Chandeleur Sound
Thibodaux
St. Gretna
Raceland
LAFOURCHE
Lockport
Houma
TERREBONNE
Bretton Island Sound
Quarantine
Terre Bonne Bay
West Bay
Pass Island Bay
F M E X I C O
from Greenwich

SUPPLEMENTARY VOLUME

LOUISIANA

BY

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LOUISIANA

Location and Relative Position

The state of Louisiana lies between 29° and 33° north latitude, and 89° and 94° 4′ west longitude, measured from the prime meridian of Greenwich, England. A line drawn along the western border of the state would be 225 miles long. A straight line drawn across the state on its southern border would be about 325 miles long, while the width on the northern border from the Mississippi river to the Texas line is only 160 miles. The longest straight line that could be drawn in Louisiana would lie between the mouth of the Mississippi river and the northwestern corner of the state. Describe the general shape of the state.

The United States is divided into three great districts; namely, the Atlantic slope which is east of the Appalachian Mountains; the Pacific slope lying west of the Rocky Mountain divide; and the great basin of the Mississippi. This immense basin contains two-thirds of the area of the United States. Likewise, from the standpoint of foreign trade, there are three centres; namely, New York, San Francisco, and New Orleans. Thus nature has made tributary to Louisiana the most fertile valley in the world united by a great river and its tributaries. What are they?

PRACTICAL STUDIES

1. With a scale compare Louisiana with other states, noting shape, length, width, and area.

2. Using old maps (railroad maps may be used), cut out the different states and compare by placing one over the other.

3. With tissue paper trace outlines of the various states, leaving off all names. How may each state be distinguished? In the same way trace river systems. Can you recognize each state by its system? If all the names were left off the Louisiana map, how could you recognize the state?

4. Find out from some history why the "Florida Parishes" were so named.

5. On the map of the Southern States (Fig. 140), with the aid of a compass, draw concentric circles from New Orleans as a centre, using the scale shown so that the circles shall be one hundred miles apart. What states are included in each circle? what great cities? rivers? coal regions? iron regions? truck regions? Compare these with similar diagrams made with New York and San Francisco as centres. Which district has been most favored by geographic conditions?

6. If your school has a wall map of the world, make crayon lines on it connecting each of the following places, New York, San Francisco, and New Orleans, by waterways with England, China, Hawaii, Australia, Philippine Islands, Brazil, Chili. Which of these three cities is most favorably located for commerce with these countries? How will these conditions be changed by the opening of the Panama Canal?

7. Take a position facing the north and show the actual direction in a straight line of the following places: New York; San Francisco; Washington; Havana; Mexico City; Rio Janeiro; Manila; Guam; Samoa; Hayti; Chicago; Pekin; Tokio.

Surface

Surface. — Louisiana has 48,720 square miles of territory. There are 640 acres in a square mile; how many acres are there in Louisiana?

The elevated or hilly portions of the state are divided into three distinct regions (see relief map, Fig. 2). The

FIG. 2. Relief map of Louisiana.

first lies on the western border of the state and consists of an elongated range of hills running almost parallel with the Sabine river. This range constitutes the divide between the Sabine and the Red and Calcasieu rivers. Its greatest height is near Keatchie (elevation 327 feet), gradually becoming less as the Gulf is approached. The second region of hills lies between the Ouachita and Red rivers. Beginning near the middle of the northern boundary line of the state at an elevation of about 150 feet, its main divide increases in height till the site of old Athens in Claiborne parish is reached. This point is 484 feet above sea-level, and is the greatest known elevation in the state. From Arcadia (362 feet) a gradual decline extends eastward to the Ouachita and then southward into Catahoula parish. The third, or upland, region, of the "Florida parishes," consists of a series of parallel ridges declining southward from the State Line (280 feet) in the parishes of East and West Feliciana and East Baton Rouge.

The coastal regions of the state extend the full length of the southern border about 325 miles in a straight line, but approximately 2000 miles when following the irregularities of the coast. This region comprises the salt marshes of the state and is most recent in its formation.

The long-leaf-pine flats occupy two districts; namely, a triangular region mostly between the Calcasieu river and the Teche bayou, and a belt just north of Lakes Maurepas and Pontchartrain.

The river section may also be classified into three principal regions, each having a partially different origin. The Red River Valley proper extends from the northwest corner of the state to Alexandria. The second region

lies between the Ouachita and Mississippi rivers, and is divided by the Bayou Macon ridge. The Mississippi river region, the third region of the state, south of the Red river, probably owes its origin to the combined action of these rivers and Gulf currents. Usually streams flow against their west banks. Hence it seems probable that in the geological history of this section there was a time when the Mississippi occupied a channel on the extreme west side of its present valley, not far from the site of the present city of Alexandria, near which the Red river then entered the Mississippi. The sediment deposited by the inflowing current of the Red river gradually forced the great Mississippi over to the east bank of its present valley, the making of new-made lands extending southeast just as now. Bayous Teche, Atchafalaya, Lafourche, Bienville, and others are probably remnants of river channels. Hence, from the Red river south the Mississippi plain is of delta origin.

PRACTICAL STUDIES

1. Taking some very small streamlet in or near your school grounds, answer from personal observation the following questions: What evidences do you find of the work of water? Do you find deposits made by recent currents? Can you distinguish the deposits made by the last freshets from those made by earlier ones?

2. What is meant by sea-level? gulf level? How are elevations determined?

3. Just after a rainfall go out into the school grounds and look for the smallest streamlet you can find and draw a picture of it in connection with others near it. Do you find any horseshoe-shaped bends? any cut-offs? any ridges between the streamlets? Are there islands? deltas?

4. Make on a definite scale cross-sections of the state, using the following tables of elevations.

To show horizontal distances, take your ruler and find and use the scale employed on the map of Louisiana (Fig. 1). For elevations let

one-fourth of an inch represent one hundred feet. Next draw a horizontal line to represent sea-level. Then at proper distances draw vertical straight lines corresponding to the elevation given for each locality. Connect the tops of the vertical lines by lines drawn to correspond to the curvatures as they appear on the relief map.

(*a*) Across North Louisiana from Vicksburg to Shreveport the elevations are: Delta (on river bank), 95; Tallulah, 91; Delhi, 97; Rayville, 86; Crew Lake, 76; Monroe, 88; Calhoun, 170; Ruston, 310; Arcadia, 362; Gibsland, 246; Sibley, 199; Houghton, 240; Bodcau,

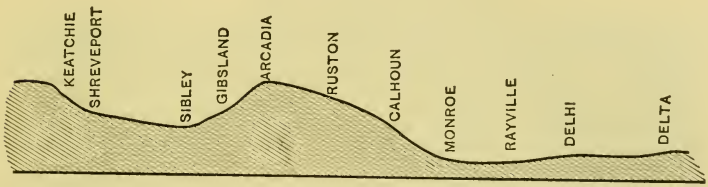


FIG. 3.

Cross-section of Louisiana.

205; Bossier City, 180; Shreveport, 237; Keatchie, 327. Figure 3 shows this cross-section, but each pupil should make one for himself.

(*b*) Along the Ouachita the elevations are: State Line, 110; Mer Rouge, 94; Collinston, 83; Monroe, 77; Columbia, 135; Olla, 155; Little River, 89; Pollock, 96; Red River Bridge, 95; Alexandria, 79.

(*c*) From Shreveport to New Orleans a section might be made as follows: Shreveport Junction, 240; Mansfield, 321; Pelican, 265; Marthaville, 260; Robeline, 150; Cypress, 105; Boyce, 95; Alexandria, 82; Cheneyville, 67; Baton Rouge Junction, 19; Plaquemine, 25; Donaldsonville, 30; Gretna, 6.

(*d*) In the Florida parishes we may make several sections. Along the Illinois Central the elevations would be: State Line, 257; Kentwood, 202; Tangipahoa, 175; Arcola, 136; Amite, 112; Independence, 89; Hammond, 39; Alligator, 0; Manchac, 10; New Orleans, 4.

(*e*) Again, beginning with the State Line on the Yazoo and Mississippi Valley Railway, the elevations are: State Line, 271; Wilson, 253; Gayden, 205; Ethel, 167; Slaughter, 125; Zachary, 101; Baker, 82; Snowden, 62; Baton Rouge, 35; St. Gabriel, 22; Whitehall, 22; Convent, 20; La Place, 20; Kenner, 9; New Orleans, 6.

Rivers

The rivers of Louisiana may be classified into three groups; namely, those of the bayou type, of the winding or sluggish type, and of the upland river type.

The Bayou Type. — Rivers of this class are numerous in the valleys of the Mississippi and Red rivers and the

Fig. 4.

Scene on Bayou Vermilion. The raft of debris shows how sluggish the stream is.

coastal region. The rivers of the latter region are usually narrow and relatively deep, and sometimes swift. Their swift currents are probably due to the fact that they are forced by the large streams that feed them. Typical rivers of this class are Bayou Lafourche, Atchafalaya river, Calcasieu river, the Teche, and Bayou Vermilion.

The Winding or Sluggish Type. — The currents of the larger rivers are relatively sluggish, and hence their

FIG. 5.

Grand Ecore on the Red river. This is the highest bluff along the Red river. It is about three miles from Natchitoches.

channels are winding and their flood plains wide. To this class belong the Mississippi, in Louisiana, and the

FIG. 6.

Red river at Shreveport, showing one of the steel bridges that cross it there.

main channel of the Red river. These streams are accompanied by horseshoe lakes and old river channels and bayous.

The Upland River Type. — The rivers found in the hill parishes are of this type. Relatively, their currents are rapid and channels less winding.

No state has more alluvial lands or so many miles of navigable waters as Louisiana. The widest part of the Mississippi flood plain, as well as the delta of this river, lies within the borders of the state. Over 13,000 square miles of alluvial lands and marshlands have been formed by the Mississippi. Added to this are 1700 square miles by Red river, and 4600 square miles by other streams, making the grand total of 19,300 square miles of alluvial lands, or over one-third of the state.

The principal rivers are the Mississippi and the Red. The smaller streams in the bottoms form such a network that it is often difficult to trace them. As a rule some large bayou flows along the edge of the bottom plain. For example, Bayou Macon is on the west of the Mississippi flood plain; Ouachita river on the extreme west of the central plain; Bayous Bœuf and Teche on the west of the flood plain of the Red river. In North Louisiana the rivers follow the slope of the underlying rocks. In the eastern part of this section they flow southeastward into the Ouachita, and southward into the Red. In the extreme south those west of the Mississippi flow southward into the Gulf; those east, southeastward into Lakes Maurepas, Pontchartrain, and Borgne.

Lowlands. — All the lands in the flood plain of a stream are below the level of high water in that stream. This is due to the sediment deposited near the banks of the stream during the high waters and overflows. Hence, back from the main watercourse we usually find swamps.

Bayous. — The word "bayou" is often misused. Bayous are small streams running **from larger ones** and during high water receive water from these streams. They are often beneficial in times of floods. Bayous are usually remnants of former river channels.

PRACTICAL STUDIES

1. Obtain a glass fruit jar or large bottle. Fill with water and mix in gravel, sand, clay, and silt. Shake thoroughly, and after allowing the material to settle answer the following questions: Are all classes of sediment deposited at the same time? Is the material in layers when the settling is complete? Which settles last, the fine or coarse material? How does standing water sort materials?

2. Drop materials similar to those used in the first experiment into rapid running water. What materials settle first? last? Are these substances in layers in running water? How does the separation which takes place in running water differ from that of standing water?

3. Compare the lower courses of Red river and the Mississippi, in Louisiana, with same streams nearer their origin. Why are their channels more winding in Louisiana? Why more cut-offs? Why are their flood plains wider in Louisiana? Why are Louisiana soils not so coarse as in other sections higher up the larger streams?

Lakes

The lakes of Louisiana are of at least four types. **Cutoff** or **horseshoe lakes** are abundant along the rivers and are best seen on the map of the Lower Mississippi. A river in an alluvial flood plain is constantly cutting the banks on the outside and filling on the inside of bends. When two parts of a great bend approach near each other, the intervening neck, during a freshet, will be cut through, forming a cut-off. The connections between the river and the portions of the river cut off, will gradually become filled with sand-bars, and finally entirely separated from the river.

Lakes of enclosure are quite common and owe their origin to the formation of natural levees by the river. Each river on its edges forms, by waves, embankments or levees, which are higher than the ground level away from the stream. In a great loop or bend these natural levees often meet and enclose a basin or lake. Sometimes a hill or section of elevated ground aids the rivers in the formation of these levees.

Elongated lakes, which are most abundant on Red river, have been formed by the elevation of the river flats. This river carries relatively a large quantity of sediment which, as the stream becomes more sluggish, is deposited and in this way fills in the mouths and valleys of the smaller streams. Thus the whole lower valleys of these inflowing streams is converted into elongated lakes, some of which flow into the parent stream during high water.

Coastal Lakes. — Numerous large lakes are formed near the coast in the southern part of the state. Most of these lakes are cut-off bays formed by the deposits made by the meeting of incoming gulf currents and currents returning from the bay. These deposits continue to grow until the bays are enclosed and become lakes. Lake Sabine, Calcasieu lake, and Grand lake in Calcasieu parish are excellent examples of coastal lakes.

PRACTICAL STUDIES

1. Carefully examine the valley of some streamlet and find as many lake types as possible.
2. Describe the principal lakes you have seen. Are they of any use to man?
3. Locate on the map lakes representing each of the types described.
4. Examine the relief map for coastal lakes in all stages of formation.

Soil and Physical Features

Louisiana possesses a varied topography. Two general subdivisions may be made: the hill country and the level country. There are three classes of land in the hill country: the good uplands, the pine hills, and the bluff lands. Five classes of land are to be found in the level country: the arable alluvial lands, the prairies, the pine flats, the wooded swamps, and the coast marshes. There is an extensive water surface over the eastern and southern portion of the state, which is of great importance. This water surface includes a vast multitude of rivers, creeks, bayous, lakes, and bays.

The good uplands lie mostly in northern Louisiana. The forest growth of the uplands consists of various kinds of oak, — the red, white, black, and post oak predominating, — beech, dogwood, sassafras, hickory, black gum, sweet gum, ash, maple, and short-leaf pine, and bushes such as the hackberry, chinquapin, elder, sourwood, prickly-ash, and fox grape and muscadine vines. The uplands are extremely hilly in some places, and there are ridges that reach an elevation of between four hundred and five hundred feet.

The soil of the uplands is as a rule gray, sandy, easily worked, and at first productive, but unfortunately it washes badly and in many sections now presents a ragged and worn appearance. There are, however, notable exceptions to the gray, sandy soil, large areas being covered with a fertile yellow loam. There are also belts of a red soil which is very fertile. The good uplands embrace an area of more than 5,000,000 acres.

The pine hills are in the parishes of Catahoula, Winn,

Grant, Natchitoches, Rapides, Vernon, Calcasieu, St. Helena, Tangipahoa, Washington, St. Tammany, and

FIG. 7.

Agricultural map of Louisiana.

Livingston. Find them on the map (Fig. 7). These parishes contain excellent lands. The pine hills embrace nearly 6,000,000 acres. The forest growth con-

sists, to the exclusion of almost every other tree, of the long-leaf pine and the scrub black-jack oak. Where the Red river and other large streams flow through the pine hills, large areas of fine alluvial lands are found. This section produces great quantities of excellent pine lumber.

The bluff lands present the most peculiar and interesting topographic features in Louisiana. The Bayou Macon hills in West Carroll parish are the beginning of these bluffs in the north; they are then easily traced southward through Richland, Franklin, Catahoula, Rapides, Avoyelles, Feliciana, Baton Rouge, and St. Landry parishes; thence southward into the dreary salt marshes, where the five islands of Attakapas are. The soil of the bluff lands is of a yellowish gray color and is very fertile. It is easily cultivated, washes badly, gets muddy easily, and becomes dusty in dry weather. The bluff lands cover an area of nearly 2,000,000 acres.

Many parishes have alluvial lands within their borders, especially along the streams. The lands nearest the streams are moderately sandy and easily worked, while farther back the land is black, stiff, and sometimes difficult to cultivate. The arable alluvial lands (nearly 4,000,000 acres) are very productive and are a source of great wealth.

The wooded alluvial lands border on the arable, and cover an area of probably 2,750,000 acres. Much of the Atchafalaya basin is classed as wooded swamp, but a great part of it is no doubt susceptible of reclamation. The swamps of this basin abound in cypress timber of great value.

The prairie region of 2,500,000 acres constitutes one of the most interesting parts of Louisiana. This territory is

almost entirely west of Bayou Cocodrie. On the south it is limited by the extensive sea marshes into which it passes. On the west the Calcasieu and Sabine rivers form the boundary line. This extensive area thus broadly defined is not an unbroken, treeless expanse, for on the borders of the many bayous, flowing through it generally in a north and south direction, grow forests of timber, including the celebrated Louisiana pecan. The scene presented to the vision is undulating, not unlike the billows of a deep sea. The detached clumps of trees sometimes bear the designation "island," together with some local name. The poetic beauties of this section are described in Longfellow's poem "Evangeline, A Tale of Acadia." The soil of the prairies is of either a grayish yellow or a cold gray color, and is very productive under proper cultivation.

The pine flats cover an area of 1,500,000 acres. We find the pine flats principally in St. Tammany, Tangipahoa, and Livingston parishes in the eastern part of the state, and in Calcasieu in the western part. The soil is sandy and generally classed as poor, but promises much in the line of truck farming. The timber is mostly pine.

There are nearly 4,000,000 acres classed as "coast marsh." The coast of Louisiana has been divided into two divisions. The coast-line of the eastern division extends from Pearl river to Vermilion bay in the shape of an arc. All this part of the coast is extremely irregular, being indented by numerous bays and cut up by thousands of lakes and bayous into a labyrinth of peninsulas and islands. The coast-line of the western division extends from Vermilion bay to Sabine lake, and is very regular. There are no outlying islands. The coast marsh covers

an area from Pearl river to Sabine lake along the Gulf of Mexico, varying in width from ten to thirty miles. It is low and wet and subject to tidal overflow. Numerous lakes and bayous intersect it, and it is almost impassable

FIG. 8.

Cubett's Island, a "Mud-lump" between South and Southeast pass. This is a typical view of the outer edge of the delta of the Mississippi. Notice the grass growing on the top of the "Mud-lump."

in places. The sea marsh is found in portions of Cameron, Vermilion, St. Mary, Terrebonne, Lafourche, Jefferson, Plaquemines, St. Bernard, and Orleans parishes.

CLIMATIC CONDITIONS

The mean annual temperature ranges from 65° at Lake Providence to 70° at Port Eads. The range in the mean annual temperature within 100 miles of the coast amounts to only 1°. After passing 100 miles inland the change in the temperature is more abrupt, and there is a drop in the mean annual temperature amounting to 2° in about 100 miles. The extreme range in the mean annual temperature over the northern half of the state amounts to

barely 1°. January has the lowest, and July the highest, mean temperature in all parts of the state.

The mean temperature for the hottest month is 83° in the coast section, and 82° elsewhere, except in the piney woods and prairie sections, where it is 81°.

There is a narrow strip of land along the coast where the highest temperature has never reached 100°, and as far north as New Orleans it has not reached this degree except in one year (1901). The highest temperature in the state occurs over the central portion of North Louisiana and in the region of the pine hills and the uplands. Here the absolute maximum temperature at different stations ranges from 107° to 109°.

New Orleans may be taken as a representative station for the extreme southern portion of the state. The temperature has reached 100° in only one year, and while it reaches 90° every year, there have been eleven years out of the past thirty in which the maximum did not go as high as 95°. During thirty years there have been only 73 days when the maximum temperature rose to or above 95° at New Orleans. At Shreveport, in the northern portion of the state, there have been thirteen years during the past thirty years in which the maximum temperature did not reach 100°. During this period of thirty years the maximum temperature at Shreveport rose to or above 100° on only 177 days.

The absolute minimum temperature ranges from 10° at Port Eads to 5° below zero at Shreveport. During thirty years the minimum temperature at New Orleans has been below 32° on only 116 days, or on an average of 4 days in each year. There have been, however, three years in which the minimum temperature did not fall below freez-

ing. There have been only eight years, or one in four, with the minimum as low as 22°, and in five of these years it occurred on but one day. The mean minimum temperature for the northern portion of the state is about 10° below that for the southern portion.

The average annual rainfall amounts to more than 55 inches over the extreme eastern portion and gradually diminishes westward over the southern portion of the state to 46 inches.

Snow falls on an average of once in three to once in five years over the southern portion of the state, about once in a year over the central portion, and twice a year over the northern portion.

The last killing frost in spring over an area covering the southeastern portion of the state and extending about 100 miles inland occurs on January 24 to 26. The last killing frost in spring on a line passing westward south of Covington, Thibodaux, Morgan City, and Cameron occurs on February 1. The last killing frost in spring on a line which passes westward halfway between Covington and Amite through Baton Rouge, Grand Coteau, and Sugartown occurs on March 1. The average date of the last killing frost in spring on a line passing westward to the south of Amite and Clinton and thence northward through Monroe is March 15. The average date of the first killing frost in autumn, south of New Orleans, is after December 15. The average date of the occurrence of the first killing frost in autumn, along a line passing westward south of Amite and Melville, thence northward to the west of Alexandria and to the east of Shreveport, is November 15.

When was the last killing frost last spring at your home?

Make a record of the first killing frost at your home next fall. If your school keeps accurate records of this kind for a few years, they will prove very interesting and valuable.

Influences of Physical Features on Climate

The topographic features as they exist in Louisiana, varying from extensive stretches of level lands to moderate hills, do not materially influence climatic conditions, but the physical features which exist cause widely different climatic conditions in different parts of the state. The network of bays, bayous, and lakes which indent the southern portion of the state for more than a hundred miles inland plays an important part in the control of the daily, seasonal, and annual temperatures, and gives to this section more of an oceanic than a continental climate. The moderate and equable temperature of the waters of the Gulf of Mexico, which come and go with the tides, keeps the temperature of the adjacent lands relatively low during the day and in summer and relatively high during the night and in winter. As a result of these conditions the range in temperature between day and night and the hot and cold seasons is comparatively small. There are no marked physical features over the northern portion of the state which specially influence the climate of any extensive area. However, prevailing southerly winds from the Gulf of Mexico materially influence the climatic conditions in all parts of the state. These winds give a fresh and vigorous tone to the atmosphere during the summer months and moderate the cold in the winter season.

Minerals

Salt. — Salt is found at various points in the state. In 1726 the Indians made salt at what is now known as Drake's Salt-works on Saline bayou, about 25 miles from Natchitoches. In 1812 three wells had been sunk which furnished water for thirty kettles, each capable of holding 660 gallons, producing 240 barrels of salt per month. In the early forties a well a little over 1000 feet deep was bored and an artesian flow obtained, but this proved to be a weaker solution.

Rayburn's Salt-works, used extensively during the Civil War, are situated 10 miles southeast of Bienville. These wells then produced nearly 350 barrels daily. Many old furnaces are still in existence in this locality.

However, the most profitable salt deposit in Louisiana is in "the Five Islands of the Attakapas," located in Iberia and St. Mary parishes. These so-called islands are really not islands, but a group of hills, each from one to three miles in extent, and from 50 to 150 feet in elevation. They run from a line halfway between New Iberia and Abbeville southeast to the mouth of Atchafalaya river and are named Jefferson or Orange Island, Weeks' Island, Avery Island, Côte Blanche, and Belle Isle. Salt is found at a depth of a few feet, but the exact thickness of the stratum has not been determined. However, on Jefferson Island the salt rock has been penetrated 2100 feet without passing through the salt bed. At various times from 1791 to 1862 salt was manufactured from salt springs on Avery Island. The salt rock was discovered in 1862 while deepening a spring. At first salt was obtained by means of a shaft about 83 feet deep, but in 1897 a new shaft was

FIG. 9.
Mineral map of Louisiana.

sunk about 500 feet, and the new works equipped with modern machinery. The salt-works on Weeks' Island are modern and up-to-date, and produce great quantities of salt (Fig. 10). In 1898 a shaft was sunk on Belle Isle.

Louisiana produces annually about 250,000 barrels of salt. In thickness and purity the Louisiana salt deposit

easily outranks any other yet known in the United States, and on the basis of thickness and purity the Louisiana salt beds rank third, and possibly second in the great salt deposits of the world. Find the salt deposits on map (Fig. 9).

FIG. 10.
Drilling blast holes in the salt mines at Weeks' Island.

Sulphur. — For the first time a large shipment of American raw sulphur was exported to Europe in October, 1904. The cargo consisted of 3000 tons and was shipped from Louisiana to France. Sulphur was discovered in Calcasieu parish thirty-five years ago, while boring for petroleum. The sulphur found was practically useless, however, being buried under 400 feet of quick-

sand. After the failure of all known methods used in mining sulphur, an entirely new process was successfully applied. The sulphur is extracted by the application of water, heated under pressure to many degrees above the boiling point. It is forced by means of iron pipes into the sulphur rock. The sulphur is melted by the heat, but does not dissolve in the water. Being heavier than the

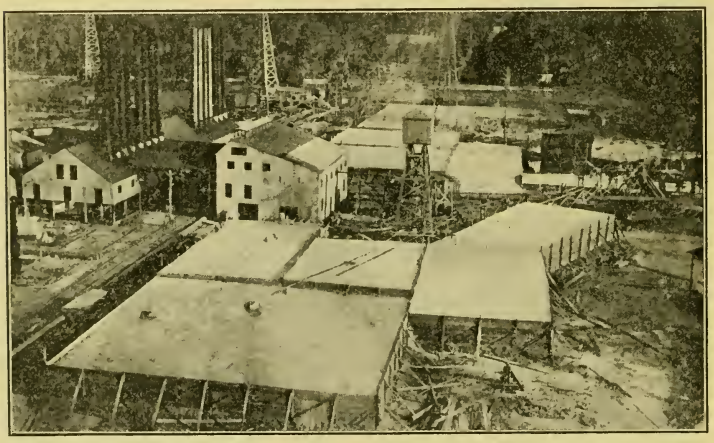


FIG. 11.

Sulphur works at Sulphur. The great tanks here shown contain twenty-five thousand tons of sulphur.

water it falls to the bottom of the well, and then is easily raised to the surface by means of air pumps. When the liquid sulphur reaches the surface, it is pumped into reservoirs where it solidifies, and is then ready for shipment. This sulphur is shipped in lumps which are 99.9 per cent pure, and requires no refining.

The sulphur wells are over 600 feet deep. Four or five of them are operated night and day, and the product

flows into the reservoirs at an average rate of over 1000 tons daily. These mines now supply more than two thirds of the world's sulphur. Sulphur is shipped from the mines daily by train loads, and is afterwards sent by water to New York and other places. Locate the sulphur deposit on the map (Fig. 9).

Oil. — The recent discovery of petroleum in southwest Louisiana has disclosed not only the most important mineral resource of the state, but also the most abundant oil field in the United States. The first great oil well, or "gusher," in the state was "brought in" at Jennings, in Calcasieu parish, September 17, 1901. Since that time many wells have been sunk in the same vicinity, to an average depth of nearly 2000 feet, and have produced within one year an aggregate of nearly ten million barrels of crude petroleum. The railroads cannot furnish cars enough to remove this oil as rapidly as it flows, nor can steel tanks sufficient in number and capacity to hold it be constructed quickly enough; so the oil must be stored in great reservoirs or pits dug in the ground about five feet deep and banked up around the sides eight feet above the surface of the ground. One of these reservoirs covers twenty-five acres of ground and holds more than a million barrels of oil. Hundreds of miles of pipe lines are being laid to convey this oil to points on the Atchafalaya River and elsewhere, where it may be transported by boats.

This vein of petroleum underlies a very large area of both southwest Louisiana and southeast Texas, and seems practically inexhaustible. Its first discovery in commercial quantities was at Beaumont, Texas, in January, 1901. At Anse La Butte, near Lafayette, where gas has been

noticed for many years to be rising out of the ground, a number of wells have also been successfully "brought in." The stimulating influences of this discovery on the industries of the country have already been great, causing a change from the use of coal to the use of oil as a fuel in many hundreds of steam-operated plants, including the locomotive engines of the Southern Pacific Railroad. The picture (Fig. 12) shows one of the great

FIG. 12.

Oil wells at Jennings. Under each derrick is a well.

"gushers" in the Jennings oil field on fire. Locate the oil fields on the map (Fig. 9).

Clays suitable for making brick are common in the alluvial regions, and at many places in the hills. At Robeline small earthenware objects have been made from lignitic clays. Samples of white clay found in Catahoula parish, it is claimed, have made good stoneware.

Sandstone is found within the state, and is used for riprap and jetty work and for railroad ballast.

Limestone, which has been used for making lime, is found at Winnfield, Coochie Brake, and Bayou Chicot.

Lignite in small quantities is found at several points. In DeSoto, Sabine, Caddo, and Catahoula parishes there are beds three or four feet thick.

Agriculture

Not only are cotton, sugar-cane, and rice staple products in Louisiana, but her soil is capable of producing great quantities of hay, and supporting fine herds of cattle. Wheat can be grown in the northern part of the state. Oats are successfully grown, especially in the alluvial lands. Rye and barley thrive in all sections, and are sometimes sown for winter pasture. Two successive crops of buckwheat have been grown in the same soil in one year. Corn can be grown without difficulty all over the state. Upon the alluvial lands of South Louisiana the sugar experiment station has for several years averaged over a hundred bushels of corn per acre upon a field of eight or ten acres. Sixty to ninety bushels are the average yields upon the rotation field of the North Louisiana experiment station, situated at Calhoun, upon the yellow sandy loams of the oak and short-leaf-pine hills. The Commissioner of Agriculture for Louisiana suggests the following excellent note: "One caution is needed in planting grains of all kinds here, — that is, for a general crop use home-grown acclimated seed." For example, corn grown here is planted in early March, and harvested in August and September; while seed from the extreme north planted at the same time will probably mature in May, and that too with only a partial crop. Wheat and oats, on the contrary, planted

in the fall from seed raised in the extreme north, will not ripen before June or July, if at all (the rust frequently destroying it before ripening), while home-raised seed sown at the same time will be ready for harvest in May. If, therefore, we desire an early crop of corn, we obtain seed from the north, and if an early crop of oats, wheat, barley, or rye, we send south for the seed. The reasons

FIG. 13.

Truck-growing near Winnfield.

are obvious when we remember that each comes to us inheriting the habits of the country from which it came. In the north summers are short and the time of the growth of corn is therefore limited. In the south the winters are short and the period of repose is therefore shortened and early maturity follows. Probably no other state is better adapted to growing vegetables and ordinary farm crops. Trucking is becoming of more and more importance each year, and bids fair to become a source of great wealth to

the state. Hammond is the principal trucking centre at present. There is no reason why Louisiana should not become the winter garden of Chicago, St. Louis, Kansas City, and other places in the far north.

Louisiana produces many varieties of fruits. Berries grow luxuriantly in all sections, while figs grow in abundance and seldom fail to produce a crop. Blackberries, dewberries, and mulberries grow wild in every parish, while strawberries thrive everywhere in the state and are often grown for market. Oranges, kumquats, and pomelos are grown in South Louisiana, while lemons, guavas, bananas, and pineapples are grown on the extreme gulf coast. Perique tobacco, the finest tobacco in the world, is grown in the parishes of St. James and St. Mary.

PRACTICAL STUDIES

1. Write a list of the vegetable crops grown in your locality and shipped to other sections; also a list of those grown solely for home use.
2. Describe the methods of raising these vegetables; when planted; how cultivated. What soils are considered best for each vegetable?
3. Select the best specimens of fruits and vegetables you can gather and bring to class.

Cotton is the principal product of eight great states of the Union, and the most valuable money crop of the entire country. Climatic conditions practically restrict its cultivation to a group of states constituting less than one-fourth of the total area of the United States, and yet the value of the annual crop is exceeded among cultivated products only by corn, which is grown in every state of the Union, and occasionally by wheat. Cotton furnishes one-fourth to one-third of our total exports. Of the four great staples that provide man with clothing, cotton, silk,

wool, and flax, cotton by reason of its cheapness and many excellences is rapidly superseding the others. The spindles of the world now use over 17,000,000 bales per annum. Of this amount Louisiana produced in 1904, 946,071 bales. What part of the total cotton crop of the world did Louisiana produce?

The following parishes raised over 30,000 bales each in 1904: —

St. Landry	63,300
Avoyelles	46,000
Pointe Coupee	45,000
Caddo	43,350
Rapides	40,000
Bossier	37,400
Tensas	36,000
Morehouse	35,000
De Soto	31,200
Natchitoches	30,561

Which parish produced the most cotton? Locate these parishes on the map (Fig. 7).

Send to the State Commissioner of Agriculture for a copy of his last report and find out how much cotton your parish raised last year. What part of the total crop of the state was it?

The cotton plant yields, in fact, a double crop — a most beautiful fibre and a seed yielding oil, feed, and fertilizer. In addition to this, the stems can be made to yield a fibre which waits only for a machine to work it, while the root yields a drug. Thus you see nearly every part of the plant can be utilized to make our state rich.

About two-thirds of the entire cotton crop of the United States is exported. To what countries does most of it go?

FIG. 14.

Levee scene, New Orleans. The sugar and cotton have been unloaded from the steamboats that ply on the Mississippi and its tributaries. On the extreme left you can see a large sugar refinery that makes granulated sugar from raw sugar.

The Louisiana planter sells his cotton to his merchant or hauls it to some centre, where cotton buyers representing cotton factors in New Orleans, Shreveport, or other large cities, grade it and buy it. It is then hauled by train or carried by steamboat to New Orleans, where it is loaded in large ocean steamships that carry it across the ocean to England or perhaps to the mills of New England. Before shipping by rail it is often taken to a "compress," where it is pressed into a new and smaller bale so as to take up less room in the car. Where is the nearest compress to your home? Figure 15 shows the "Big Lou" compress at Shreveport, which is the largest in the world.

Up to the present time Louisiana has had very few cotton mills, but several are being organized.

The United States was the last to enter the list of cotton-producing countries, and has been for a hundred years the foremost of them all. Cotton is thought to have been grown in Louisiana previous to 1697. It early attracted the attention of the French colonists, and in 1752 the French Minister gave an excellent account of its growth. Great difficulty was experienced in separating

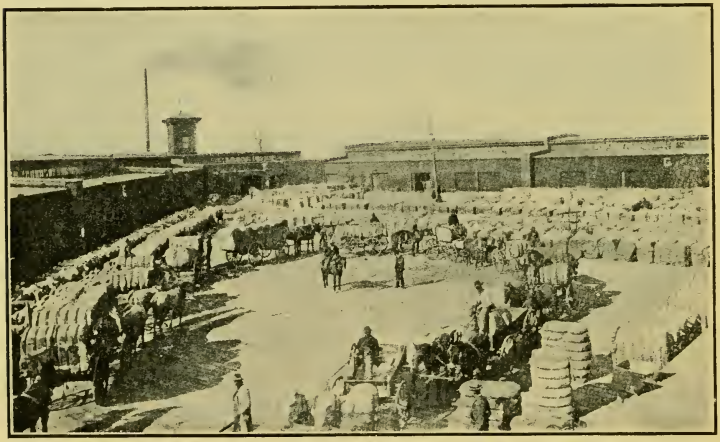


FIG. 15.

The "Big Lou" Compress, Shreveport — the largest compress in the world. It can compress twenty-five hundred bales of cotton per day. In 1904 over a hundred thousand bales were compressed here, or about one-fourth the cotton handled in Shreveport.

the seed from the lint. The work was done by hand, four pounds per week being the average of each head of a family, which amounts to one bale in two years. Dubreuil, a French planter of Louisiana, is said to have invented a machine for separating the lint and seed as early as 1742.

PRACTICAL STUDIES

1. Make a description of the cotton plant accompanied by drawings.
2. Write out what you know of the plant and crop from observation and experience, including cultivation and preparation for market.[1]
3. Describe the cotton-gin. Compress. Oil mill.
4. Go into some store and by examining brands find out where the leading cotton articles are prepared for the trade. Why are not these things made in Louisiana?

Sugar. — As early as 1751 the Jesuit fathers brought to Louisiana samples of sugar-cane for the purpose of adding

FIG. 16.

Carts loaded with cane at a sugar-house. Notice how the cane is unloaded. It is then placed on a moving carrier, which feeds it to the heavy rollers that squeeze the juice from it.

to the resources of the colony. The first sugar-house experiment resulted in failure. In 1794 Boré announced

[1] The pupil should find out from observation and inquiry every stage, in detail, of cotton growing and maturing. He should not proceed with the idea that he already understands the subject. It is more important to understand the things grown at home than something grown elsewhere.

that he had discovered the process necessary to obtain grained sugar. The essential change introduced by Boré was probably the use of alkali or lime in some form, for the purpose of neutralizing the free acids formed in cane juice, thus materially assisting the process of granulation. Thus success in making sugar on a commercial scale gave new life to the cane-producing industry, and many plantations were soon established. The first steam-driven mill for crushing cane was erected in 1821. At first evaporation kettles were used, but in 1830 vacuum pans were substituted, and soon boneblack came into use for clarifying the syrup, thus producing a nearly chemically pure white sugar. In 1846 Rillieux, a native of Louisiana, worked out a system for using the hot vapor arising from a vessel of boiling cane juice to evaporate the water contained in a second vessel of cane juice. This discovery laid the foundation for the elaborate system of evaporation now in use.

The modern sugar-house, equipped with Corliss engine, double mills, crusher, and all of the latest improved clarifying, evaporating, and concentrating apparatus, is erected at an expense, exclusive of cost of buildings, of about $250 for each ton of cane which can be passed through the mills in a day ; or, in other words, the cost of machinery in a Louisiana sugar-house which is capable of crushing 1000 tons of cane in twenty-four hours is about $250,000.

The early steam sugar-houses produced a quantity of sugar equal in weight to about 2½ per cent of the weight of the cane milled, a ton of cane yielding about 50 pounds of moist sugar. The sugar-house of the present day averages about 8 per cent, or 160 pounds of sugar, to the

ton of cane — more than three times the yield secured even by steam power in the early days.

At the present time mills are supplied with the sulphur machine, and sulphurous gas is injected for the purpose of bleaching and rendering antiseptic, boneblack being no longer used. The use of sulphurous gas has enabled a reasonably white, or choice yellow sugar to be made

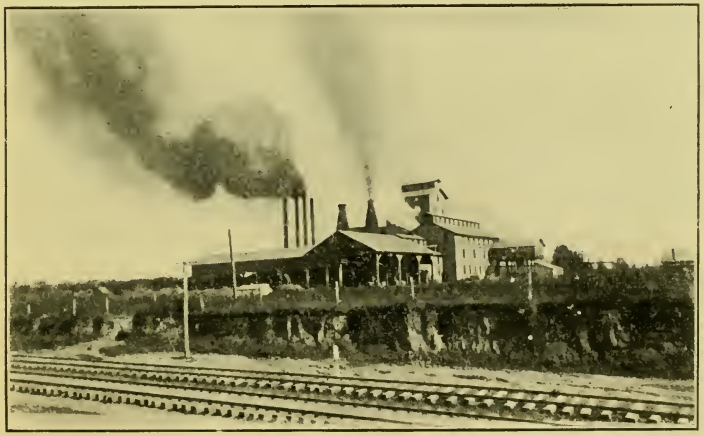


FIG. 17.

Sugar-house at Baton Rouge. Here the cane is ground and the juice evaporated and clarified until molasses or sugar is obtained.

directly from the cane, a thing the pioneers in the industry thought impossible. Nowhere do we find a better illustration of the immense benefit to be derived from the use of scientific experiments and improved methods than in the development of Louisiana's sugar industries to their present great proportions.

The leading sugar-producing parishes in 1904 were as follows : —

	Acreage	Hogsheads of 1000 Lbs.	Barrels of Molasses of 50 Gallons each
St. Martin . .	67,728	68,000	45,000
Assumption . .	30,500	80,500	85,160
Iberia . . .	30,000	80,000	70,000
Iberville . . .	30,000	87,000	80,000
Ascension. . .	23,740	35,464	63,385
St. John the Baptist	22,800	43,400	20,750
Terrebonne . .	22,800	68,000	45,000
Lafourche . .	20,150	42,500	50,000

Which had the greatest acreage? Which produced the most sugar? the most molasses? Locate these parishes on the map (Fig. 7).

The sugar-cane crop suffers occasionally from deficiency in rainfall during the growing season, but the greatest losses in the past have resulted from the sudden and unexpected occurrence of temperatures of 28° or below during November and December. One severe freeze has been known to wreck the fortunes of many individual planters. Sugar-cane, being a tropical plant, must be harvested before certain temperatures occur which ruin its essential qualities, and seed cane must be protected from injury during the cold and rainy season. The sugar crop increases materially in value with every day that the cane can be left growing. In this section cane cannot be allowed to grow more than nine months before the manufacture of the crop is commenced, usually early in November, which is very much in contrast with the methods that prevail in the tropics, where the crop is not considered matured until after a growth of fourteen to eighteen months. Cane which is allowed to stand in

this section until January (about twelve months from time of planting) is much richer in sugar than that harvested in November. It is very much desired by the planter to be able to cut his cane only as fast as is required to keep the mills running, and thereby get a

FIG. 18.

A typical South Louisiana cane-grower's house. Notice the beautiful live-oak trees with the hanging moss.

larger percentage of sugar; but as temperatures sufficiently low to kill cane occur before the crop can be manufactured, on an average of about once in three years, he could not afford to run the risk of losing a good portion of every third crop in order to get the increased product of the other two. Hence the bulk of the cane crop is windrowed early in the season at the expense of the further development of sugar. To windrow it, the cane is cut and laid on the ground so that each stalk is protected by the leaves of others. This prevents the cane from freezing and in turn the juice from becoming sour. The United States Weather Bureau has in recent years come to the assistance of the sugar planter, and now tells

him without failure sufficiently in advance of the occurrence of temperature which will injure his cane, to enable him to put it in windrow. With full confidence in the warnings of the Weather Bureau, the planter now allows his cane to stand and develop until he is advised that the temperature will fall to 28° or lower. Upon receipt of such warnings he at once windrows his cane. It has been found that cane in windrow can be carried safely through the lowest temperatures that have occurred during the harvesting season. By the use of the warnings of the Weather Bureau in allowing his cane to stand until advised to windrow it, the planter not only gets that increased product of growth during the two years out of three that the temperature does not fall to 28° during the sugar-making season, but he also gets the increased product of growth in the year that the temperature of 28° occurs up to the date of occurrence of such temperature. The average value of the warnings to the sugar planters is estimated at more than $1,000,000 annually.

PRACTICAL STUDIES

1. Make a description of the sugar-cane, accompanied by drawings.[1]
2. Write out what you know of the plant and crop from observation and experience, including cultivation and preparation for market.
3. Describe a sugar refinery.

Rice. — The story of the development of the rice industry in Louisiana is exceedingly interesting. The industry

[1] The student should find out from observation and inquiry every stage, in detail, of cane growing and maturing. He should not proceed with the idea that he already understands the subject. It is more important to understand the things grown at home than something grown elsewhere.

first assumed noticeable proportions directly after the Civil War, when the abandoned sugar plantations suggested the possibilities of growing rice on a large scale. At first all the rice grown in the state was cultivated on the banks of the Mississippi river and its outlying bayous, and watered by these streams. Upon these alluvial lands growing rice was an expensive business, involving the outlay of a large sum of money and the expenditure of much labor.

About 1855 Southern Louisiana began to attract attention as a rice-growing section, although the industry was conducted in a primitive way. Rain-water was collected by levees and used when needed upon the fields of growing rice. The story of the "rice belt," which extends 400 miles through southern and central Louisiana and southeastern Texas, from the banks of the Mississippi to beyond the Brazos river, varying in width from 20 to 50 miles, is the old familiar one of the triumph of science, skill, and energy over what to some seemed superhuman difficulties.

At first water was collected in reservoirs dug with the plough and shovel. The efforts of the planters were rewarded by harvests so abundant as to repay them in spite of the frequent failure of the reservoirs and the loss of a year's work by drouth. The method of irrigation was changed, and primitive modes were discarded. The magnitude of the success attracted settlers from all sections of the United States. During the last eighteen years some 350,000 acres have been reclaimed for rice culture, and 50,000 acres yearly are being added, every square foot of which is irrigated during the growing seasons, necessitating a network of canals aggregating

over 1000 miles (Fig. 19). The 30,000 rice-growers have invested $20,000,000, including the value of lands, canals, and machinery. It is estimated that 4,000,000 acres have a natural supply of water to be obtained by piercing the earth's crust to the reservoir beneath or from streams intersecting the country. The area under cultivation

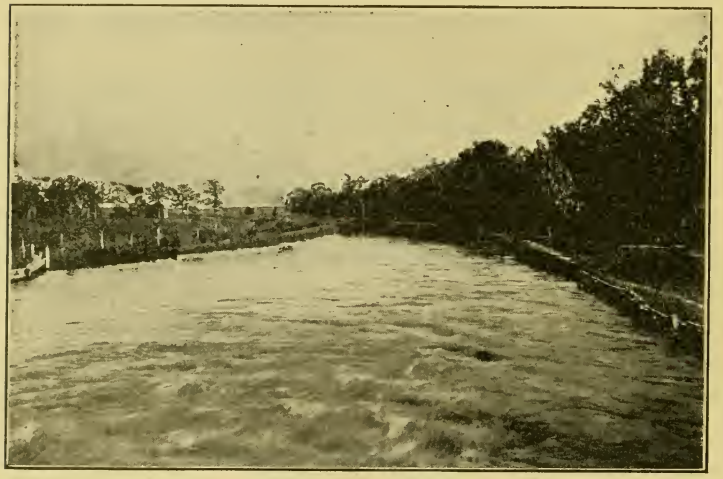


FIG. 19.

Rice irrigation canal near Crowley. The water is pumped into such canals and by them and their network of branches and ditches is distributed to the various rice fields. The water is sold to the planter by the irrigation company owning the canals and pumping stations.

already yields annually 2,000,000 barrels, requiring 10,000 cars to transport it to market. However, it supplies only about two-thirds of the quantity used in the United States.

The following parishes produced over 5,000,000 pounds of cleaned rice in 1904: —

	Lbs. of Cleaned Rice
Vermilion	71,250,000
Calcasieu	62,000,000
Acadia	57,600,000
Iberia	10,000,000
Iberville	6,630,000
Cameron	6,200,006
St. Charles	5,344,500

Find these parishes on the agricultural map (Fig. 7). Which parish leads in the production of rice?

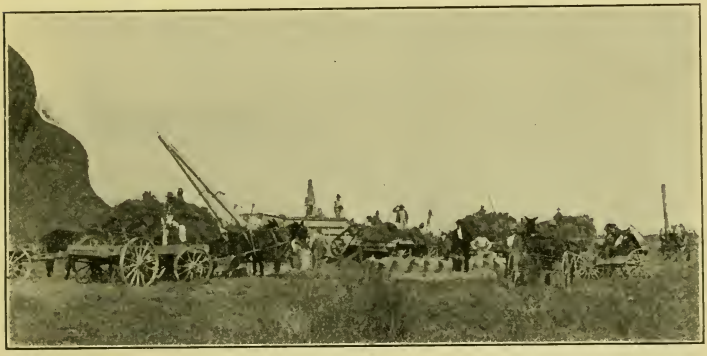


Fig. 20.

Rice threshing near Crowley. The thresher is in the centre of the picture. At the right of it are the wagons loaded with rice waiting to deliver their loads to it. On the extreme left is a heap of chaff. Can you see the sacks of rice? The steam engine that runs the thresher? After the rice is threshed it goes to the mill to be polished.

The phenomenal development in the field has been equalled in the factory — for almost every town or village in the rice section has one or more rice mills. These mills buy the rough rice directly from the planters and ship the finished product to the markets of the world.

Modern ideas and systematic methods attend the growing of the grain from seed-time until it leaves the field to

be sorted and prepared for the market. Dirt is thrown up around each tract, whether it contains 50 or 5000 acres, by the ditching plough. The tilling and seeding are done after the manner of putting in ordinary oats. Water flows upon the shoots when a few inches out of ground, and until harvest time in early autumn the country is turned into a series of lakes, for the plant roots must be kept submerged for three or four months, to a depth of two or three inches. When the grain reaches maturity, the water is turned off; the ground rapidly dries. Then no fewer than 5000 harvesters, actually doing the work of 200,000 men, soon harvest the golden stalks. The steam thresher following converts the chaff and straw into mammoth stacks, pouring the pearly cereal into a hundred bags in a single day (Fig. 20).

PRACTICAL STUDIES

Read the following: —

"The present status of Rice Culture in the United States" and "Rice Culture in the United States." Both of these bulletins were prepared by Dr. S. A. Knapp, of Lake Charles, Louisiana, and are published by the Department of Agriculture, Washington, D.C. Bulletin 61 of the Louisiana Experiment Station, Baton Rouge, deals with preparation, cultivation, etc., of rice and was written by Dr. W. C. Stubbs. "A Handbook of Louisiana," by Major J. G. Lee, Baton Rouge, Louisiana, gives a summary of the rice industry. An interesting article on "The Rice Farming in the South," by D. A. Willey, may be found in *Review of Reviews* for August, 1902.

The Oyster Industry

The earliest white settlers in Louisiana found oysters growing on the reefs along the coast, and from the first settlement the oysters were gathered for local use. Gradually, as the people living up the bayous and rivers became acquainted with them, others living

Fig. 21.

Old Basin, New Orleans, showing a few of the many oyster boats that bring oysters to New Orleans from the oyster beds in the bays and sounds along the coast.

nearer the reefs began to gather and to sell oysters in small quantities to them. From this modest beginning the great oyster-fishing industry of Louisiana has developed. At present the principal reefs are in the parishes of St. Bernard, Plaquemines, Lafourche, and Terrebonne. West of the Atchafalaya river there is no oyster fishing,

except around the Southwest Pass and Marsh Island in Iberia parish.

In 1904 it was estimated that there were 6,000,000 acres of water surface suited to the cultivation of oysters along the coast, or about one-fifth of the total area of the state. We do not mean that all this surface is now underlaid with oyster beds. In fact, the natural reefs cover only about 50,000 acres.

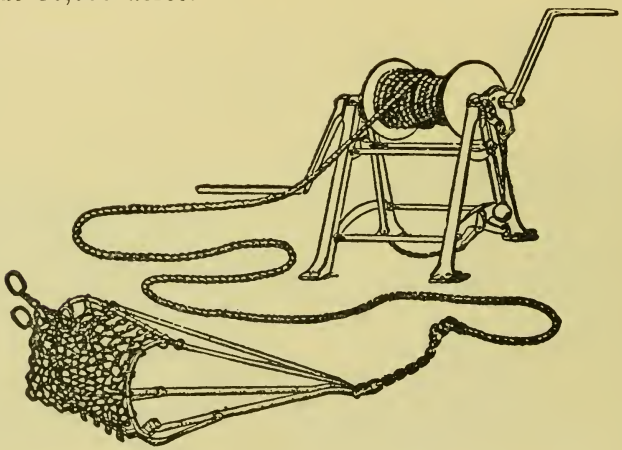


Fig. 22.

Oyster scraper. The windlass is placed on the deck of the skiff and by means of it the scraper is hauled on deck and emptied of its oysters.

These natural reefs yielded in 1903 almost the entire oyster crop, consisting of 1,617,044 bushels. The artificial beds are made on a bottom hard enough so that the oyster shells do not sink in and become covered by mud, by scattering old shells or some other clean material to which the young oysters may attach themselves.

Oysters are fished either by hand tongs or by scrapers or dredges. The scraper is really nothing but a garden

rake with sharp teeth and a chain-net bag behind it (see Fig. 22). It scrapes the bottom and is pulled on deck once in a while and the oysters removed.

Houma and Morgan City are largely engaged in the shipping of oysters outside of the state. Raw oysters,

FIG. 23.

Shucking shed, Avery Island. In this building the oysters are removed from the shells, or "shucked." They then go to the canning factory near by. The shells are taken out into the bay and dumped to form new oyster reefs where the bottom is by nature too soft and muddy for the oyster to live.

removed from the shell, are called "shucked oysters," and are shipped by express daily during the season, from September 1 to May 1, to Texas, California, Utah, Colorado, and many Northern states.

FIG. 24.

Oyster-canning factory, Dunbar. In this room the tin cans are filled with oysters and sealed. Oysters packed here are sold all over the United States.

Canning factories are also being established. Some of the largest are at Rigolets, Dunbar, Houma, Avery Island, and New Orleans (Fig. 24). There is no industry that promises more for a small investment than that of fishing oysters.

MANUFACTURING

Louisiana is an agricultural state, but it is growing rapidly in manufacturing and mechanical industries, and is destined to become a great manufacturing state. Why? What "raw materials" have we to use in the making of finished products? And what facilities have we for the development of trade in manufactured articles? Louisiana

produced in 1900 manufactures worth over $121,000,000, and gave employment to over 74,250 wage-earners.

If the total population is 1,381,625, what fraction of it is engaged in manufacturing ?

The principal industry is that of refining sugar and molasses, which gave employment in 1900 to 6504 wage-

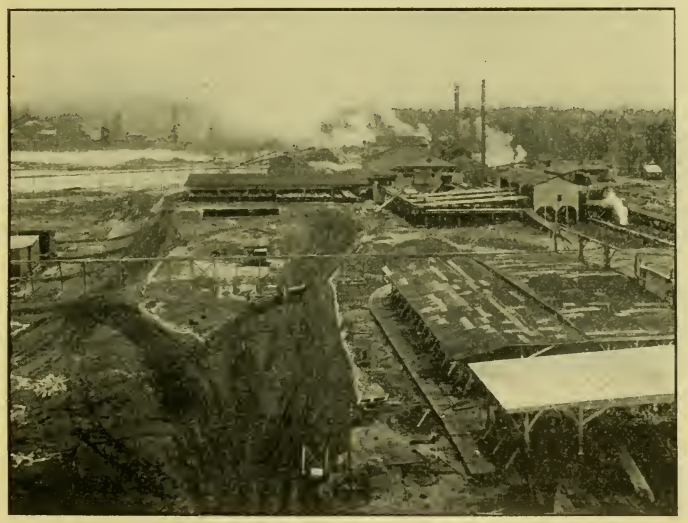


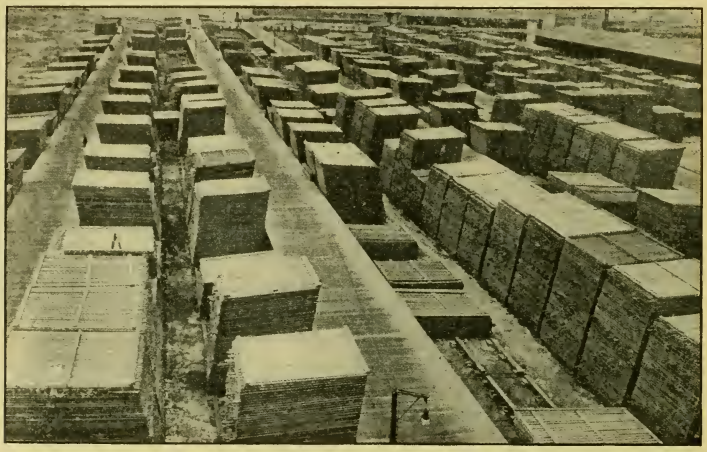
FIG. 25.

Lumber mills at Yellow Pine.

earners and produced to the value of nearly fifty millions of dollars. There is a great waste in this industry because the mills have nothing to do except during the grinding season, in October, November, and December. But a plan is now being devised to manufacture paper out of bagasse, the woody fibre of the sugar-cane that is left after grinding ; and if this plan succeeds, there will

be plenty for the mills to do all the year, and a great gain in production will be accomplished.

The second great manufacturing industry of Louisiana is that of lumber and timber products. In 1900 there



From *The American Lumberman.*

FIG. 26.

Bird's-eye view of the lumber yard at De Ridder.

were 432 mills, employing 10,171 wage-earners, and turning out products worth $17,408,531 — each of these numbers being three times as great as the corresponding figures reported for 1890. And the report for 1910 may be three times as great as for 1900, for there are in the state thousands of square miles of untouched forests of pine, cypress, and hard woods.

See map (Fig. 7) and name some of the parishes near your home in which lumber is an important resource. But what shall we do when these trees are all sawed up? What ought to be done toward preserving the forests of a country, and why?

nus, and the boats lined the crescent-shaped shore in front of the city like locomotives in a round-house. The night scene from the levee in New Orleans during the seventies — that array of stately steamers with their lofty smoke-stacks bearing the red and green signal-lights, the puffing "'scape pipes," the brilliantly lighted passenger cabins, the black roustabouts singing as they unload and roll the cotton bales ashore, and the whole picture reflected in the water — all this, a reality in those times,

FIG. 28.

Southwest Reef Light Station at the entrance to Atchafalaya Bay. This light can be seen in clear weather at a distance of twelve and three-quarters miles. During foggy weather a bell is struck every twenty seconds. On the coast of Louisiana there are a great many light-houses.

seems now a dream. There are many steamboats still plying in all our navigable waters, and many steamships sailing from New Orleans to nearly all parts of the world; but the old-time river transportation has given way and been supplanted in a great measure by the more rapid and cross-country transportation of railroads.

Although there were a few short lines of railroad in the state before 1880, such as the one from New Orleans to

Mobile, Alabama, and the one from Shreveport to Marshall, Texas, it was not until after that year that the opening up of the main railroad lines through the state was begun in earnest. Probably the reason for this was that confidence had been restored in the state government, which was now, for the first time since the Civil War, in possession of the native white people of the state, and that a new and strong constitution had been adopted in 1879.

Fig. 29.
Union Depot, Shreveport.

There were in operation in Louisiana on June 30, 1904, 3413 miles of railroad. The most central line of road and the one with the greatest mileage is the Texas and Pacific, 662 miles, traversing the state from southeast to northwest, from New Orleans to Shreveport and thence into Texas. The second line in mileage and the one making the greatest earnings is the Southern Pacific, 519 miles, consisting of Morgan's Louisiana and Texas line

from New Orleans to Lafayette ; the Louisiana Western from Lafayette through Lake Charles into Texas ; and the Alexandria Branch, from Lafayette to Alexandria. The third is the St. Louis, Iron Mountain, and Southern, 247 miles, extending centrally through the northern half of the state, from Alexandria through Monroe into Arkansas. Each of the following lines has a hundred miles or more of track in the state : —

	Road	Miles
1.	Texas and Pacific	662
2.	Southern Pacific	519
3.	St. Louis, Iron Mountain, and Southern	247
4.	Kansas City Southern	245
5.	Louisiana Railway and Navigation	216
6.	Vicksburg, Shreveport, and Pacific	171
7.	Yazoo and Mississippi Valley	170
8.	New Orleans and Northwestern	115
9.	Louisiana and Arkansas	100

There are, besides these, several important lines that have nearly a hundred miles in the state, as the Kansas City, Watkins, and Gulf, 98 miles, from Lake Charles to Alexandria ; and at least three very important lines, the Louisville and Nashville, the New Orleans and Northeastern, and the Illinois Central, which, though having small mileage in the state, are the great arteries of commerce between New Orleans and all the big trade centres east of the Mississippi river.

Trace all these lines of road on the map (Fig. 1). Which one is nearest to your home? Over what railways would you travel in going to New Orleans? Shreveport? Alexandria? Monroe? Baton Rouge? Lake Charles? To what large cities in other states does each

line lead? Ask your teacher to write the different railroads mentioned in the text for time-tables that will contain large maps showing all the cities in other states reached by their lines.

Consult the latest report of the Louisiana Railroad Commission to find out the increase in mileage and earnings of railroads since 1904.

There are 3771 miles of navigable streams in the state. Eleven of these have more than a hundred miles each, as follows : —

Stream	Miles	Head of Navigation
1. Mississippi river	585	St. Paul, Minn.
2. Red river	510	Shreveport
3. Sabine bayou	387	Logansport
4. Lafourche bayou	318	Donaldsonville
5. Atchafalaya river	218	Red River
6. Ouachita river	217	Camden, Ark.
7. Macon bayou	138	Floyd
8. Calcasieu river	132	Lake Charles
9. Black river	136	Ouachita River
10. Tensas river	112	Lake Providence
11. Pearl river	103	Carthage, Miss.

Trace each of these on the map (Fig. 1). What important towns are located on each? What steamers navigate these streams? Of what advantage to a railroad town is a navigable watercourse? Are goods brought to your home over any of these rivers?

Examine the New Orleans daily papers to see what steamboats and steamships are advertised to sail to-day, and to what destinations.

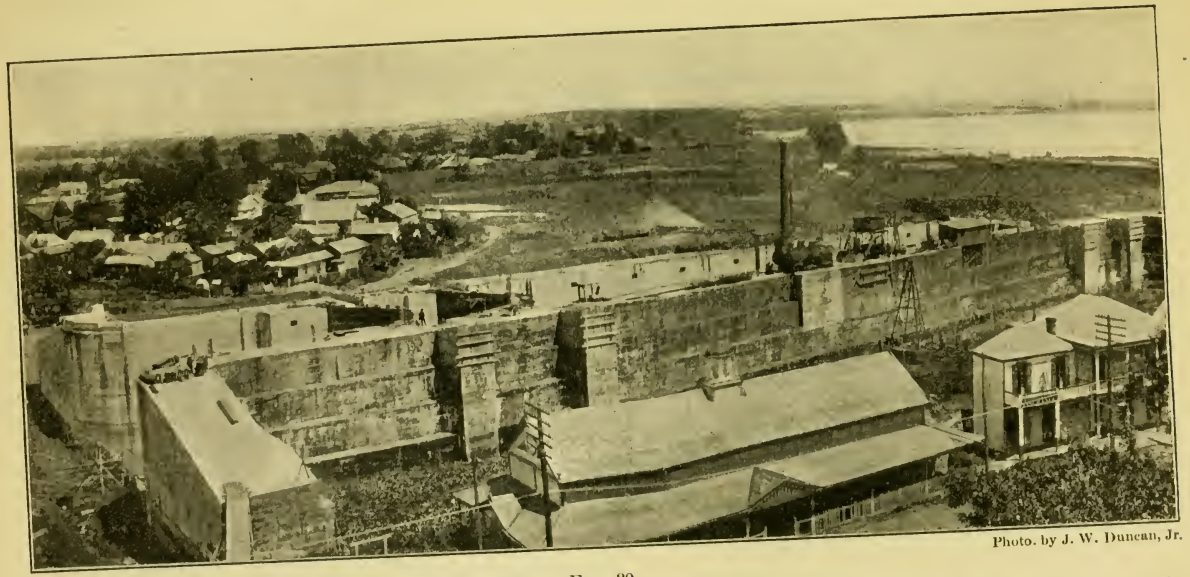


Photo. by J. W. Duncan, Jr.

FIG. 30.

Plaquemine Locks near Plaquemine. When finished, the canal passing through them will connect the Mississippi river with Bayou Plaquemine and the Atchafalaya river.

Cities and Towns

The population of Louisiana, as given by the census of 1900, is 1,381,625. Of these 26.5 per cent live in towns having at least 2500 inhabitants, while 73.5 per cent live in smaller towns and rural districts. Those municipal corporations which are given as having a population of 5000 or more are called cities, and of these there were seven reported in the year 1900, as follows (observe their growth since the census taken ten years before) : —

Name	Population in 1900	Population in 1890
New Orleans	287,104	242,039
Shreveport	16,013	11,979
Baton Rouge	11,269	10,478
New Iberia	6,815	3,447
Lake Charles	6,680	3,442
Alexandria	5,648	2,861
Monroe	5,428	3,256

Which of these cities had the most rapid growth? What will be the population of each city in 1910 if they continue to grow at the same rate of progress as that shown above?

Those places having less than 5000 and more than 1000 inhabitants are called towns. There were, in 1900, two towns having over 4000, five others having over 3000, and five others having over 2000 (see table on the opposite page).

Perhaps most of these will have passed the 5000 mark

and become cities in 1910. Make a list (from Appendix A) of the other towns in the state; decide which of the towns you think will be the first to become cities.

Names of Towns	Population in 1900	Population in 1890
Crowley	4,214	420
Donaldsonville	4,105	3,121
Plaquemine	3,590	3,222
Gretna	3,332	
Lafayette	3,314	2,106
Thibodaux	3,253	2,078
Houma	3,212	1,280
Opelousas	2,951	1,572
Franklin	2,692	2,127
Natchitoches	2,388	1,820
Morgan City	2,332	2,291
Jackson	2,012	1,276

In studying a city or town pay particular attention to the following: Location, population, annual rate of increase, climate, health, natural resources, lines of transportation, chief industries, important business enterprises, public improvements, assessed value of property, schools, churches, institutions, and the general character of the people. Write a paragraph about the town in which your home is situated. What improvements have been made there in the last year? in the last five years? What are some of those which are planned for in the near future?

New Orleans, founded by Bienville, the French explorer, in 1718, is the largest city in the South. Its population of 287,104, as reported by the census of 1900, has now

increased, according to the estimates of the New Orleans Progressive Union, to nearly 340,000, which would indicate a rate of increase twice as great during the past five years as that which was shown in the preceding ten years. By reason of its nearness to the Panama Canal it seems destined to become one of the most important commercial cities of the world; for its location near the mouth of the Mississippi river will, when the canal is

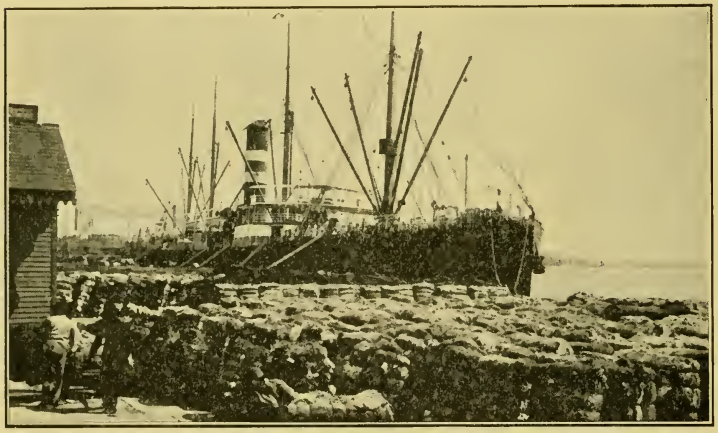


FIG. 31.

Steamship loading cotton for export, New Orleans.

finished, place it in a position to command the trade between all the country included in the valleys of the Mississippi, Ohio, and Missouri rivers and all the great ports on the western coast of South America, the Hawaiian and Philippine Islands, China, Japan, and Australia. It is a manufacturing city and the natural trade centre of the sugar, cotton, rice, and lumber sections of the South. It is directly connected with all

FIG. 32.

Canal Street, New Orleans. This is the principal business street of the city. Notice how wide it is.

parts of the United States by seven great trunk-lines of railroad. The exports from New Orleans in the year 1904 were worth nearly $150,000,000 and required 1505 ships carrying three and a half million tons. The national government has recently built in the harbor of New Orleans the largest floating dry dock in the world and is spending $3,500,000 in providing additional facilities at the mouth of the river, so that ships of 35 feet draught may easily enter. The health conditions of the city are excellent and compare favorably with those of all other large cities in the country. Tulane University is located here, with its colleges of arts and sciences and of technology and its schools of law and medicine (Fig. 34). The H. Sophie Newcomb Memorial College for Young Women is also a department of the University (Fig. 35),

with its school of Art that has now acquired a world-wide fame for its development of the artistic Newcomb Pottery. There are many other important private schools and colleges in the city, including four colleges for negroes. The system of public education had, in 1904, 73 schools with 831 teachers and 24,000 pupils. The New Orleans Public Library and the Howard Memorial

Fig. 33.

Lafayette Square, New Orleans. On the right you can see the City Hall, and in the centre the Henry Clay Statue.

Library are two important factors in the educational life of the city. New Orleans has a mild temperature throughout the year, especially in those months when the rest of the country suffers from extreme cold, and it is therefore a great winter resort. Its unique composition of French, Spanish, and English elements in character, culture, manners, and social customs makes it one of the most interesting and entertaining cities in the world. This is strikingly

illustrated to the tourist in the old French restaurants, the social festivities, the generous hospitality, and in many a

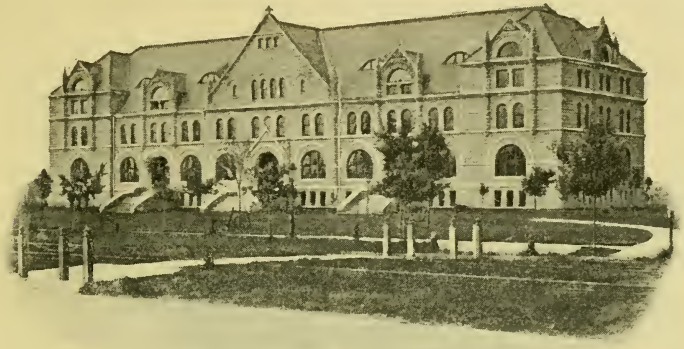


FIG. 34.
Academic building, Tulane University, New Orleans.

touch of quaint architecture and Old World art, in such buildings, for example, as the Cabildo, the St. Louis Ca-

FIG. 35.
H. Sophie Newcomb Memorial College for Women, New Orleans.

thedral, St. Roch Chapel, and in the cemeteries — and most of all in the gala annual celebration of *Mardi Gras*. Have you been to New Orleans? If so, tell what you saw there.

Shreveport, the second city in the state, is situated on the west bank of the Red river in Caddo parish, which forms the northwest corner of Louisiana. The census of 1900 gave its population as 16,013, but a new enumeration made by local authorities two years later resulted in the announcement of 24,364 as the correct number. It is a rapidly growing city, the trade centre and distributing point for its entire section, and the third largest inland cotton market in the United States. It has the advantages of seven railroads and the Red river steamboat lines to bring in its freight and to carry out the large output of its manufacturing interests and its agricultural produce. It has fifty industrial enterprises with a payroll of $1,500,000 and an output of products worth more than $4,000,000. Some of these are: Flour mill, ice factories, brick factories, cotton compresses, car shops, saddle and harness factories, syrup and molasses refinery, blowpipe and sheet-iron works, candy factories, cotton-oil mill, wagon factory, and a furniture factory. It has a complete and efficient system of public schools and one of the best high school buildings in the state. It is notably a city of beautiful and comfortable residences, of busy and successful commerce, and of a cultured and progressive citizenship.

Baton Rouge, the third city in population, is the state capital. It is located on the east bank of the Mississippi on the first bluffs of that river above its mouth, 90 miles from New Orleans (by rail) and at an altitude of 35

feet above the level of the Gulf. Its population in 1900 was 11,260, which has now grown, according to the estimate of the Baton Rouge Progressive League (1905), to 19,890. It has a temperate climate, pure artesian water, and good health. It is in a great cotton and sugar section and is a trade and shipping centre for both of those com-

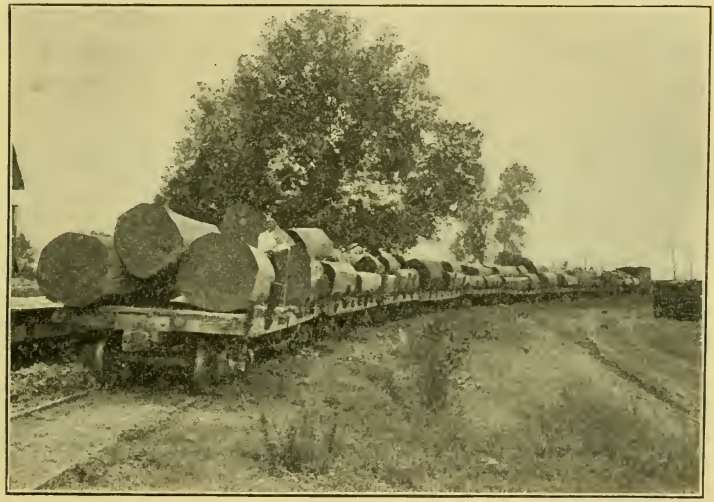


FIG. 36.

Seventeen car loads of poplar logs being shipped from East Baton Rouge for export.

modities. It has three railroads (what are they?) and the Mississippi river. Of what advantage is a river in the development of a city? Baton Rouge ships nearly 35,000 bales of cotton each year. It has two brickyards, two sawmills, an oar factory, a box factory, a veneer factory, a sugar refinery, a cotton-seed-oil mill, a cotton compress, four cotton-gins, an ice plant, and an iron foundry. It

has a number of important public institutions with handsome buildings, among which are the State Capitol (Fig. 41), the Louisiana State University, the Institute for the Blind, the Institute for the Deaf and Dumb, and the public High School. The state penitentiary is located here, but under the present system the convicts are kept on the prison farms in other parts of the state. The State University and Agricultural and Mechanical College occupies the beautiful and commodious buildings and grounds of the old United States Arsenal (Fig. 37), which have been

Fig. 37.

Group of buildings at the State University, Baton Rouge. They once belonged to the United States government and were used for an arsenal.

donated to the institution by Congress. The state and private benefactors have added liberally to the buildings, equipment, and grounds, and the institution is rapidly becoming one of the greatest among southern colleges. The chief State Agricultural Experiment Station is located here, and its investigations and public bulletins, distributed free, are an important factor in the agricultural development of the state.

New Iberia ranks fourth among the cities of the state, having a population of 6815 in 1900. It is located on

The third most important manufacturing industry is that of making cotton-seed oil and meal. This has grown wonderfully. In former times cotton-seed was thrown away as being of no value, but it has now been found that the seed formerly wasted in the ginning of a bale of cotton is worth one-eighth as much as the cotton itself. In 1900 the cotton-seed-oil industry in the state employed 1317 wage-earners and produced a value of one and one-half millions of dollars.

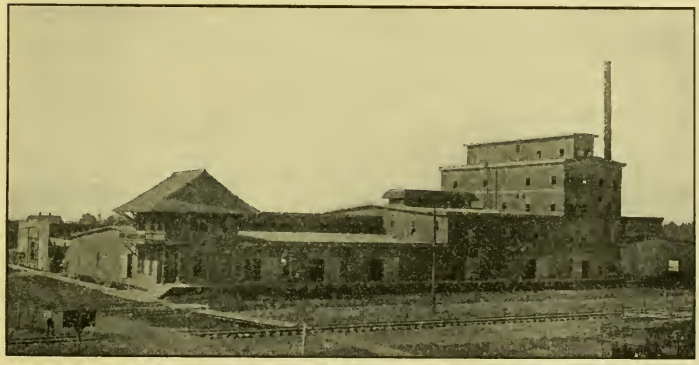


FIG. 27.

Rice mill at Crowley. In such mills the rice grains are polished, and packed in sacks to be shipped away and sold.

Fourth in order is the work of polishing and cleaning rice. In 1900 the 412 wage-earners in this industry produced a value of more than five and a half millions of dollars. But at that time many big mills were just beginning operation; the industry is much greater now.

And next in order come the making of cloth bags, foundry and machine-shop products, planing-mill products, car construction, and railroad shop work.

In what part of the state is most of the sugar manufacturing done? lumber? long-leaf pine? short-leaf pine? cypress? hard woods? cotton-seed oil? cleaning of rice?

SELECTED MANUFACTURES IN 1900

Cloth bags	$3,443,468.00
Cars and shop construction by railroads	1,429,099.00
Foundry and machine-shop products	2,672,761.00
Lumber and timber products	17,408,513.00
Planing-mill products, including sashes, doors, and blinds	1,573,481.00
Oil, cotton-seed, and cake	7,026,452.00
Rice, cleaning and polishing	5,736,451.00
Sugar and molasses, refining	47,891,691.00
Printing and publishing	2,020,708.00
Masonry, brick and stone (New Orleans)	1,204,750.00
Malted liquors (New Orleans)	1,472,062.00
Clothing (New Orleans)	3,365,968.00
	95,245,404.00
All other industries	25,936,279.00
Total[1]	$121,181,683.00

TRANSPORTATION ROUTES

In the old days of stagecoaches and steamboats Louisiana was one of the most favored states in the country in transportation facilities. Having so many navigable waterways, including the great Mississippi river which passes through this state last on its way to the Gulf, it probably had more steamboats within its borders than any other state. New Orleans was the great steamboat termi-

[1] This total represents the *gross* value of the products turned out from all factories; deducting the value of materials received in a partly manufactured form, $51,411,310, we have the *net* value of manufactures for 1900, $69,770,373.

Bayou Teche, one of the most picturesque and beautiful small streams of the country. It is 19 feet above sea-level and enjoys a temperate climate and good health. It is in a rich agricultural section in the heart of the sugar country. It has ample transportation facilities over the main line of the Southern Pacific Railroad and its branches

FIG. 38.

St. Joseph's Catholic Church, Thibodaux. One of the oldest churches in Louisiana. Notice the tombs at the right of the church.

to the salt mines on Avery Island and to St. Martinville; and, besides, the Teche is a navigable stream and yields New Iberia the usual advantages from water-route competition with the railroad. The city has three large lumber mills, several sugar mills on near-by plantations, brick factory, cotton-seed-oil mill, rice mill, and iron foundries.

It has an electric-light and waterworks plant, a well-organized public school system, and many modern public improvements. The establishment of an electric inter-urban railway is contemplated along the line of sugar plantations in the thickly settled district between New Iberia and Morgan City.

Lake Charles is situated in the southwestern corner of the state, as Shreveport is in the northwestern corner. It is built on the shore of a beautiful lake of the same name formed by an expansion of the Calcasieu river. It is the seat of justice of Calcasieu parish, the largest parish in the state, and had a population in 1900 of 6680, which was twice as great as the number given for 1890. A school census taken in 1902 showed an increase to 9875, and the estimates of the local Board of Trade for 1905 would indicate about 15,000. The climate and health conditions are excellent. The natural and available resources of the soil in Calcasieu parish and the adjacent parishes are exceptionally rich, consisting of sugar, cotton, rice, sulphur, salt, petroleum, pine, cypress, hard woods, and a great number of lesser products. The most important industry tributary to Lake Charles is that of lumber and timber products, the output reaching above 200,000,000 feet per annum. The next in importance is rice, of which the area in cultivation in 1893 was only 10,000 acres as against 138,000 acres in 1903. Lake Charles has the largest rice mill in the United States. It has a fence factory, iron foundry, machine shop, sugar refinery, brick-yard, lumber mills, sash, door, and blind factory, and car shops. Three trunk-lines of railway connect the city with all sections of the country on the north, east, and west, while there is in prospect the possibility of a deep

water harbor at Cameron, at the mouth of the Calcasieu river, about thirty miles below Lake Charles. The United States government has spent several hundred thousand dollars in the construction of jetties and is continuing that work with the view of securing this harbor. At the mouth of the river is located the Gulf Biological Station of the state, which through its investigations and bulletins is greatly developing the oyster and fishing industries along the coast. Lake Charles has a public library and a well-organized system of public schools.

FIG. 39.
Rapides parish court-house at Alexandria.

Alexandria, on the west bank of the Red river in almost the exact centre of Louisiana, is the parish seat of Rapides parish and is one of the most thriving and pro-

gressive cities in the state. Its population in 1900 was 5648, a number which has probably been already doubled. It is a railroad centre, having lines radiating from it in not less than seven different directions, and is for that reason the most accessible place in the state. Red river is spanned at Alexandria by three heavy iron bridges, two railroad bridges and one for local traffic connecting the city with the town of Pineville. Alexandria is in a very rich agricultural section, the valley of Red river, which is famous for its remarkable production of cotton. Among the principal business enterprises are a cotton compress, two cotton-seed-oil mills, sawmill, planing-mills, iron foundry, coffee-roasting plant, brick factory, ice factory, feed mill, and canning factory. Alexandria is the seat of the new State Insane Asylum. It has one of the finest court-houses in the state, costing $100,000, a modern high school building, and a handsome United States government building.

Monroe, the seventh city in the state in population in 1900, has advanced to a higher rank than that by this time, if the local authorities there were correct in their census taken in August, 1904, reporting a population of 16,208. It is located on the Ouachita river in the north central portion of the state. It has three railroads, besides the benefit of river navigation. It is in a fertile agricultural section and also has many important commercial and industrial enterprises, among which are two cotton-seed-oil mills, one cotton mill, the beginning of what is destined to prove one of the largest manufacturing interests of the state, two cotton compresses, railroad shops, ice factories, sawmills, and an electric light and power plant. Its assessed value in the year 1903 was

$2,651,920 ; in 1904, $3,213,840. Monroe has an efficient system of schools maintained entirely by city appropria-

FIG. 40.

City high school building, Monroe. This school is supported entirely by city taxes and is the only public school in Louisiana entirely independent of state control.

tion and independent of the state system, with one of the finest high school buildings in the state. The parish high school is also located there.

GOVERNMENT

The capital city of Louisiana is Baton Rouge. There in the capitol building, or State House (Fig. 41), the laws are made by our Representatives and Senators. The Governor of the state and the various executive state officers, such as the Secretary of State, the Treasurer, the

Auditor, the Commissioner of Agriculture, and the State Superintendent of Education, have their offices there.

The state government consists of three departments: the legislative, the judicial, and the executive. The legislative department makes the laws, the judicial department interprets and explains the laws, and the executive department sees to it that the laws are enforced and obeyed.

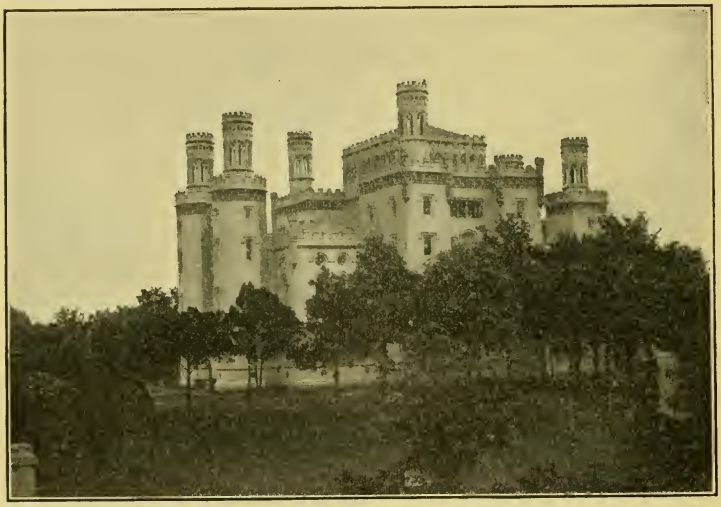


Fig. 41.
State Capitol, Baton Rouge.

The legislature is composed of two bodies, the House of Representatives and the Senate, and meets once every two years, remaining in session sixty days. When will it meet next? There are 41 Senators and 114 Representatives elected by the people. Who are the Senators from your district? Who are the Representatives from your parish? In times of need the Governor may call

the legislature to meet in special session and if necessary such sessions can continue for thirty days.

The judicial department of the government is composed of the Supreme Court, the Courts of Appeal, the District Courts, and the Courts of Justices of the Peace. There are in the Supreme Court five Justices, elected by the people. The Courts of Appeal are composed of District Judges. There must be not less than twenty nor more than twenty-nine District Judges elected in the state by the people of the several Judicial Districts. What parishes are in your District? Who is your Judge? The Justices of the Peace are elected by the people of the wards in which they serve. A ward is a portion of a parish. What ward do you live in? Who is Justice of the Peace for that ward?

The executive power of the state is in the hands of the Governor and of the various state officers serving under him and forming what is called his administration.

The fifty-nine parishes of the state (similar to *counties* in other states), and the incorporated cities and towns, have separate governments of their own; but these smaller governments are under the control of the state government, and in turn the state government forms a part of the larger national government. Louisiana has two Senators in the United States Senate and seven Representatives in the House of Representatives, one elected from each congressional district. In what congressional district do you live? (See Appendix B.) Who are our Senators in Congress? Who is your Representative there?

History

The land now called Louisiana is a part of the country that LaSalle, the French explorer, took possession of for France in the year 1682. He named it Louisiana in honor of the French king, Louis XIV. Its first settlements were made by French colonists. In 1762, however, it was

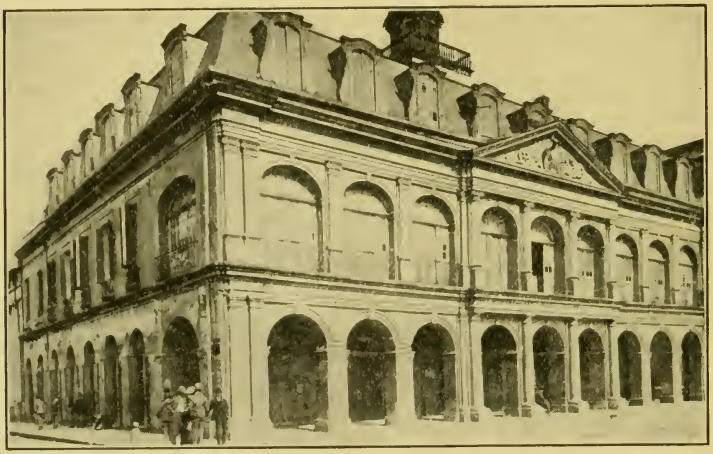


Fig. 42.

The Cabildo, New Orleans. It was here, on December 20, 1803, that Louisiana Territory was transferred by the French to General Wilkinson and Governor Claiborne, the United States commissioners. It is now used by the Supreme Court.

ceded by France to Spain, whose officials took possession of it in 1769. In 1800 it was ceded back to France, and in 1803 was sold to the United States — the greatest territorial purchase and sale ever made in the history of the world. On December 20, 1803, in the old Cabildo at New Orleans, the keys of the city were delivered to the repre-

sentatives of the United States Government by the French commissioners, in the presence of a large assemblage of people, which indicated the formal transfer of the Louisiana Territory (Fig. 42). Have you ever visited the Cabildo? If not, do so the next time you go to New Orleans. What was the area of the Louisiana Territory?

That part of the Louisiana Territory which was afterward to become the state of Louisiana was marked off from the rest of it in 1804, and organized into The Territory of Orleans; and on April 8, 1812, it was admitted into the Union as a state. W. C. C. Claiborne was the first Governor.

Louisiana became a famous battle ground in the history of the country through Jackson's splendid victory over the British in the battle of New Orleans, January 8, 1815; and again for the stubborn resistance offered the Federal forces in the war between the states. She seceded from the Union, January 26, 1861, and joined in forming the government of the Confederate States of America at Montgomery, Alabama, February 9, 1861. This government fell in the great Civil War, and Louisiana was readmitted to the Union in July, 1868, after Congress had approved the state constitution adopted in March of that year.

Louisiana bore a brave and honorable part in that war, and when it was ended, set herself patiently and courageously about the task of rebuilding her fallen fortunes and adapting herself to the new conditions — and she has labored with great success and prosperity. In what ways is Louisiana prosperous? What damage was done in the state by the war? In what ways have some of those damages been repaired? After the troublous times of

reconstruction a new constitution was adopted in 1879 under which the state grew stronger. And in 1898 a still better constitution was adopted, opening the way for many improvements and reforms in our institutions and the public service. What are some of the important changes that have come to us as a result of provisions of the constitution of 1898?

Education

The state educational institutions of Louisiana are as follows: —

The Louisiana State University and Agricultural and Mechanical College, at Baton Rouge.

Fig. 43.
Main building, Southwestern Louisiana Industrial Institute, Lafayette.

The Louisiana State Normal School, at Natchitoches.
The Louisiana Industrial Institute, at Ruston.

FIG. 44.
Main building, Louisiana Industrial Institute, Ruston.

The Southwestern Louisiana Industrial Institute, at Lafayette.

The Institution for the Blind, at Baton Rouge.

The Institute for the Deaf and Dumb, at Baton Rouge.

The State System of Public Schools.

The Teachers' Institutes and Summer Normal Schools.

The Southern University and Agricultural and Mechanical College, for Negroes, at New Orleans.

Some of the most important private and sectarian educational institutions in Louisiana are the following: —

Tulane University of Louisiana, including Newcomb College, New Orleans.

Isidore Newman Manual Training School, New Orleans.
Centenary College (Methodist), Jackson.
Jefferson College (Catholic), Convent.
Jesuits' College (Catholic), New Orleans.
Mt. Lebanon College (Baptist), Mt. Lebanon.
Silliman Collegiate Institute (Presbyterian), Clinton.
Louisiana Female College (Baptist), Keatchie.
Mansfield Female College (Methodist), Mansfield.
Holy Cross College (Catholic), New Orleans.
Home Institute, New Orleans.
Ursuline Academy (Catholic), New Orleans.

And there are many other institutions of this class, both large and small, throughout the state; in particular, those conducted by the various Catholic orders, such as the Jesuits, Sisters of the Sacred Heart, Mt. Carmel, Notre Dame, the Dominicans, and others. And there are, besides, many excellent academies or college preparatory schools, such as Rugby Academy, Ferrell's School, and the University School in New Orleans, and Dixon Academy in Covington; and business or commercial colleges such as Soule's, Spencer's, and others, in New Orleans. There is a number of higher sectarian schools for negroes, such as Straight University (Congregational), Leland University (Baptist), and New Orleans University (Methodist), all in New Orleans; and several noteworthy efforts are being made in industrial training for negroes, as at Gilbert Academy, Baldwin.

Probably greater progress is now being made in the state system of public education in Louisiana than in any other branch of the public service. During the school year of 1904–1905 there was expended in support of the public schools of the state $2,207,855. Of this amount

the state gave $1,821,855, an increase of $265,000 over the amount appropriated in the preceding year; and the balance, $386,000, was raised by local taxation. New schoolhouses were erected costing $150,000. The average salary of white teachers, including city principals, was $46.70 per month; of colored teachers, $28. The average length of the school term for white schools was 6.5 months; for colored schools, 5.3 months. The number of white teachers employed was 3759; colored teachers, 1020. The number of public schools taught in the state was nearly 4000, enrolling 208,000 pupils; private schools, about 800, enrolling 30,000 pupils. The number of recognized public high schools was 37. The number of children in the state of school age was 459,000.

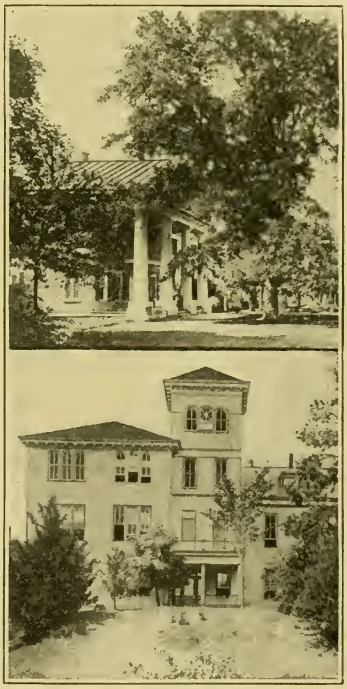


FIG. 45.

State Normal School, Natchitoches. The upper picture shows the old building; the lower, the new one.

The educational outlook is in all respects brighter than ever before in the history of the state. Notwithstanding an apparent backwardness by reason of the statistics on illiteracy, Louisiana is really somewhat in advance of her sister states in general educational effort and progress. The

presence of illiteracy can be easily explained, honorably accounted for, quickly eradicated — and, in fact, it is rapidly disappearing. The record of illiteracy will be greatly reduced at the next census, and in the one following will have practically disappeared. It will then be observed that Louisiana's educational condition, which had been previously obscured by this supposed shadow of illiteracy, had been, in fact, making preëminent progress all along, and even distancing many other states that had never suffered from adverse statistics.

APPENDIX A

POPULATION OF INCORPORATED CITIES, TOWNS, AND VILLAGES IN LOUISIANA, AND THE PARISHES IN WHICH THEY ARE SITUATED RESPECTIVELY, 1900

(1) Incorporated Cities[1]

City	Population, 1900	Parish
New Orleans	287,104	Orleans
Shreveport	16,103	Caddo
Baton Rouge	11,269	East Baton Rouge
New Iberia	6,815	Iberia
Lake Charles	6,680	Calcasieu
Alexandria	5,648	Rapides
Monroe	5,428	Ouachita

(2) Towns and Villages

Town or Village	Population, 1900	Parish
ABBEVILLE[2]	1,536	Vermilion
Alden Bridge	50	Bossier
AMITE	1,547	Tangipahoa
ARCADIA	1,157	Bienville
Arnaudville	327	St. Landry
Athens	154	Claiborne
BASTROP	787	Morehouse
Bayou Sara	755	West Feliciana
BENTON	463	Bossier
Bernice	250	Union
Berwick	713	St. Mary
Bienville	263	Bienville
Bonita	100	Morehouse
Boyce	832	Rapides
Breaux Bridge	654	St. Martin
Broussard	290	Lafayette

[1] By Act 136 of the General Assembly of 1898 Municipal Corporations are divided into three classes, viz., cities, towns, villages; those having 5000 or more are cities; those having more than 1000 and less than 5000 are towns; those having more than 250 and less than 1000 are villages.

[2] Names of towns printed in capital letters are seats of justice.

Town or Village	Population, 1900	Parish
Bunkie	873	Avoyelles
Campti	310	Natchitoches
Carencro	445	Lafayette
Church Point	278	Acadia
CLINTON	960	East Feliciana
Colfax	190	Grant
Collinston	150	Morehouse
COLUMBIA	382	Caldwell
Cottonport	502	Avoyelles
COUSHATTA	600	Red River
COVINGTON	1,205	St. Tammany
CROWLEY	4,214	Acadia
Delhi	620	Richland
Delta	320	Madison
Denham Springs	110	Livingston
De Quincey	66	Calcasieu
De Ridder	350	Calcasieu
DONALDSONVILLE	4,319	Ascension
Dubach	150	Lincoln
Erath	215	Iberia
Estherwood	103	Acadia
Eunice	316	St. Landry
Evergreen	322	Avoyelles
FARMERVILLE	458	Union
FLOYD	176	West Carroll
FRANKLIN	2,692	St. Mary
FRANKLINTON	236	Washington
Gibsland	558	Bienville
Grand Cane	385	De Soto
Grand Coteau	521	St. Landry
GREENSBURG	315	St. Helena
GRETNA	3,332	Jefferson
Gueydan	376	Vermilion
HAHNVILLE	447	St. Charles
Hammond	1,511	Tangipahoa
HARRISONBURG	303	Catahoula
Haughton	194	Bossier
Haynesville	200	Claiborne
HOMER	1,157	Claiborne
Hornbeck	225	Vernon
HOUMA	3,212	Terrebonne
Iota	65	Acadia
Jackson	2,012	East Feliciana
Jeanerette	1,905	Iberia
Jennings	1,539	Calcasieu
Jonesville	172	Catahoula

Town or Village	Population, 1900	Parish
Junction City	389	Union
Kenner	1,253	Jefferson
Kentwood	1,313	Tangipahoa
LAFAYETTE	3,314	Lafayette
Lake Arthur	200	Calcasieu
LAKE PROVIDENCE	1,256	East Carroll
Lecompte	375	Rapides
LEESVILLE	1,148	Vernon
Lockport	401	Lafourche
Logansport	688	De Soto
Madisonville	779	St. Tammany
Mandeville	1,029	St. Tammany
MANSFIELD	847	De Soto
Mansura	408	Avoyelles
MANY	345	Sabine
MARKSVILLE	837	Avoyelles
Marthaville	228	Natchitoches
Melville	517	St. Landry
Mermentau	175	Acadia
Mer Rouge	465	Morehouse
MINDEN	1,561	Webster
Montgomery	158	Grant
Moreauville	200	Avoyelles
Morgan City	2,332	St. Mary
NAPOLEONVILLE	945	Assumption
NATCHITOCHES	2,388	Natchitoches
NEW ROADS	700	Pointe Coupee
Oak Ridge	348	Morehouse
Oberlin	213	Calcasieu
Olla	166	Catahoula
OPELOUSAS	2,951	St. Landry
Pineville	617	Rapides
Plain Dealing	258	Bossier
PLAQUEMINE	3,590	Iberville
Pleasant Hill	300	Sabine
Pollock	637	Grant
Ponchatoula	711	Tangipahoa
PORT ALLEN	250	West Baton Rouge
Provencal	246	Natchitoches
Quitman	15	Jackson
Rayne	1,007	Acadia
RAYVILLE	475	Richland
Robeline	464	Natchitoches
Roseland	1,320	Tangipahoa
Rosepine	75	Winn
RUSTON	1,324	Lincoln

Town or Village	Population, 1900	Parish
St. Francisville	1,059	West Feliciana
St. Joseph	717	Tensas
St. Martinville	1,926	St. Martin
Slaughter	259	East Feliciana
Slidell	1,129	St. Tammany
Tallulah	225	Madison
Tangipahoa	297	Tangipahoa
Thibodaux	3,253	Lafourche
Tioga	250	Rapides
Vernon	175	Jackson
Vidalia	1,022	Concordia
Ville Platte	163	St. Landry
Vivian	—	Caddo
Washington	197	St. Landry
Waterproof	298	Tensas
Welsh	320	Calcasieu
West Monroe	775	Ouachita
White Castle	1,850	Iberville
Wilson	470	East Feliciana
Winnfield	133	Winn
Winnsboro	300	Franklin
Youngsville	200	Lafayette
Zachary	465	East Baton Rouge
Zwolle	276	Sabine

APPENDIX B

Parish	Congressional District	Incorporated	Area Square Miles
Acadia	Seventh	1866	616
Ascension	Sixth	1807	373
Assumption	Third	1807	355
Avoyelles	Seventh	1807	843
Bienville	Fourth	1848	856
Bossier	Fourth	1843	773
Caddo	Fourth	1838	852
Calcasieu	Seventh	1843	3,268
Caldwell	Fifth	1838	544
Cameron	Seventh	1870	1,560
Catahoula	Fifth	1808	1,350
Claiborne	Fifth	1828	778
Concordia	Fifth	1807	665
De Soto	Fourth	1853	856

Parish	Congressional District	Incorporated	Area Square Miles
East Baton Rouge	Sixth	1807	425
East Carroll	Fifth	1877	400
East Feliciana	Sixth	1811	466
Franklin	Fifth	1843	614
Grant	Seventh	1869	636
Iberia	Third	1868	667
Iberville	Sixth	1807	646
Jackson	Fifth	1845	577
Jefferson	Second	1825	603
Lafayette	Third	1825	239
Lafourche	Third	1807	1,024
Lincoln	Fifth	1873	575
Livingston	Sixth	1832	593
Madison	Fifth	1839	684
Morehouse	Fifth	1844	757
Natchitoches	Fourth	1807	1,290
Orleans	Second	1805	199
Ouachita	Fifth	1807	640
Plaquemines	First	1807	930
Pointe Coupee	Sixth	1807	575
Rapides	Seventh	1807	1,524
Red River	Fourth	1871	400
Richland	Fifth	1868	578
Sabine	Fourth	1903	1,008
St. Bernard	First	1807	680
St. Charles	Second	1807	393
St. Helena	Sixth	1811	413
St. James	Second	1807	343
St. John	Second	1807	230
St. Landry	Seventh	1807	1,683
St. Martin	Third	1811	602
St. Mary	Third	1811	648
St. Tammany	Sixth	1811	923
Tangipahoa	Sixth	1869	790
Tensas	Fifth	1842	641
Terrebonne	Third	1822	1,977
Union	Fifth	1839	911
Vermilion	Third	1844	1,250
Vernon	Seventh	1871	1,540
Washington	Sixth	1819	668
Webster	Fourth	1871	615
West Baton Rouge	Sixth	1807	210
West Carroll	Fifth	1877	380
West Feliciana	Sixth	1811	385
Winn	Fourth	1852	954

Population, 1900				Taxable Property (1903)	Seat of Justice
White	Colored	Indian	Total[1]		
18,662	4,820	0	23,483	$6,508,341	Crowley
12,048	12,081	2	24,142	2,888,381	Donaldsonville
12,181	9,438	0	21,620	2,799,740	Napoleonville
17,762	11,891	47	29,701	2,813,900	Marksville
9,348	8,240	0	17,588	2,840,270	Arcadia
5,262	18,890	1	24,153	2,170,420	Benton
13,826	30,662	1	44,499	10,555,960	Shreveport
24,267	5,966	191	30,428	16,035,355	Lake Charles
3,841	3,076	0	6,917	1,269,395	Columbia
3,375	577	0	3,952	1,302,210	Cameron
9,518	6,793	40	16,351	3,179,523	Harrisonburg
9,202	13,827	0	23,029	2,013,953	Homer
1,714	11,845	0	13,559	1,326,644	Vidalia
8,160	16,903	0	25,063	2,687,000	Mansfield
10,562	20,578	0	31,153	5,771,720	Baton Rouge
959	10,412	0	11,373	1,701,995	Lake Providence
5,570	14,871	0	20,443	2,033,625	Clinton
3,870	5,020	0	8,890	1,183,471	Winnsboro
9,237	3,665	0	12,902	2,203,530	Colfax
14,729	14,282	0	29,015	5,009,671	New Iberia
9,842	17,159	0	27,006	3,223,225	Plaquemine
5,915	3,204	0	9,119	1,273,132	Vernon
8,979	6,279	0	15,321	4,758,886	Gretna
13,309	9,516	0	22,825	3,281,051	Lafayette
20,626	8,184	65	28,882	2,770,265	Thibodaux
9,139	6,759	0	15,898	2,027,395	Ruston
6,956	1,144	0	8,100	1,276,381	Springville
899	11,422	0	12,322	1,757,160	Tallulah
3,911	12,722	1	16,634	2,543,540	Bastrop
13,662	19,544	2	33,216	4,732,600	Natchitoches
208,946	77,714	2	287,104	157,748,764	New Orleans
7,847	13,098	0	20,947	5,169,755	Monroe
5,762	7,276	0	13,039	2,009,816	Pointe-a-la-Hache
6,601	19,174	0	25,777	1,928,342	New Roads
18,320	21,210	41	39,578	5,546,320	Alexandria
4,077	7,471	0	11,548	1,276,351	Coushatta

[1] The difference between the figures showing the total population and the sum of the white, colored, and Indian represents Chinese and Japanese.

Population, 1900				Taxable Property (1903)	Seat of Justice
White	Colored	Indian	Total		
3,222	7,892	0	11,116	1,687,288	Rayville
12,418	3,002	1	15,421	2,306,040	Many
2,832	2,197	0	5,031	1,104,317	Arabi
2,970	6,102	0	9,072	1,950,289	Hahnville
3,896	4,583	0	8,479	904,145	Greensburg
8,839	11,356	0	20,197	2,389,603	Convent
5,145	7,184	0	12,330	1,857,451	Edgard
26,170	26,658	77	52,906	6,151,620	Opelousas
10,057	8,883	0	18,940	2,430,370	St. Martinville
13,789	20,264	83	34,145	6,026,842	Franklin
8,415	4,889	30	13,335	2,735,855	Covington
12,248	5,375	2	17,625	3,754,290	Amite City
1,231	17,839	0	19,070	1,678,420	St. Joseph
14,142	10,312	0	24,464	3,193,406	Houma
11,553	6,967	0	18,520	2,023,660	Farmerville
16,957	3,747	0	20,705	3,930,371	Abbeville
9,048	1,279	0	10,327	4,277,597	Leesville
6,846	2,776	6	9,628	1,739,083	Franklinton
6,863	8,262	0	15,125	2,124,949	Minden
2,351	7,934	0	10,285	1,344,480	Port Allen
1,556	2,128	1	3,685	669,235	Floyd
2,213	13,781	0	15,944	1,406,757	St. Francisville
7,967	1,681	0	9,648	2,763,192	Winnfield

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