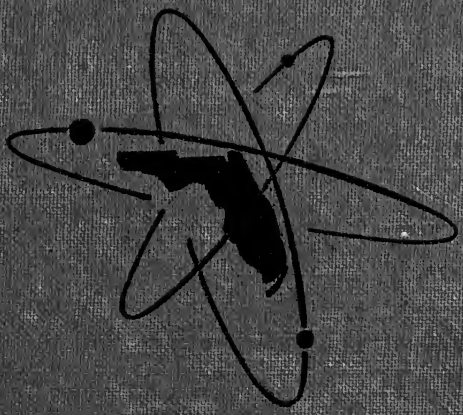
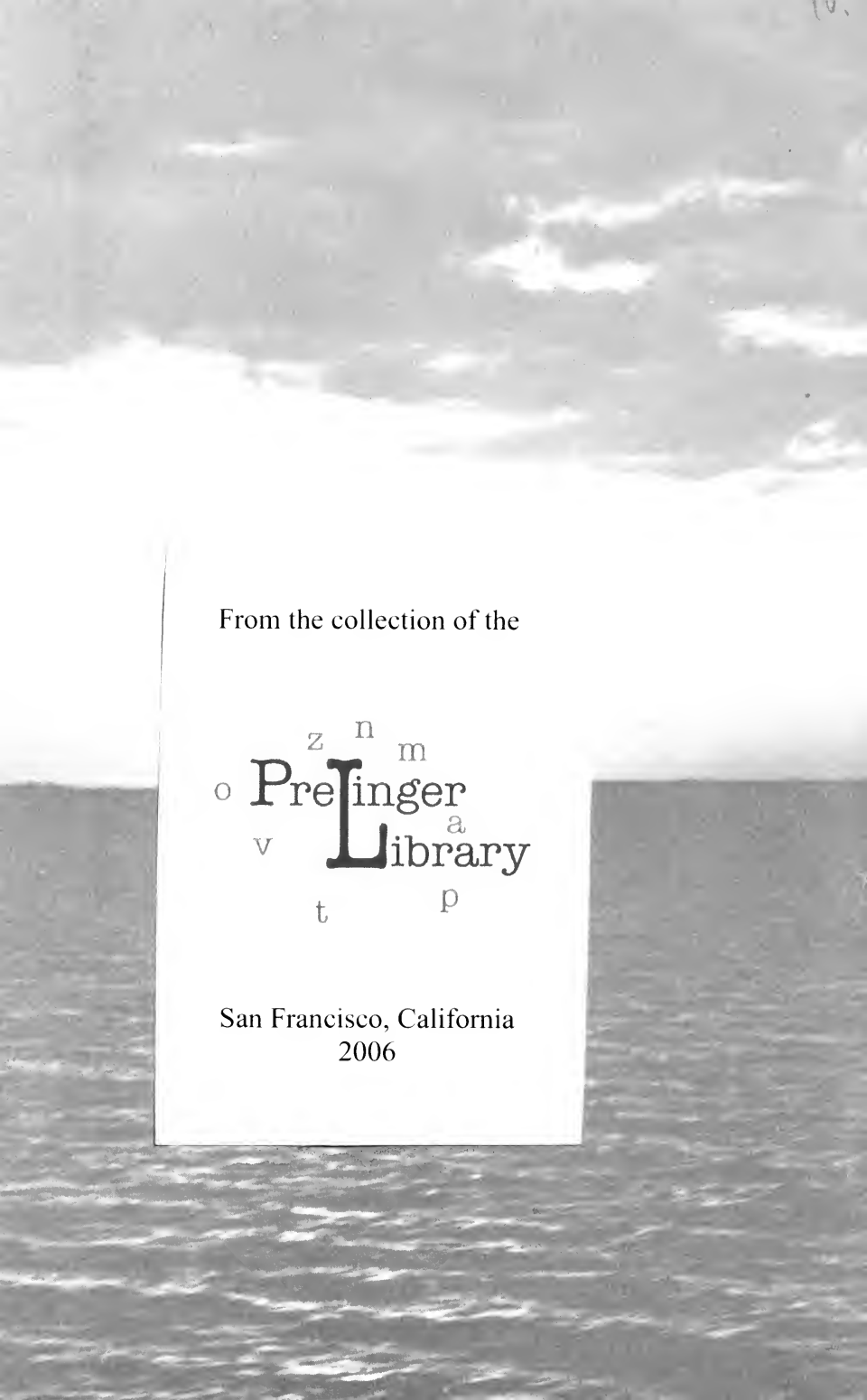
SOUTH FLORIDA FRONTIERS





SOUTH FLORIDA FRONTIERS

BY
MIKE SMITH

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This map appeared in a London magazine in 1765.

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To All the Readers of SOUTH FLORIDA FRONTIERS:

I hope each of you enjoys and learns as much as I have from this book.

Here is the story, briefly told and easily read, of our past, present, and future frontiers in South Florida. Mrs. Mike Smith, the author, has delved into the documents of the past, explored the records of the present, and done some shrewd guessing about the future. A lifelong resident who has been writing about Florida for 25 years, Mrs. Smith has described the most important aspects of living, working, and playing in South Florida. She shows how each came to be and gives the reader a glimpse into future possibilities.

This book will give the junior high school boys and girls of South Florida, as well as other readers, a greater understanding of life in this area. Also, all of us are sure to catch the author's contagious enthusiasm about the opportunities ahead for South Florida residents.

Chapters I and II tell in part the story of South Florida's settlement—the opening up of this frontier land. However, frequent reference to historical backgrounds of present frontiers is made in the other eight chapters. These latter chapters deal with the facts and possibilities of South Florida life and work in relation to the sea, agriculture, aviation, climate, construction, industry, tourism, and education.

For the benefit of pupils and teachers, a list of questions and a list of suggestions for further study appear at the end of each of the ten chapters. Also to help in the schools, lists of audiovisual aids and books to give more information about South Florida are included at the end of the book. These various lists have been ably prepared by Mrs. Leona Goldweber, a teacher in the Kinloch Park Junior High School, Miami.

We can be grateful to the Florida Power & Light Company for having this volume prepared, published, and given to schools. Along with the officials of this company, and with school representatives who have advised in the preparation of the material, I firmly hope and expect that this publication will make for an even better South Florida.

WILLIAM M. ALEXANDER
Professor of Education
University of Miami

Coral Gables, Florida
January, 1957

A mighty missile, the Matador, rolls onto a launcher, nose up-pointed towards Florida's blue skies.

Chapter I

Ponce de Leon . . . pirates . . . pioneering . . . progress!
The challenge is here as . . .

A Great State Springs to Life

In South Florida the land, sea, and sky hold exciting new opportunities. They challenge you to create careers in fabulous fields ranging from sea mining to the launching of satellites, or small man-made moons, into outer space. They dare you to think, act, and live in new ways, even to coin new words for new activities.

It's The Climate

South Florida's opportunities and living advantages stem, basically, from climate. All South Florida is nearer the true tropics than any other region in the United States. But southeastern Florida has a unique climate moderated by cooling winds and the Gulf Stream. This different climate is the magic creating new frontiers.

Consider, for instance, the mysterious sea which warms Florida's long coast in winter and cools it in summer. This sea holds vast riches yet to be explored.

In Florida's sea waters are stores of little known treasures. You may be among those who make them useful and available to man.

The deep-flowing currents, the mountains, the valleys, and the floors of the sea hold vast amounts of mineral riches. The tropical sea also abounds in vegetable and animal life. There is the small plant and animal life called "plankton" that forms the well of all the sea's food supply. Food supplies and minerals may be vanishing from the earth, but the sea remains a new and immensely rich frontier challenging not only the scientific fisherman but also the explorer, the petroleum geologist, the electronics expert, and even the farmer.

The sea may be your frontier!

Frontiers Everywhere

But you do not have to fish or dive to find a frontier in South Florida. You find it all around you on land. Agriculture offers a varied opportunity, not only to the farmer but also to the chemist, machinist, inventor, horticulturist, veterinarian, food technologist, engineer, builder, and to experts in the fields of nutrition, advertising, marketing, transportation, and refrigeration. Gone from South Florida is the old-fashioned "hayseed" farmer. Today's farmer tills the soil with science. In fact, he may not till the soil at all. He may be a hydroponic farmer, growing plants in water.

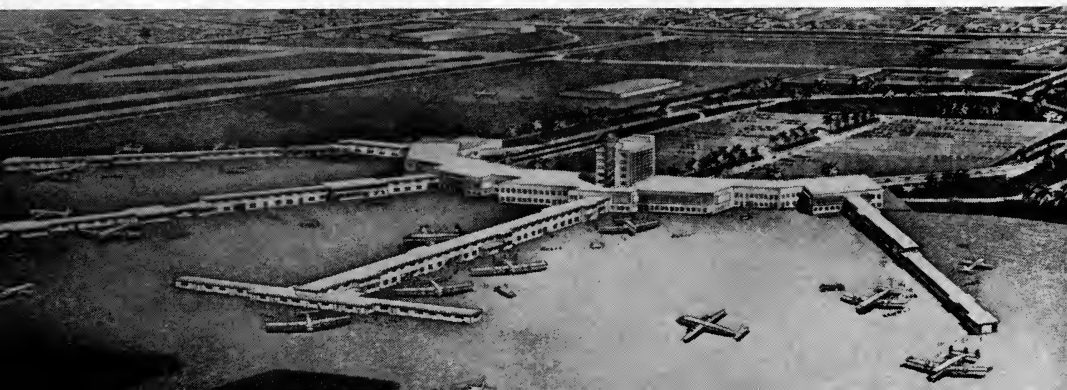
But there's more to Florida than sea or land. The launching of a space satellite from a Florida base opens a new frontier so infinite that no one can say truly, "The sky is the limit." Today Florida's frontiers extend into outer space. Important civilian and military work such as the testing of missiles and weapons in Florida is creating an increasing opportunity for engineers and for experts in the widening field of electronics. Thus the sky may be your new frontier.

Especially Aviation

The ever-spreading horizons of commercial aviation have made Miami and all South Florida a focus of the world's activities. Aviation now is entering its most fabulous era. In South Florida it is continually opening new frontiers, especially to those who speak and write Spanish, Portuguese, French, or other languages.

Miami's International Airport is one of the largest, busiest, and most modern in the world. Millions of persons and tons of air mail and cargo stream through this air-gate annually. The number of passengers using the airport in 1955 was four times the population of Miami. That year 3,059,142 passengers

Hub of the Americas, Miami's million-dollar air passenger terminal



landed or took off at this 3,000-acre airport, while 11,783,905 pounds of mail and 137,015,607 pounds of cargo were handled. More than 17,000 persons worked at the airport and the payroll totalled more than $70,000,000.

With its new $10,000,000 passenger terminal built to the needs of the jet age, Miami's airport opens a door to the world.

Today this great international airport is also the center of rapidly expanding light industry offering work to many persons and a challenge to inventors. South Florida, and in fact all Florida, is feeling a tremendous stir of new life through industry connected with aircraft.

Pirates To Pioneers!

Blessed with a mild but invigorating climate, the nearest-to-ideal living conditions in the country, and the brightest outlook of any of the states, Florida also possesses the richest of traditions. The colorful Indian, the fearless Spaniard, the gallant Frenchman, the English planter, the American soldier—pirates, priests, and pioneers—they all walk through the pages of Florida history.

The recorded history of Florida begins in 1513 when Juan Ponce de Leon landed on the east coast near the present city of St. Augustine, but we know from a map made in 1502 that Europeans visited Florida before that historic date. However, to Ponce de Leon goes credit for the naming of Florida. The impression the new land made upon the fearless, middle-aged Spaniard is recorded in the very word, Florida — "land of flowers."

Other explorers, too, were impressed with Florida's climate. The Frenchman, Jean Ribaut, who claimed Florida for the King of France in 1562, wrote of the new land as, "Fairest, frutefulest, and pleasantest in all the Worlde." Ribaut landed near the mouth of the St. John's River and he found the Indians there peaceful, handsome, and intelligent.

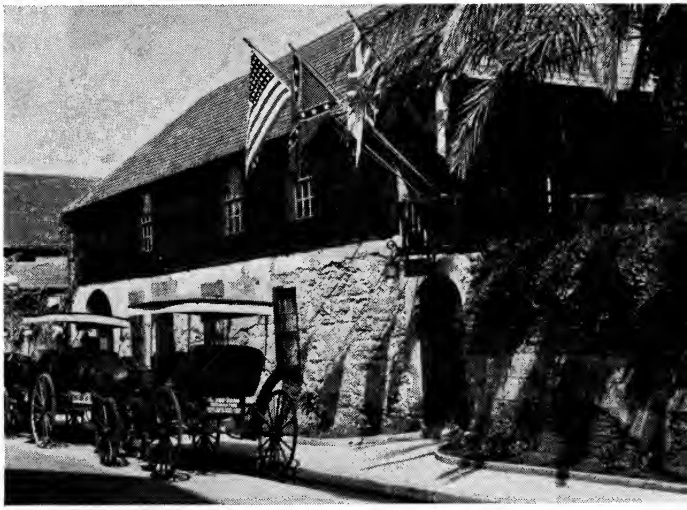
But the first lasting settlement in Florida was made at St. Augustine by the Spanish in 1565. Worried and angered by the French occupation of the new land, the Spanish king hastened Pedro Menendez de Aviles to Florida to wipe out the French. This he did.

After establishing the settlement in St. Augustine in 1565, the Spanish explored and made settlements in regions along the St. Lucie and Miami Rivers and along the shores of Charlotte Harbor on the west coast. A fort was built at Pensacola in 1698, and missions were established in the Apalachee country, near present-day Tallahassee.

By 1700, the Spanish had ringed the vast wilderness of Florida with far-apart settlements, forts and missions. If this seems slow to you, consider the unknown distances, the unheralded hurricanes, the mosquitoes, the wolves and other wild animals, the surging rivers alive with alligators, the almost impenetrable swamps and jungles. Add to this the constant wrangling among the Spanish, French, English, Americans, and Indians and you will understand why the settlement of Florida moved slowly.

Gates of St. Augustine, oldest city in the U. S.

Staunch, grim and moated, the Castillo de San Marcos in St. Augustine is storied stone.



The walls of the oldest house in St. Augustine, shown here, still hold a cannonball from the English bombardment in 1740.

Wars And Warriors

The three hundred years—from 1513 when Ponce de Leon took possession of Florida in the name of the King of Spain to 1819 when the United States of America loosed the last desperate clasp of Spain—were centuries of intermittent war. At times, the flames of conflict burned low but they never died out, and often blazed into bloody battles and massacres.

Florida was not then a rich land. To the bitter dismay of the Spaniards, who had found enormous amounts of treasure in Peru and Mexico, it held no gold, no pearls. But it was, nonetheless, a prize, a finger of land stretching southward toward Havana and the rich isles of the Caribbean and guarding the sea-route to Mexico, land of abundant treasure.

To understand the conflict of those formative years, consider that boundaries laid down by popes and kings were no more than imaginary lines shifting with the tides of on-the-spot war. In the time of Ponce de Leon, the land of Florida stretched from the Arctic to the Mississippi, at least in Spanish minds. But gradually, as the English claimed the Atlantic seaboard and the French moved down the Mississippi valley, Florida was sliced away until it became the size it is today.

The original Spanish claim to Florida, strengthened by the ousting of the French in 1565, tantalized the English adventurers who roamed the Florida coast, waiting like hungry seahawks to pounce upon the treasure-laden Spanish galleons bound from Mexico to Spain. Sir Francis Drake, daring English adventurer, attacked and almost destroyed the infant city of St. Augustine in the 1580's.

The Spanish met the threats of the English by rebuilding the wooden fort at St. Augustine into an impregnable fortress of coquina rock surrounded by a moat.

This strong fort, the Castillo de San Marcos, useless in modern warfare, served the Spanish well in their war with England. In 1702, the English Governor of Carolina moved against St. Augustine and captured the town. But he failed to storm the fortress in which more than 1500 townspeople huddled. The fort was then manned by less than 100 able men and scantily provisioned with corn snatched from the countryside and cattle driven into the moat.

Again, in the mid-1700's, James Oglethorpe moved down from Georgia to lay siege to St. Augustine. Again, the townspeople crowded into the fort with the soldiers, and again the Castillo de San Marcos held. It stands today, a story in stone, telling of Spain's gallant but losing struggle to hold Florida.

English Florida

In 1763, Spain was forced to ransom Havana from the British by giving up Florida to England. This was a bitter blow to Spain.

England promptly and logically divided Florida into two colonies—East Florida, with St. Augustine as its capital, and West Florida, with Pensacola as the capital city. The English

began at once to colonize their new possession and to develop trade with the mother country.

Dr. Andrew Turnbull, a Scotch physician who had married a beautiful girl from the city of Smyrna, brought a colony of Minorcans, Greeks, and Italians to an area south of St. Augustine which he named New Smyrna.

There these uneasy new citizens set about the work of conquering a strange wilderness. The Minorcans cleared a few acres, planted grapes, and tilled the soil. Theirs was an unending struggle against disease, hunger, mosquitoes, homesickness, hostile Indians, and legal red tape that prevented them from owning land.

But by 1776, the year the American colonies to the north declared their independence from England, the English colonists in Florida were shipping oranges, indigo, skins, timber, and naval stores.

Back To Spain

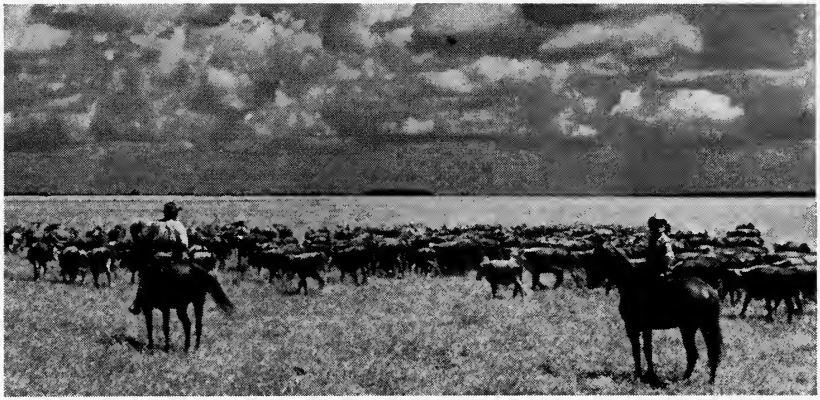
Florida took no part in the Revolutionary War. But in 1781, emboldened by the American war, Spain took Pensacola. And in 1783, all Florida was returned to Spain by the English in exchange for the Bahamas.

Spain again held Florida, but it was an uneasy possession. The lusty, growing, and unfriendly United States of America looked down from the north upon this desirable land. Constant border fighting nagged the Spanish captains. Cities like Fernandina reeked of slave trade and became a nest for pirates, smugglers, and adventurers. A stream of runaway slaves flowed over the border. Trouble was fomenting.

During the War of 1812, the English used the Spanish port of Pensacola as a base of attack. This gave the United States an excuse to send fiery, untactful Andrew Jackson storming into Florida. In 1818, he returned again, pursuing Indians and provoking international complications.

At Last, Americans!

By 1819, harried Spain was ready to give up the land Ponce de Leon had claimed. Florida became a territory of the United States of America!



The cow, Florida's legacy from Spain, today grazes on green pastures under smiling skies.

Once traded for the city of Havana, and again, for the Bahama Islands, Florida was sold, at last, for $5,000,000—not in cash but by settling claims of American citizens against Spain. Florida was never again to pass into Spanish hands, but Spain left a strong imprint upon the land named by Ponce de Leon.

The early Spanish explorers, as fearless and cruel as any men who have splashed the pages of history with blood, left a strangely peaceful legacy in Florida. It is the cow. Florida's range cattle today are descendants of cows brought here by the Spanish and left to survive and toughen in a new, warm land.

The long, uncertain years of foreign possession ended in 1819. But Florida was now a lodestar state, calling to the adventurer, the daring and piratical, as well as to the planter and the statesman.

The First Florida Boom

Florida boomed! Trade mounted until millions of oranges were being shipped from St. Augustine. It was a time when men attempted the stupendous and achieved the seemingly impossible, a time when gentlemen settled quarrels, not by law, but by fighting duels, a time when the Florida cowboy became so dextrous with his long cracking whip that he was

dubbed a "cracker." There was a wild contagion of enthusiasm, a rush to build new cities.

One of the new cities was St. Joseph, whose quick growth and tragic end marked a milestone in Florida history.

During territorial days, the city of Apalachicola, located at the mouth of a great North Florida river, grew rich with commerce. Steamers rolled down the river, with heavy cargoes of cotton. The land upon which part of this city had been built once had belonged to an important English trading firm and was claimed by the firm's successors. But the busy Floridians paid no attention to the dull and lengthy court battle. Thus, they awoke one morning to find that their homes belonged, not to them, but to the Apalachicola Land Company.

What they did in this stunning crisis gives you the spirit of the times. They set to work at once to build a new city outside the land claimed by the hated company. This city was not on the river. But what of that? They would build a canal to the river and siphon off the rich trade. More than that, they would build a railroad.

The city of St. Joseph, complete with a railroad and even a race track, sprang up as if by magic. It died, even more quickly, a few years later, of yellow fever, a roaring storm, and a depression. But during its brief span of life, St. Joseph made history. Here the first constitution of Florida was drafted, although little remained of the boom city when Florida became a state in 1845.

War With The Seminoles

In the 1830's, Florida's prosperity collapsed. Banks closed, and depression struck. Meanwhile a new storm cloud was gathering—war with the Seminoles.

The Indian tribes living in Florida when the Spanish came gradually had disappeared although a few Calusas, or "Spanish Indians," had sought refuge in the Florida Keys. But remnants of other Indian tribes had pushed down into Florida from the north. These were the Seminoles.

When the United States acquired Florida, a plan was made for removing these Indians to western lands. But many of the proud and spirited Seminoles rebelled. This was their

home—this sunny land with its deep, clear springs, its sparkling rivers splashing with fish, its forests filled with wild deer. It was a bountiful land—their Florida—where corn thrived, wild turkeys roamed the plains in great flocks, and ducks rose like swirling clouds from the blue lakes.

Tension mounted as pressure was brought to move the Indians. Campfires glowed deep in the forests and swamps, and men wrangled around conference tables. Finally, the conflict flamed into open war.

An Indian agent at Fort King, near Ocala, was murdered, probably by Osceola, on December 28, 1835. This murder sounded the signal for war!

The Dade Massacre

An incident of the Seminole War, occurring almost at the same time as the murder, gave Dade County its name, al-

Osceola
Brave Seminole leader

though it took place far to the north of this county, near the present city of Ocala.

On the morning of December 28, Major Francis Langhorne Dade rode at the head of a column of 108 men. They were bound northward from Fort Brooke, near Tampa, to Fort King, near Ocala. It was chilly and the men, breathing deep of the frosty air, rode with their overcoats buttoned over their cartridge boxes. But there seemed little danger. The column had passed the dark swamps and hammocks where Indians might be concealed. Now, the scattered pines and palmetto thickets offered scant cover. The men sang and joked.

But Dade's company of men had been watched by Indians from the day it left Fort Brooke. Now, the Indians lay in planned ambush behind the trees and in palmetto thickets awaiting the attack signal, a war whoop.

At about nine o'clock, the signal came—a wild whoop from a young chief named Jumper. The old chief, Micanopy, fired the first shot.

It must have seemed to Major Dade, in the moment before he fell, that the very trees turned into Indians, whooping and firing. The first volley of shot killed half the white men, and within an hour it was all over. One survivor, feigning death, crawled through the jungle in the darkness to report the story of the Dade Massacre to Fort Brooke.

The costly Seminole War dragged on. Osceola, one of the great Indian leaders, was captured under a flag of truce, a treachery that stunned the Indians and many of the whites and took the heart out of the conflict. Osceola was imprisoned, briefly, in the historic fort at St. Augustine and then moved to Charleston where he sickened and died at the age of 34. When the war ended in 1842, there were about 100 warriors left and these sought refuge in the swamps of southern Florida. (Today there are about 1,000 Seminoles in Florida.)

The first men pouring over the Florida border naturally settled in the northern part of the state. Settlements around Tallahassee followed the leisurely pattern of plantation life in other southern states. Jacksonville came into being as a city in 1822. Tampa was established in 1823 as a military post. (Miami came later, in 1896, a new frontier stirring man's imagination.)

Warriors once but peaceful now, Florida's Seminoles live simply. Seminole women create unique and colorful costumes—a craft started half a century ago when an enterprising sewing machine salesman invaded the Everglades. Some children attend school to add the white man's learning to their instinctive knowledge of fields and forests.

In the early days of Florida's settling as a territory and young state, men, women, and children traveled and transported their goods by water. With more difficulty they traveled overland by horse and wagon. To the settlers of North Florida, South Florida was far away, a strange land, inaccessible except by sea.

Pirates!

The story of the settling of South Florida is not a tranquil one. Many of the 2,000 pirates operating in American waters during the ten years from 1820 to 1830 roamed the South Florida coasts. They must have sought refuge in hidden coves and on the lonely keys. It is likely that they came ashore to fill their casks with fresh water from the bubbling springs south of the Miami River. Treasure such as gold and silver bars, emeralds and pieces-of-eight, has been recovered from ships sunk, perhaps, by pirates.

In the 1820's, the United States of America began an active war against these gangsters of the sea. By 1840 the pirates were gone and their exploits were fading into a romantic legend.

Some of the pirates were killed, some were pardoned, and some may have turned to wrecking. Wrecking, or the salvaging of ships and their cargo, became an occupation early in South Florida's history.

"Wreck, Ashore!"

In the 1700's and 1800's there were many wrecks on the jagged coral rocks of the Florida Reef. The treacherous reef, lying at some points but a few feet under the surface of the sea, stretches along the Florida Keys, from four to eight miles out in the Atlantic, from Virginia Key to the Dry Tortugas.

Roaring storms often swept ships from the narrow Bahama channel onto the uncharted reef. Wreckers, if not actually causing wrecks by shifting lights or conniving with masters of the ships, did nothing to prevent them.

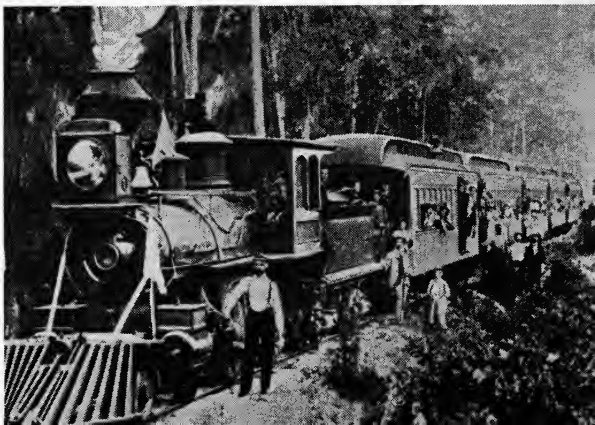
Hundreds of thousands of dollars worth of salvaged goods were sold in Key West. The cry, "Wreck, Ashore," was the "go" signal for a race by rival wrecking crews. The first crew to reach a sinking or stranded ship took charge of the cargo and earned, by law, the salvage payment.

In the late 1830's, while the Seminole War raged sporadically in other parts of Florida and even on the Florida Keys, Key West was a city set apart and supported by the legal wrecking industry. From 300 to 400 persons lived on the remote island. They lived well—dining on turtle, fresh fish and game, dancing and reading, and riding about the small island in carriages and on horseback.

But each morning, as dawn brightened the eastern sky and colored the waters, the gleaming white cotton sails of several dozen sloops and schooners were hoisted. The sailing race began. Up and down the treacherous reef, the wreckers cruised, searching for hapless ships aground on the jagged coral.

Each fast-sailing sloop carried a crew of about 14 men and a diver. Sometimes crews went into partnership, pooling their efforts. If no wreck was found by ten o'clock, the ships usually returned to port. But if a wreck was sighted, the race was on. The first men to board the wrecked vessel often employed other crews, and usually the salvaged ship was on its way to Key West before a tide passed. There merchants received the cargo and vessel, salvage was decreed, the sales made and money divided among the salvors and the vessel's owners.

An early visitor to Key West reports that it was a moral community. Many of the residents were persons of education and they lived in luxury, enjoying music, good books, and sparkling dinner parties. They often danced until dawn. The wooden homes, made of rough boards, had wide, cool piazzas, and were well furnished. The climate was mild, frost-free, and health-giving. Although the Indians massacred whites at Indian Key and Cape Florida, Key West was safe and nearer in many ways to Cuba than to Florida. In the 1880's Key West, home of the wreckers, was Florida's largest city.



Frontiersmen of the 1880's spill from an excursion train of the Jacksonville, St. Augustine & Halifax River Railway, forerunner of the Florida East Coast Railway.

Our Forefathers

Not all the men and women who voyaged into South Florida in the dangerous years before the coming of the railroad were lawless adventurers. There were gentle priests and tireless ministers. There were planters, also, peaceful men who envisioned South Florida as a tropical paradise where fruits, vegetables, and flowers would flourish the year around. There were men like Audubon, who loved and studied birds.

The coming of the railroad, to the west coast in 1884 and to the east coast in 1896, opened new and bright frontiers!

The railroad gave men their first opportunity to live in the southern part of the land they knew as fair and fruitful. The first men who moved into Florida are the unknown pioneers of our history. The first man who planted an orange grove sowed the seed of a multi-million dollar industry. The first man who built a hotel broke ground for Florida's golden industry—tourism. The unknown who fabricated the story about the Fountain of Youth was Florida's first advertising expert.

Today, you can be a pioneer in myriad new fields in South Florida!

Question Box

1. Why are the land, sea, and air considered Florida's new frontiers?
2. How does the climate of South Florida affect the way people earn a living? In what other ways does climate affect everyday living in your county?
3. What part did Ponce de Leon, Jean Ribaut, and Menendez play in early Florida history?
4. What is a "melting-pot"? Why is Florida called a melting pot?
5. From 1945 to 1955, Dade County's population increased from 315,138 to 703,777. What does this indicate?
6. What started the Seminole War? What were the results of this conflict?
7. Why was South Florida a haven for pirates? How did the U. S. Government deal with this menace?

Suggestion Box

1. Have a committee draw a large map of Florida for the bulletin board. Place important historical events, where and when they happened, on the map.
2. Have individual class members give reports on the following:
   a. Major Francis L. Dade, after whom Dade County was named.
   b. The settling of St. Augustine, the oldest city in the U. S.
   c. The coming of the railroad to South Florida.
3. Send away for the pamphlet *Florida, The Land of Romance* by Dr. Dorothy Dodd, published by the Department of Agriculture, Tallahassee, Florida, 1956. It's free!
4. Read *Major and Minor Keys of the Florida Reef* by Mary Helm Clark, published 1948, Riviera Publishing Company, Coral Gables, Florida. Consult the map at the end of the book and find out the meaning and origin of the names of the Keys.
5. Make a time-line showing how Florida was governed under five flags of different nations.
6. Select one of the events mentioned in Chapter I and give an oral report to the class.

Chapter II

Massacres and mosquitoes give way to Flagler's railroad and . . .

The Real Florida Begins to Evolve

"Like fairyland after ice and snow."

This was how Hester Perrine, young daughter of pioneer Dr. Henry Perrine, described South Florida upon her first glimpse of this frontier land in 1838.

Her words reveal the fascination the new land of palms and soft breezes held for many courageous pioneers who voyaged into South Florida before the coming of the railroad.

Pioneer Days

But South Florida was no fairyland. The Perrine family learned this on the tragic night of August 6, 1840.

The story of Dr. Henry Perrine and his love for South Florida rightly began when President John Quincy Adams

Mrs. Henry Perrine, gentle, brave

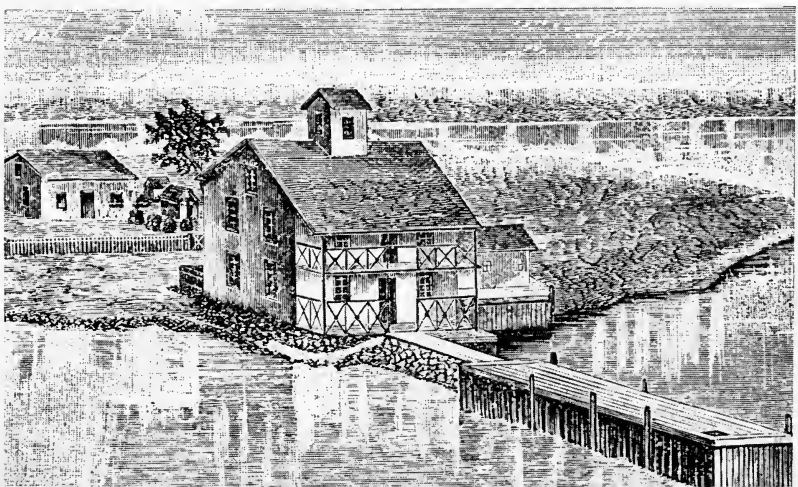
sent a circular letter to the American consuls in all tropical countries, asking them to collect useful plants for the new territory of Florida.

In steaming Campeche, Mexico, young Dr. Perrine, lately from New York, received the letter and began to obey the instructions. Perhaps sisal would grow in Florida, he decided, and pineapples, limes, and sapodillas. He began gathering these and other plants and sent them to Charles Howe, a postmaster who lived on Indian Key.

In 1838, the Congress of the United States took note of Dr. Perrine's work and granted him and his associates a township on lower Biscayne Bay. But Dr. Perrine was advised not to come to Florida, where the Indians were at war.

The courageous botanist-doctor did come to Florida, however, bringing his charming wife, a young son, and two small

Perrine home on Indian Key and escape tunnel to wharf



daughters to Indian Key. There Dr. Perrine watched over his cherished plants and lived a serene and gracious life. The Perrines enjoyed fishing. They entertained guests from passing boats, and in the long, warm evenings listened to the singing of the negro slaves. They knew that Indians were at war with whites on the mainland, but on Indian Key they felt safe and protected. The few Indians they knew were friends.

On the warm evening of August 6, 1840, Dr. Perrine walked the upper piazza of his home, looking down upon a tiny tropic isle, twelve acres of palms, flowers, and homes, set in a shimmering sea. In front of his home a wharf extended out into the water. Under the wharf was a "turtle crawl" opening into the cellar. Here his young daughters often bathed in fresh sea water, safe from the eyes of wreckers, sailors, and a notorious Captain Jacob Housman who lived on Indian Key.

Indians!

Dr. Perrine was mildly troubled. One of his daughters was ill. But when he climbed into his hammock in the upper hall he fell into sound slumber. A restless sailor, however, roamed the island with a gun, looking for ducks. Suddenly, he saw a moving column of shadows. Indians!

His shot and wild whoop startled the island awake. Dr. Perrine jumped from his hammock, his first thought for his family. He heard the crack of rifle shots, smashing glass, and wild cries as he pushed his wife and children through the door into the cellar and placed a chest of seeds against it. Then he fled up the stairs to the cupola atop his home, drawing the Indians behind him.

The Perrine family, crouched under the burning wharf, heard a scream and a rifle shot. Mrs. Perrine was as courageous as her husband. She placed her hands over her small son's mouth to keep him from screaming. She dug frantically in the mud, making room for the children. She doused their heads in water to keep them from suffocating.

At dawn, the desperate family crawled through a trap door at the end of the wharf. A small boat floated near them and out at sea lay the boats of wreckers and a schooner—a blessed

sight. With what was left of their strength, the Perrines climbed into the boat and began to paddle to safety.

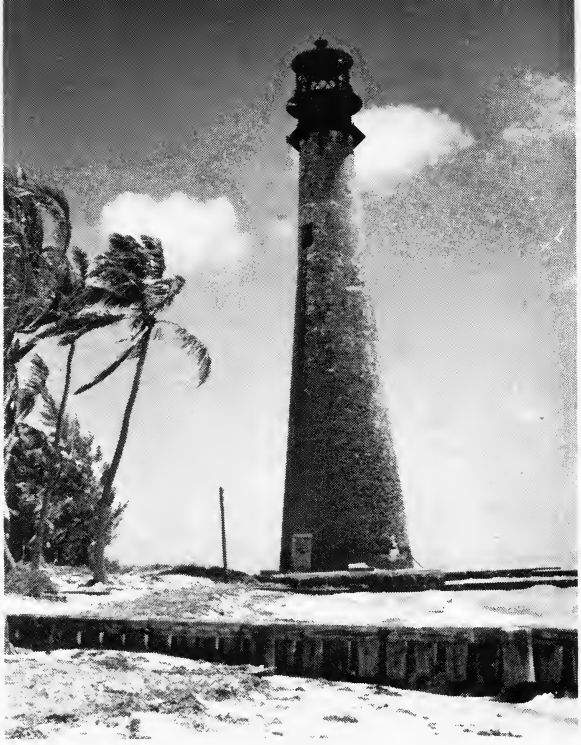
Why did the Indians murder the kindly physician? This is a question to trouble historians but it may have an answer. Two years before Perrine's death, a tall, broad-shouldered soldier arrived on Indian Key. He was Lt. Col. William S. Harney, survivor of a brutal Indian massacre on the Caloosahatchee River.

Col. Harney told the story of how his men were surprised and murdered to the people on Indian Key. No doubt Dr. Perrine and Charlie Howe, the postmaster, listened politely. But Jacob Housman, a lusty scoundrel who ruled part of the island like a king, did more than listen. He made a strange proposal to the United States government. He would wipe out the Indians, he wrote, for $200 a head!

The Indians who crept up the sandy trail on the tragic night of August 6 may have mistaken Dr. Perrine for Housman or have been fired with anger at all white men by Housman's action. Ironically, Housman escaped that night, but he died a year later, crushed between two vessels.

Col. Harney was assigned to catch the Indians who killed Perrine and this he did by using the Indians' own tricks. Under cover of night, he and his troops slipped through the swamp to surprise the Indian chief. They hung his body from a tall pine and after that, the Indians in South Florida had no spirit for war.

The Perrine massacre was not the only incident of Indian war in South Florida. John W. B. Thompson, keeper of the Cape Florida Light, also had trouble with hostile Indians. On a drowsy July afternoon, Thompson glimpsed Indians creeping through the underbrush toward the lighthouse. Dragging his Negro helper with him, he sprinted for the light, slammed and locked the door just as the Indians attacked. Oil, spilled from the lantern by a rain of bullets, ignited and turned the lighthouse into an inferno. The stairs burned behind them as Thompson and the Negro climbed to the top of the light. There the Negro died, but Thompson lay on a platform ninety feet above the earth with two rifle bullets in each foot, until he was rescued by men from a passing ship.



Historic Cape Florida Light

Other early settlers suffered less dramatic but just as real hardships. They had no refrigeration, no modern means of transportation, no ways of controlling mosquitoes and sand flies. They eked out a living by fishing, hunting, turtling, and making starch from coontie. But the salubrious climate—the warm winter days, the bright sunshine, the cool breezes—overbalanced the troubles.

Our First Industry?

Today, the fern-like plant, coontie, grows in vacant lots but few Floridians recognize it as a source of vanished industry. Yet the manufacturing of starch from the coontie root probably was South Florida's first industry. The snow-white starch was sold in the north as a food product. It went into biscuits, cookies, crackers, spaghetti, and starch puddings. Sometimes the early settlers in South Florida used it as laundry starch as well as for food. None is manufactured today.

Cows And Cowboys

In those early days, before the coming of the railroad, there was little communication between South Florida's east and west coasts. The settlers in the Biscayne Bay country knew of the city of Fort Myers, but between Fort Dallas and Fort Myers lay the impassable watery meadows and cypress swamps of the Everglades.

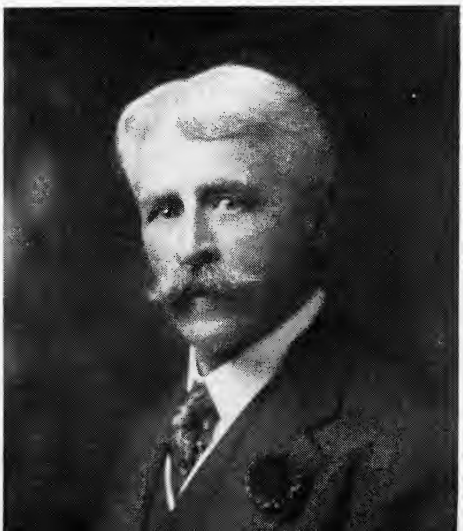
By the 1890's, Fort Myers had become the center of South Florida's cattle industry. Great numbers of cattle were being shipped from Punta Rassa (near Fort Myers, at the mouth of the Caloosahatche River) to Key West and Cuba.

The people of Fort Myers grew familiar with the sight of lean, sun-toughened cowboys driving herds of bawling, long-horned cattle through the shell-paved streets. Cows strayed into stores and slept in doorways. No one minded very much. Cattle were the prosperity of Fort Myers. They were the collateral upon which men borrowed money. They were often used as money.

Aside from raising cattle and trading in cattle, the pioneers and Indians in the Fort Myers region lived by hunting, fishing and, sometimes, farming. They traded otter skins, alligator hides, and egret plumes for groceries, and in summer months gathered turtle eggs. There was little curiosity about the east coast region of Florida.

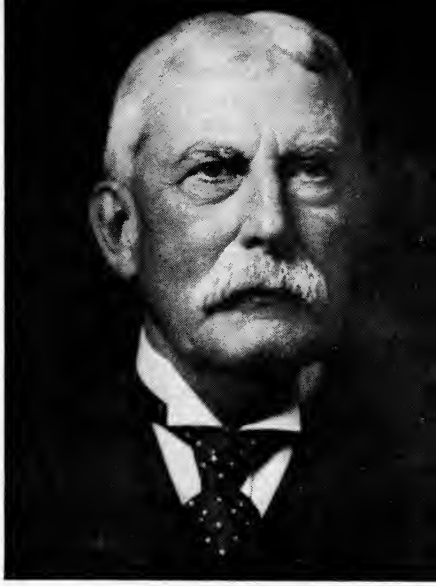
Crossing The Everglades

But in 1892, a railroad man named J. E. Ingraham came to Fort Myers on a challenging mission. He proposed to cross the Everglades to Fort Dallas, at Miami!



Trail-blazer J. E. Ingraham

Julia Tuttle, pioneer



Henry M. Flagler

"They'll never make it," the people of Fort Myers said. Even the Indians felt that it was impossible.

But Ingraham and the 21 men who went with him had worked out precise plans. They carried as little baggage as was practical—a few guns, many pistols, two portable boats, three tents, axes, and cooking utensils.

They left Fort Myers on a sunny morning—March 14, 1892. For several days, all went well. By March 17, the party had made 25 miles. But by March 25, the men were abandoning equipment. The wearying work of dragging boats across the endless miles of sawgrass, under a broiling sun, made it necessary to strip down to essentials. Five miles a day became speed.

But there was no turning back. The men dragged on through days when they were too tired to talk, through nights with little sleep. Luckily fish jumped into their boats, for they were too exhausted to catch them.

The small party of men seemed lost in a wilderness of grass and water over which arched an empty, dazzling sky. The cook had a chill. One man collapsed. The others realized now that theirs might be an impossible task. The dream of reaching the Miami River was fading when they caught sight of a paper sack floating in the muddy water. Then, they saw an Indian! Miami was near.

On April 5, J. E. Ingraham, who was later to be identified with the Florida East Coast Railway, arrived at Fort Dallas where he was greeted by a gracious pioneer woman, Julia Tuttle. Twenty-two men had crossed the Everglades! Now nothing seemed impossible, even the building of a railroad.

The Railroad Opens The Frontier

The coming of the railroad to South Florida wrought the first striking changes. Henry B. Plant, a Connecticut Yankee, built a railroad to Tampa, and from Tampa a line extended as far south as Punta Gorda.

Thus the west coast of Florida developed first, but more slowly than the east coast. Tampa, however, boomed, growing from a population of 726 in 1880 to 5,534 ten years later.

But when Henry M. Flagler pushed his railroad down Florida's east coast, he opened a new frontier, and gave Americans a new concept of healthful living. A man of great wealth and immense vision, Flagler determined to make South Florida both a winter resort for the wealthy and an agricultural empire.

As the railroad began to open the pine and palmetto wilderness of the east coast, a new vigor came to Florida. Pioneers who had depended upon water transportation glimpsed Flagler's vision and caught some of the fire of his enthusiasm.

By 1892, the railroad had reached Daytona, and Flagler was eager to invade the Indian River country and its orange groves before the winter season.

During October of that year more than 1500 men labored at clearing, grading, track-laying, and bridge-building. The railroad moved southward, mile by mile. The train reached

The Miami River in 1896

The Royal Palm Hotel in Miami in 1896

New Smyrna in November. In January, freight trains were hauling fruit from Cocoa, Eau Gallie, and Melbourne.

Still Flagler was not content. The railroad moved on to Fort Pierce, where pineapples were being grown. Its coming made the little town of Stuart, south of Fort Pierce, a sports fishing center. In 1894 Flagler reached Palm Beach and began to make that city into a millionaire's resort. But would he push the railroad on to Miami?

In the little village of Miami lived Julia Tuttle, a woman as lovely and determined as Flagler was rich. Mrs. Tuttle, who owned considerable land, knew Miami must have the railroad. She sent repeated requests to Flagler in Palm Beach to come and look at the Biscayne Bay country. Finally after a severe freeze in other parts of the state he did come.

One look was enough to persuade him. Mrs. Tuttle agreed to donate 100 acres of land upon which he could build a hotel. The Brickell family, pioneers living on the south bank of the Miami river, also donated land to the railroad magnate.

The City Of Miami!

The railroad reached Miami in April, 1896. What a day that was! Pioneers from the Redlands, from Coconut Grove and from the "Indian Hunting Grounds" south of the Grove, came to Miami in sailing boats or followed the old trail through Brickell Hammock to see the first wood-burning locomotive chug into Miami. In July of that year, Miami was incorporated as a city.

Flagler's Royal Palm Hotel, a wooden structure at the mouth of the Miami River, opened in a blaze of electric light. With less than 20 years passed since Thomas A. Edison invented the incandescent lamp, and scarcely more than ten years since the country's first central generating plant was put into service, the electric lighting of the Flagler hotel was a milestone in South Florida's progress.

Electric Lights, Too!

Miamians, looking on in wonder, wanted electric lights, too. So Flagler strung a pole line from the hotel to the depot of the Florida East Coast Railway, providing erratic electric service for private users along the way. In 1904, he went a step further. He built a generating plant separate from the Royal Palm Hotel installation. This was a 200-kilowatt woodburner plant on the present site of the Florida Power & Light Company station near the mouth of the Miami River. The first power customer of this plant was the Miami *Metropolis,* the forerunner of the Miami *Daily News.* Electric lights were not used, of course, on moonlight nights, nor generally by day, until the use of electric irons became common. But electric service, even in such feeble form, meant Miami was growing. It was becoming the Magic City.

Fruits Of The Tropics

Americans had found a tropical paradise in their own country. Miami increased in population from 5,000 in 1910, to 29,000 in 1920, and to 110,637 in 1930.

All was changing. Gone were the pirates, the wreckers, the hostile Indians. There remained only the plume-hunters, who

Luscious mangoes

for years had slaughtered the beautiful birds of the Everglades by the hundreds of thousands to sell their feathers as trimmings for women's hats. Men were turning to peaceful pursuits, learning that in southeastern Florida they could grow tropical fruits and winter vegetables.

In 1889, Elbridge Gale of the Department of Agriculture received a small mango tree from India and planted it in his garden in Lake Worth. This tree bore fruit. In far-off Coconut Grove a retired army officer, Captain John J. Haden, heard of Professor Gale's mango. He made a trip to Lake Worth by boat and brought home to Coconut Grove several of the mango seeds. He planted them hopefully. The seedling trees thrived and one bore unusual fruit—the Haden mango—still a top-ranking commercial fruit. Other pioneers, too, were proving that the avocado (then called the "Alligator pear"), many varieties of citrus, and other rare tropical fruits would

grow in South Florida and nowhere else in the United States. Dade County became famous for its tomato farms. The face of the land was changing.

Plume-Hunters And Murder

In 1905, a dramatic murder ended the years of savage egret plume-hunting and moved South Florida a long step forward in the conservation and appreciation of its unusual bird life.

Ever since the great ornithologist, John James Audubon, came to Key West in 1832 to study and paint the birds, there had been those who fought the plume-hunters. One of the most daring of these fighters was a Coconut Grove woman who was known to snatch plumes from the hats of women and remind them that a bird had been killed for their adornment.

But by 1900, the snowy-plumed egrets of the Everglades were almost extinct. The State of Florida, at last, took note of this near-disaster, and with the help of the National Audubon Society employed four wardens to guard the rookeries, or nesting grounds, of birds. One of these was Guy M. Bradley, of Flamingo.

To 35-year old Guy Bradley, son of the postmaster of Flamingo, was entrusted the dangerous work of guarding the rookeries in the lawless Cape Sable region. He took his work seriously.

What occurred on the hot, still morning of July 8, 1905, no one can know exactly. Bradley had had trouble with a persistent poacher, Walter Smith, and his sons. On this morning, Smith, his sons, and two other men, set out in a schooner for a bird rookery on the keys. Bradley followed the schooner in a skiff.

From the deck of the schooner, Smith saw Bradley. Not far off, Smith's sons were returning from the island rookery with a load of dead birds. He yelled to them, "Hurry, boys, hurry!"

Bradley neared the schooner in his small boat. He called to Smith across the water and Smith answered him defiantly. We do not know what the two men said. We do know that a moment later, a shot rang through the still air, and Guy Bradley slumped to the floor of his skiff. There he died. His body was found the next day in the drifting boat.

The beauteous egret — plume-hunter's prey

So slowly did news travel in those pioneer days that Bradley's parents, sailing along the east coast on a vacation, did not learn of their son's death until the Miami *Metropolis* printed the first account of the tragedy six days later. The Rev. E. V. Blackman, a Miami minister, called at the Bradley's boat carrying the saddening news.

The story of the murder made headlines. It aroused the nation! Five years later, the Audubon Plumage bill was passed in the New York legislature, and the birds of the Everglades were saved.

The Frontier Expands

South Florida was growing, both in population and in appreciation of its unique assets as the nation's only sub-tropical area.

Under the skies so clean and blue it was logical that men should think of aviation. The first scheduled commercial airline in the world began operating between Tampa and St. Petersburg on January 1, 1914. By 1920, A. B. Chalk had established a flying base on Biscayne Bay at Miami. Seven years later a small monoplane lumbered across a muddy field at Key West and bravely headed across ninety miles of rough, blue water to Havana, Cuba. Thus began this country's first overseas air transport service.

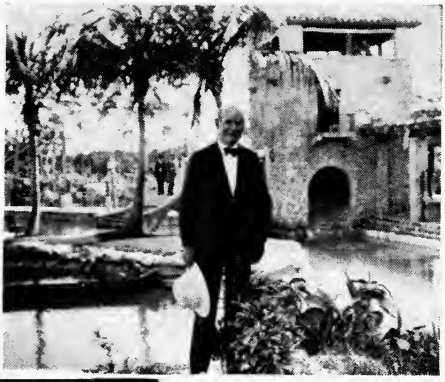
As Miami built, other cities grew up around it. In 1913 Carl G. Fisher, a forceful millionaire, developed Miami Beach, with the aid of John S. Collins, a South Florida pioneer. A city of hotels, each to become almost a city itself, began to rise where there had been mangrove swamps, tangled underbrush, and a forgotten coconut plantation. In 1921 Glenn H. Curtiss, airplane manufacturer, and James H. Bright began to build Hialeah.

Once murdered, now protected—the pink-plumed roseate spoonbill

"The City Beautiful"

Coral Gables was the dream of George Edgar Merrick, the son of a minister who came to Florida from wintry Cape Cod. Even as a boy George Merrick planned a city "all beautiful," as he drove wagonloads of tomatoes over a trail from what now is Coral Gables to Miami. George Merrick, as a man, was a poet-dreamer who acted to make his dreams come true. He planned Coral Gables on paper during ten years when he worked night and day to acquire sixteen hundred acres of sun-warmed land and the means to finance his dream.

The first lots in Coral Gables were sold in 1921. The years from 1921 to 1926 were an "Aladdin's Lamp" era in the community named for a house with coral gables. Buses rolled into the new city from the snowy north loaded with prospects eager to buy. In 1925, there was such frenzied real estate activity that a huge board was hung at the corner of LeJeune Road and Alhambra Circle so that would-be buyers could chalk thereon their first, second, and third choice in lots.



Orator Bryan at the Venetian Pool

The $10,000,000 Miami Biltmore Hotel and, to the left, the Coral Gables Congregational Church

It was a time of fabulous building. Planned on paper, with curving streets endowed with Spanish names, Coral Gables became identified with a modified Spanish architecture called "Mediterranean." It was made beautiful with tinkling fountains in tiled patios planted with creamy-flowered yuccas and gnarled sea grape trees, with pink sidewalks, with replicas of Spain's fabled towers, with time-mellowed tiles brought from Cuba and wrought iron from Italy.

A rockpit became the Venetian Pool, with its cascades, grottos, and islands. Built at a cost of $10,000,000, the Miami Biltmore Hotel opened in 1926 with a dazzle of diamonds, music, and champagne. The hotel was topped with a replica of the famed Giralda tower of the Seville Cathedral in Spain. The tower looked down upon sparkling waterways where gondoliers, imported from Italy, poled their colorful craft through beautiful flower gardens and the velvety green of a new golf course.

Masons were brought from Spain to build the city's gates of native coral rock.

William Jennings Bryan, who conducted on Sunday "the largest outdoor Bible class in the world," on weekdays spoke from the Venetian Pool. Mary Garden sang opera in a tent. Jan Garber's and Paul Whiteman's orchestras played under the Coral Gables moon.

A University Despite Disaster

Coral Gables was to have a university. On April 8, 1925, the State of Florida granted a charter to the University of Miami. The new university was endowed with 160 acres of land and millions of pledged dollars. Grandiose plans were drawn for the buildings. The foundations of the present Merrick Building were laid. Dr. Bowman Foster Ashe was brought to Coral Gables from the University of Pittsburgh to guide the new institution of learning.

The University of Miami was preparing to open in September, 1926. But in mid-September of that year a hurricane roared up from the Caribbean to batter the surprised city of Miami and to slap Coral Gables a desperate blow. The bright bubble of the real estate boom had burst! The Uni-

Dr. Bowman Foster Ashe—unafraid to build

versity of Miami, shorn of its paper millions, opened in October in a makeshift hotel building with wallboard partitions.

But it opened, and stayed open through years when nothing was certain but debt. Dr. Bowman Foster Ashe was never afraid to build for the future!

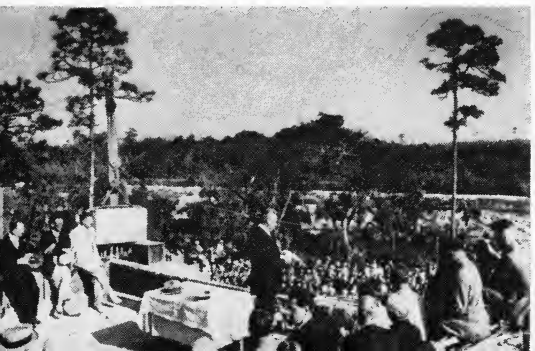
The West Coast Grows, Too

Meanwhile, during the 1920's, the west coast cities were developing. Bradenton, Palmetto, and Manatee became tourist havens and rich agricultural centers. By 1924-25, Manatee County was shipping 1,500 carloads of tomatoes, almost as many of celery and 1,300 carloads of grapefruit.

In Sarasota, John Ringling was spending money—building causeways to connect keys, constructing elaborate villas and gardens. His brother, Charles, was financing hotels. The Ringling family, of circus fame, was to leave an indelible imprint upon Sarasota.

During the same period, Punta Gorda became a commercial

A quarter of a century passed between the breaking of ground for the University of Miami's Merrick Building and its completion in 1950. Optimistically dedicated in boom times, left, then known as "The Skeleton," the Merrick Building today, right, is one of the University's most beautiful and functional.



Twenty-five years wrought the changes shown in these two pictures of the University of Miami campus. At left, the area is shown as a wilderness marked out by curving streets. In the picture at right, taken in 1956, the University emerges as a busy, forward-surging educational center.

fishing center, shipping annually 10,000,000 pounds of salt water fish. Fort Myers was growing, too, developing a tropical charm not matched by any other Florida city. Thomas Edison, the great inventor, had found in this enchanting city the peace and quiet he sought, and had made it his winter home. Henry Ford and Harvey Firestone, dynamic industrialists, also wintered in Fort Myers and called the "City of Palms" their home.

Edison had brought the first palms to Fort Myers from Cuba, and in 1906, the city planted an avenue of royal palms. In the years to follow, the city planted many more palms until long avenues of stately palms led into the business district and gardens of homes were graced with bending, swaying coconuts and feathery palms of many other varieties.

Black Gold

On the southern rim of Lake Okeechobee, in the 1920's, sugar planters and developers of a wallboard made from the "bagasse" or residual fibre of sugarcane, built a city. They built it on the natural ridge of land surrounding the shore of the lake and on black, fertile acres from which the water had been sucked away by drainage canals and pumping systems. They named it Clewiston. Not far from the city, a mill was constructed amid a green sea of sugar cane. The mill produced raw sugar.

No one in those days thought of South Florida as an industrial center but here was industry growing out of agricul-

ture. South Florida was taking another step forward. It was not an easy step. But pioneers were proving that sugar cane would grow, in commercial quantities, on the rich muck lands of the Everglades, and that sugar could be manufactured in Florida. The lake region was to weather a depression, and a devastating storm that took the lives of several thousand persons before the sugar industry became firmly established. But Florida was growing up and these were the growing pains.

In the 1930's, the government built a dike around the shallow, temperamental lake so that never again could winds push a wall of water down upon defenseless homes. The city of Belle Glade, re-built through assistance of the Red Cross, began to grow into a farming center.

Cattle Ticks

The eradication of the cattle tick moved Florida another long step ahead. Florida was the oldest cattle state in the nation. The early Spanish explorers left cattle in Florida. By 1828, the Seminole Indians had herds of thousands of cattle grazing on the prairies near the Georgia border. By 1870, Cuba had become an outlet for thousands of Florida-grown steers. (During the ten years from 1870 to 1880, 165,669 cattle were exported from Florida.) Nevertheless, the development of the cattle industry had moved slowly due to a fever caused by the cattle tick.

In 1923 the government began a tick eradication program. The process was slow but it was sure. Hopefully, men began to look around them and realize that here was rich year-around pasture land. Asia's gift to Florida, the lordly hump-backed Brahman bull, gave the cattle industry a tremendous push forward, too. The Brahman stock crossed with hardy native cattle produced a breed that thrived in a warm climate. In 1929, Florida had less than ten purebred herds, but the cattlemen had caught the idea of improving their commercial cattle. Florida was to become, within a decade, the fastest growing cattle state in the country.

People, People, And More People!

South Florida shared the years of depression with the nation, but even then there were steady population gains. Men

Asia's gift to Florida—the lordly hump-backed Brahman bull

had come to appreciate the tonic climate. With modern transportation and refrigeration, population centers were moving southward.

Many Cubans began to come to South Florida in the 1930's. They were joined by men from other foreign countries. Miami was becoming a melting pot.

Miami went into World War II a city more noted as a vacation land than as an industrial center. It was one of the world's foremost resort areas. But the war did much to balance this picture. South Florida learned that it could produce ships and aircraft parts and do other defense work. Before World War II, Greater Miami had approximately 450 factories. Today, the area has thousands.

World War II also brought tens of thousands of men in the armed services to South Florida for training. Many of these men and their families now are Florida citizens. The military influence on population gains in South Florida has been striking.

Before World War II, southeastern Florida was known mainly as a winter resort. A decade later it had become a

summer resort as well. In July, 1956, there were few vacant rooms and apartments in hotels and motels on Miami Beach. At Miami's International Airport summer business in 1955 equalled that of March two years previous. The nation was beginning to appreciate South Florida's comparatively cool summers as well as its warm winters.

Today Miami is destined to become one of America's great population centers. But like all South Florida, it is much more than a dazzling summer-and-winter vacation land, a place to live and work in year-round comfort, and to enjoy recreation facilities not available elsewhere. It is one of America's rich frontiers, beckoning young citizens to adventure, happy living, and varied careers!

Suggestion Box

1. Start an "Expanding South Florida" scrapbook. Divide the book into three parts: Land, Air, and Sea. Paste newspaper articles, magazine articles, photographs, and picture post cards in appropriate places.
2. Trace the growth of the railroad from 1892 to 1896, locating cities. This may be done on the history map.
3. Have a group of pupils take photographs of some of the original landmarks in Coral Gables.
4. Add the historical events mentioned in Chapter II to the "history" map.
5. Look up the "depression" of 1929-1933 in a history book. Be ready to discuss why you think South Florida continued to grow during these times.
6. Get maps of South Florida from a service station. Discuss places with which you are familiar.
7. Write a summary sentence for each heading in Chapter II.

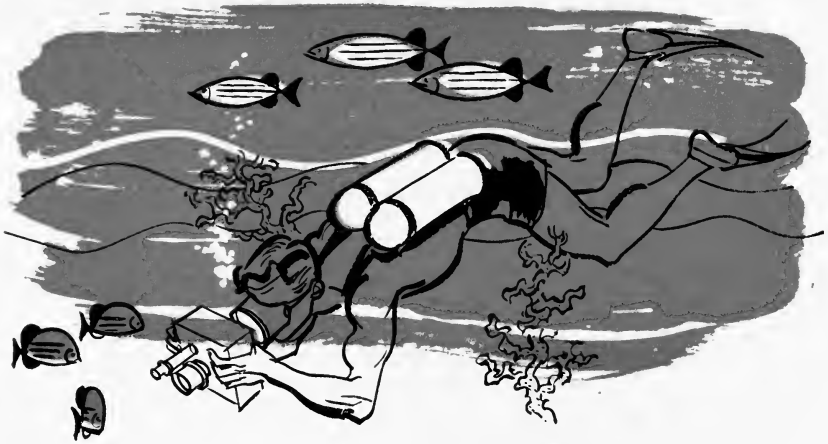
Question Box

1. What hardships did the early pioneers of Florida suffer?
2. Who are the new pioneers of Florida? Compare their way of living with people who settled here in the early 1800's.
3. How did the following help develop Florida's frontiers?

Henry M. Flagler	Dr. Henry Perrine
Julia Tuttle	Henry B. Plant
Carl G. Fisher	Dr. Bowman Foster Ashe
George Merrick	Capt. John J. Haden

4. How did World War II change Miami from a winter resort to a year-round resort and industrialized city?
5. How much do you remember? Don't forget to check back if you have forgotten.
   a. Why is the manufacturing of starch called South Florida's first industry?
   b. How was the Haden mango brought to this area?
   c. How did the city of Coral Gables get started?
   d. How did the hurricane of 1926 affect the opening of the University of Miami?
6. Why does Coral Gables have the reputation of being the "City Beautiful"?
7. What are some of the problems that face a growing South Florida?
8. How did the coming of the railroad to South Florida help open new frontiers?
9. What cities on the West Coast were being developed in the 1920's and 1930's? For what is each city famous?
10. What obstacles had to be overcome before the cattle industry really flourished?

Chapter III



Untold riches . . . untapped resources . . . undreamed-of possibilities! Who but the adventurous can begin to fathom . . .

The Sea's Promise for Tomorrow

Since the days when pirates cruised South Florida's tropic coast, the sea has challenged man with its mysteries.

Today, men are probing the sea for its secrets with radar, sonar, and television cameras. They listen to the "talk" of fish. They can detect schools of fish and shrimp electronically and learn through the camera's eye how to catch them. But the sea still has its challenging mysteries. It is a frontier.

The sea has been a potent force in bringing people to South Florida. The cool, foaming ocean, the warm Gulf of Mexico, the numerous bays and lagoons entice the tourist and the sports fishermen, and provide a livelihood for many.

There's exciting work for the intrepid diver in South Florida.

Fishing For More Than Fun

Florida's coastline is longer than that of any other state, and because of the warm climate, our sea waters are the most productive in the country. Florida's commercial fishermen land as many as 250,000,000 pounds of fish a year—a catch worth more than $22,000,000. This includes non-food fish (such as menhaden) as well as food fish, shrimp, oysters, clams, turtles, conchs, scallops, and crabs. The marine fish landings in a recent year totaled 255,320,516 pounds.

The State Council for the Study of Higher Education optimistically forecasts a fisheries production in Florida, in 1970, in excess of $159,000,000! Such a catch would bring many processing plants to the state.

Pink gold from South Florida's sunlit seas—shrimp, being netted off Fort Myers

But Fun, Too

Much of South Florida's billion-dollar-a-year tourist business stems from the pleasure that men, women, and children derive from the salty waters. The sea means good health for many.

It means fun, too. Florida's dancing sea waters and smiling lakes are a constant source of joyful recreation. Summer and winter, they are dotted with boats of all types from tiny sail boats to sleek yachts. In the Miami area, alone, there are more than 4,500 boats. In all Florida east of the Apalachicola River, on August 31, 1956, a total of 24,999 boats were registered with the United States Coast Guard. There were many thousands of other boats not registered either because they were under 16 feet in length or because they were not used on navigable waters.

Like boating, fishing is one of Florida's most popular sports. Floridians and visitors fish from the causeways. They cast into the foaming surf from the golden beaches. They fish from ocean piers, and from comfortable chairs on boats drifting over the Florida reefs. They charter cabin cruisers (35 cruisers dock at Miami's Pier 5) and fish the Gulf Stream for sailfish, marlin, dolphin, and other game fish.

Riding the foaming surf

Fishing from a bridge

An evening picnic on the beach

Boats ply Ft. Lauderdale's shimmering New River.

The popularity of deep sea fishing created a need for taxidermists (taxidermy is a big business in the area from Stuart to Miami) and has inspired men to paint fish in the glowing colors fish lose so quickly upon being taken from the salt waters.

Glass bottom boats give Florida tourists an opportunity to view the ocean floor, and other boats make almost daily cruises on many of Florida's rivers and around many islands.

South and Central Florida's sea, lake, and gulf waters, dancing with tiny sparkles of sunshine, invite the water skier as do no other waters in this country. Water skiing is growing fast in popularity as a South Florida sport for young and old. In 1956, there were a half dozen ski schools in the Miami-

South Florida's waters call to the sailor.

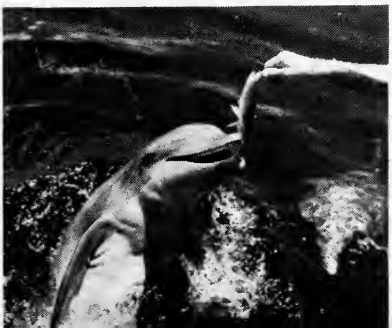
Fort Lauderdale area teaching approximately 100 persons a day. These pupils range in age from four to eighty years.

Sailing races on South Florida's brilliantly colored waters are a thrilling spectacle.

The tropical sea gives developers of tourist attractions, such as aquariums, an unusual opportunity in South Florida. The warm sea waters can be channeled or pumped into tanks and there provide a natural habitat for playful porpoises, sharks, and thousands of fishes as well as for sea anemones, coral fans, and all the exciting animal and vegetable life of the productive seas around us.

The coral reefs that lie off South Florida's shore from Fort Lauderdale southward to the Keys are a dazzling submarine world enticing skin divers. This submarine wonderland today calls as strongly to the photographer, marine scientist, treasure hunter, and explorer as it does to those who

The porpoise is the "playboy" of the sea. Here he smiles for his dinner.



hunt fish with a gun or spear. These Florida waters are not treacherous and few accidents occur.

Almost everyone living in South Florida learns to swim. Infants all but learn to swim before they can walk. Like boating, fishing, and water skiing, swimming is enjoyed the year around, not just for five months as in the north, in the foaming surf, in lakes, and in thousands of swimming pools.

And Food!

In South Florida, the sea is almost as important to daily living as is land. The seas give life a healthy zest. They even add gourmet foods to the daily menu—shrimp, snapper, pompano, dolphin, grouper, crawfish, and fresh crab meat. Florida fish are health foods, rich in minerals and vitamins.

In South Florida, shrimp are both a gourmet food and an industry.

Transportation By Sea

South Florida has busy, progressive seaports, providing passenger and freight service to Latin American countries, to the Bahama Islands, to Europe, and to other lands.

The sea means inexpensive transportation. In addition to steamship service out of South Florida ports, today there are "roll on, roll off" train-ferries operating between South Florida and the West Indies. This means that carloads or trailer loads of food or merchandise can be rolled onto a ship and rolled off at the point of destination.

The sea has a magic effect on South Florida's climate, especially on the eastern or windward shore. The water cools the land in summer and warms it in winter.

Sea Industries

Some of the problems created by the sea around South Florida have encouraged new industries. The salt-laden air rusts steel—hence Miami's great aluminum industries!

Today, chemists are working toward new marine paint and wood preservatives. The sea serves as their testing ground for anti-fouling paints and devices, and studies of marine borers.

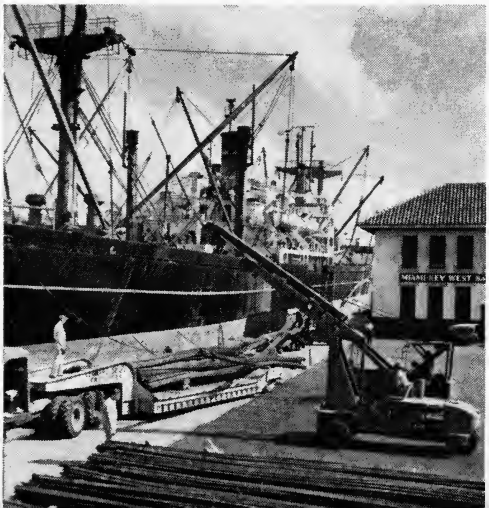
Florida's long, key-protected coast inspires boat builders and has stimulated a multi-million dollar marine industry. South Florida's unexcelled sports fishing provides work for thousands of persons.

Floating in South Florida's tropic waters and strewn on the golden beaches are many materials of industry. South Florida has a multi-million dollar sea shell business, providing work for more than 1,000 persons. There are plants that specialize in dyeing sea shells. Jewelry fashioned from sea shells and fish scales in South Florida factories and home workshops, is sold in gift shops from Key West to California.

Floridians have learned to electroplate tiny sea horses and horseshoe crabs with gold and silver and to make them into earrings and pins. Driftwood, usually buttonwood from the Florida Keys and coasts, is fashioned into lamps and other decorative furnishings.

Florida seaweed, rich in minerals, is a valuable fertilizer.

Miami's busy port



Simply chopped and washed free of salt, it makes a mineral-rich mulch. It adds much-needed nutrients to the soil. Some enterprising South Floridian, perhaps you, will present this seaweed fertilizer to the national market, neatly bagged and aptly named.

Seaweeds also make mineral-rich stockfeed, and in time, may become food for your table.

South Florida's seaweeds are sources of algin and agar. (Both algin and agar are used in foods, drugs, cosmetics, and other products.)

Florida's fishermen land a two hundred million pound catch each year. Much of the fish, crawfish, and shrimp come from South Florida's coral-floored seas. How to quick-freeze, refrigerate and transport this sea food crop to the nation in easy-to-buy and easy-to-cook form is a new industrial frontier!

Frontier Builders — Of Boats!

South Florida's commercial fishermen use a fleet of boats, and numerous nets, fish traps, lines, and other equipment. In South Florida waters, where shrimp has been king of the food fish since the discovery of new beds off Key West, there is always a challenge to the boat builder to produce a better shrimp boat. There is always work for those who supply marine equipment and services. Even the catching of shrimp for bait is a growing business, and a few enterprising Floridians market crickets, fiddler crabs, and earthworms for the same purpose.

The assembly line production of boats, with automobile-styling, began in the Miami area. Bank financing of boats in the same way that automobiles are financed, originated in Miami, gives the boat manufacturer a new chance to appeal to the average man.

There are many busy boat-building plants in South Florida. The boat builders, from Titusville south to Key West, turn out boats of many types, some of wood, some of plastic, but all streamlined and beautiful. Some boat yards specialize in building de luxe yachts, with mahogany decks and brass trim. Others utilize assembly line procedures to turn out vast quantities of colorful cruisers which are carried, on piggy-back trailers, to many cities in this country.

The coral-encrusted sea floor crawls with life.

Services For Water Sports

The making of ice, electrically, ties in with fishing. Fishermen will tell you, "A pound of fish means a pound of ice." In fact, commercial fishing in Florida was not possible until men learned how to make ice. Today ice-making offers work to many persons in South Florida.

The servicing of pleasure craft is a big and ever increasing business. So, too, is the manufacturing of fishing tackle.

In 1955, a half dozen Florida firms were pioneering in the making of skin-diving equipment. The fact that men were hunting fish underwater, the year around, with spear guns and spears opened a South Florida market for special equipment.

The marine industries of South Florida are too varied and vast to measure in statistics. There are many marine supply stores. There are propeller shops and anchor factories. There are immense yacht basins, and enormous boat yards providing covered and open protection for boats and even ships. South Florida provides every type of boat service you can think of and some of which you would never dream. Yachts are serviced with drinking water, flowers, groceries, fuel, and mail.

There are boats to rent of the drive-it-yourself type.

If your interest is boating, then South Florida offers the brightest frontier for you.

Riches In The Sea

But the sea holds even bolder challenges!

There is more sea than land. There is more food in the sea than on land. The sea is a vast storehouse of minerals. But how to make these materials useful to man? That is the question you may answer.

Consider plankton!

A planktonic larval specimen from the deep, less than an inch long

The South Florida sea abounds with plankton, the small animals and plants that drift in salt and even fresh waters. You may never have heard about plankton, but it is the primary food of animal sea life, the pasturage of the sea. Scientists believe that plankton may be a source of our future food supply. How can it be used? That is one of the challenging questions being studied by the Marine Laboratory of the University of Miami. There are many others.

The sea is rich in minerals. There are several tons of uranium and gold and about 25 tons of copper, manganese, zinc, and lead in one cubic mile of sea water, along with 300,000 tons of bromine. Bromine, used in gasoline antiknock solutions, already is being extracted from sea water. All of the magnesium used in this country comes from sea water, and by 1970 the demand for magnesium is expected to quadruple.

Is it not possible, even probable, that some day we will be mining other metals from our rich tropical sea waters? The waters surrounding Florida may be mined for magnesium, bromine, potassium, boron, strontium, chlorine, aluminum, and fluorine. The need for chlorine, especially, is growing and chlorine can be taken from our sea waters.

There is salt in the tropic sea. Why not recover it? The sun may be used to evaporate sea water to manufacture salt, and South Florida has a wealth of sunlight. By 1970, scientists believe that fresh water may be obtained economically from salt water in cities like Miami and Fort Lauderdale.

What's Next?

The sea, in fact, abounds in varied puzzles, challenges, and opportunities. For example, the sea is full of marine microbes, or bacteria, and scientists are just beginning to learn that these bacteria are useful.

Marine bacteria are the first step in forming petroleum. Dead fish and all the debris of the seas constantly rain down upon the ocean floor and there they are attacked by bacteria. The chemical changes that occur are the first steps in the production of oil.

In time, vitamins may come from our tropic waters. These may be more valuable than the Spanish gold, silver, and emeralds which divers are recovering today from coral-crusted wrecks off the Florida coast.

In addition to its sea waters, South Florida has many inland waters, such as lakes and canals. Many of these are carpeted with hyacinths. You, or some one, may one day replace the hyacinth, which has become a pest, with floating islands of useful plants, nurtured by enriched waters used to farm fish. All this, and much more, is possible in a land where the sun shines almost every day of the year.

A quick glance at the work under way at the Marine Laboratory of the University of Miami will awaken you to the vast possibilities and challenges of our sea.

Game fish studies, important to South Floridians, extend as far as the waters of Chile. Shrimp investigations are under way continually. The Gulf Stream is being measured and

carefully studied. The uses of seaweed are being developed. In fact, the Marine Laboratory of the University of Miami is engaged in the entire field of marine science, from physical oceanography to fisheries management. It is concerning itself with the development of a commercial fishing course in the Fort Myers High School. The research work of the Marine Laboratory, some of which is detailed below, will greatly affect your tomorrows:

For the U. S. Navy—Studies on dynamic characteristics of the Gulf Stream; underwater sound; control of ship-worms.

For the Rockefeller Foundation—Basic studies on the productivity of the sea.

For the State of Florida—Investigations on the Red Tide; fisheries research.

For the National Geographic Society—Studies of larval fishes.

For individual endowments—Studies of tropical game fishes.

For commercial concerns—Anti-fouling paint problems.

The sea, so lavish in its good gifts to South Floridians, also places upon us a responsibility, conservation of our sea treas-

Florida is dotted with smiling blue lakes— a fisherman's paradise.

Sailfishing off the Florida Coast

ures. We must be alert to protect South Florida waters against pollution. We should learn to release fish not needed or used. A sailfish taken for no purpose is a waste of Florida's fascinating marine life.

There are many other questions to be answered and problems to be solved. Why are the sailfish diminishing? What ocean paths do the giant blue fin tuna follow? What can be done for our nearly vanished South Florida sponge industry? How can we best preserve sea life such as the turtle, the crawfish, or Florida lobster?

Today, men fish and explore the ocean in much the same way the pioneers hunted and explored America. But in time, we must stop hunting wild sea food and grow or raise it. There will be rich fish farms and undersea plant farms in South Florida's tropic waters. We will mine the sea, the great storehouse of treasures.

The sea is a frontier, mysterious, challenging, rich!

Question Box

1. In what ways does the sea serve the people of this area?
2. What industries have been developed due to the sea around us?
3. How are minerals taken from the sea used? What are some future possibilities?
4. Why is it necessary to conserve our sea life?
5. Why will man eventually look to the sea as a main source of food?
6. Why is plankton important?
7. How much do you recall?
   - What are some practical uses for seaweed?
   - How does the making of ice tie in with fishing?
   - What are the minerals found in the sea? For what are they used?
   - How do marine bacteria help form petroleum?
   - What recreation does the sea offer?
8. What unsolved problems make the sea a challenging frontier?

Suggestion Box

1. Have individual class members report on:

menhaden	turtles
fish	conchs
shrimp	scallops
oysters	crabs
clams	sponges

   Answer these questions about each of the above:

   What are they?

   Where are they found in Florida waters?

   How are they caught?

   Of what use are they?

2. Collect sea shells of the area. Identify the shells, and make a classroom museum.
3. Paint a mural showing sea life in our waters.
4. Make a bulletin board of colored postal cards showing influences of the sea.
5. Tell about your experiences: fishing, shrimping, or crawfishing.
6. Have class members bring in fishing and skin-diving equipment to explain how to use and take care of the equipment.
7. Make a seafood recipe book. Ask your mother how she makes your favorite seafood dish. Illustrate.

Chapter IV

Vegetables and cattle . . . tropical fruits and flowers!
The Sunshine State's thriving agriculture proves that . . .

There's a Future for You in South Florida Agriculture

In South Florida there is exciting adventure and opportunity in agriculture!

In a mild, sunny, humid climate unlike any other climate in the United States, the modern farmer can grow several crops a year of almost anything from corn to chrysanthemums.

He has a golden opportunity to grow rare tropical fruits not found elsewhere in the United States. If fruits such as "lychee," "acerola," and "sapote" sound strange to you today, they may be as well known tomorrow as "orange" or "grapefruit."

Gardening For Everybody

A South Florida home garden can produce sun-enriched papayas, bananas, pineapples, avocados, mangoes, guavas, tangelos, kumquats, and many other exotic fruits. Even tropical varieties of raspberries and peaches thrive here.

The home gardener in South Florida learns to grow gorgeous roses in winter and enjoys flowering trees, such as the royal poinciana, the shower-of-gold, and the bauhinia, or "poor man's orchid," through many months of the year. Landscapers for home and public gardens can choose from an almost bewildering variety of shrubs and plants. The South Floridian lives outdoors amid color.

For many in South Florida, gardening is a recreation, providing a "continued story" interest in living which, in turn, promotes glowing health. Even apartment-dwellers plant indoor gardens of exotic tropical foliage plants.

There is little need for South Floridians to plant citrus

One of South Florida's fertile fields—beans growing near Miami

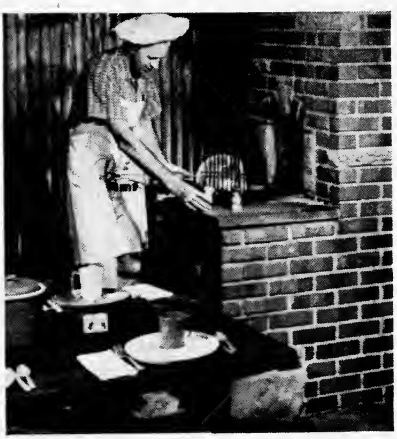
Papayas, golden tree melons, rich in Vitamin A

trees in their home gardens. Florida leads the world in the production of citrus fruits. There is no necessity for growing vegetables, either, since South Florida is the nation's winter salad bowl.

Yum! Yum!

Familiar vegetables—tomatoes, beans, potatoes, corn, cabbage, celery, radishes, broccoli, and dozens of others—grow richly flavorful under the Florida sun. The South Florida homemaker also has opportunity to add unusual home-grown vegetables to the menu. Plants such as the chayote thrive in home gardens. The coconut is almost always available, as are limes for cool drinks and fruits for salad. Strawberries ripen in December when northern fields are covered with snow.

In South Florida, more than in any other spot in the country, the cooking and serving of food takes on the glamour of



You can cook outdoors year-around.

an adventure. Meals can be cooked out-of-doors the year around and often are served outdoors or in patios. The Florida housewife has unusual fruits from which to choose—fruits not grown elsewhere in the United States. She learns to make delicacies prized by cooks in other regions, such as guava jelly and guava shells, spiced calamondins and kumquat preserves, mango chutney, lime pie, and fresh coconut cakes, pies, and candies.

South Florida, with its mild climate, has taken giant strides in agriculture and is destined for continuing agricultural expansion. South Florida leads the nation in the production of

The rich, black, muck lands of the Everglades produce mile-long rows of many vegetables in winter. This is celery growing near Belle Glade.

Gladioli, a bumper South Florida crop

rare tropical fruits and a wide variety of winter vegetables. It is also a year-round grazing land for sleek cattle. It holds bright promise as a poultry-producing region, with the city of Miami one of the richest poultry and egg consuming markets in the country.

The rich muck lands on the rim of Lake Okeechobee produce bumper crops of sugar cane, sweet corn, beans, celery, radishes, peppers, escarole, and many other vegetables. Other fertile lands circling Lake Okeechobee produce ramie, an unusual fiber plant. It grows so abundantly that three cuttings are made a year. Florida-grown ramie now is being woven into fine cloth.

Trainloads of watermelons roll out of the city of Immokalee, deep in the cypress lands of Collier County. The Redlands area, south of Miami, is famed for the production of Persian limes, avocados, and mangoes. Dade County leads the state, perhaps the nation, in the production of tomatoes. Lee County, on the west coast, annually produces a bumper crop of gladioli.

Florida farms are big and the financial rewards of scientific farming often are big, too.

Farming By Machines

South Florida's pioneer growers used hand plows, and the wearisome work of planting and harvesting crops was done by hand. Today enormous machines roll into vegetable fields or through fruit groves to pick, clean, sort, and pack crops of many types. Mobile pre-cooling plants operate in the fields

Machines and men harvest a Dade County corn field.

so that little of the food value of crops is lost. Even the planting of citrus and other tree crops has been streamlined and mechanized. Airplanes sow the seed of some crops and dust, spray, and fertilize others.

Some of the South Florida pioneers who cleared away the original stand of pines and broke up the rocky soil of south Dade County with pickaxes have lived to see the same farms turned into marvels of mechanization.

Visit a modern farm—from Belle Glade to Florida City—and you'll find it run as a big business. An executive in an air-conditioned office will be in telephone communication with produce buyers in the north and in touch by radio with men in the fields. He will know, to the minute, the price his crops will bring, and he can have them picked and packed accordingly.

South Florida farming has come so far from the hand plow that you well may ponder what new marvels the future will hold for you. If yours is a mechanical aptitude, by all means consider the farm with its mammoth machines. Here is opportunity!

Science At Work On The Land

Florida farms do not "just grow." They are illustrations of science at work. The words, "It can't be done," are a challenge to the modern South Florida grower or farmer to do it.

The land, in fact, offers South Florida's greatest and most varied opportunity to the educated man.

Consider the vast tracts of near-swampy land not yet in use. These challenge the drainage engineer and the bridge builder. There is work to be done on insect and weed control, on fertilizers, and on machinery. There is work for the veterinarian, the electrician, for experts on refrigeration, marketing, packaging, and advertising. South Florida farms use immense machines, airplanes, and radio communications. Florida farms use vast quantities of supplies such as rubber bands and plastic vegetable bags.

The control of plant diseases and blights is an ever-present challenge. But problems have spurred progress. To grow sweet

corn in South Florida, the scientist conquered an insect. To produce long-stemmed chrysanthemums, the flower grower learned to lengthen the day with electric lights.

The exciting spirit of doing the impossible stems from research work at Florida's great universities. For instance, the University of Florida at its Everglades Experiment Station in Belle Glade has done excellent work on corn, pasture grass, ramie, kenaf, and other products.

At the sub-tropical Experiment Station of the University of Florida near Homestead, work goes forward continually on tropical fruits such as the guava and the mango. New guavas have been developed that promise much—new mangoes, too.

Fruits Of The Frontier

The University of Miami at its South Campus is working to develop tropical fruits and sun-enriched food products. Here two teams work, one in the tropical foods research laboratory, the other on the farm. Much of this work concerns exotic tropical fruit—the lychee, gauva, mango, acerola (Barbados cherry), sapote, avocado, and the Persian lime. When the lychee was but little known, a ten-acre grove of young trees was planted at the South Campus of the University of Miami. The trees were cultivated, fertilized, and carefully tended until they bore clusters of strawberry-red fruit. Then fresh lychees were picked from these trees, packed and shipped. Test sales were conducted in New York super markets. Results: A new Florida fruit package. Lychees, also, were frozen and a frozen product developed.

The production of tropical fruits such as the avocado, the mango, the pineapple, lychee, papaya, sapote, guava, and lime present a bright prospect to the educated grower. The public is learning that the guava is rich in vitamin C and that the Barbados cherry, or acerola, contains more vitamin C than any other fruit known.

The Barbados cherry thrives in South Florida. It needs little care and no special fertilizers. It "just grows" and bears lustily in a few years. You can call the cherry itself a natural Vitamin C capsule—so rich it is in this important vitamin!

Actually the juice of this Puerto Rican cherry is the richest edible food source of ascorbic acid ever discovered! It has from fifty to one hundred times the vitamin C content of orange juice. It can be taken as a natural juice or blended with the juices of other fruits that contain little or no vitamin C.

A Puerto Rican scientist, testing native fruits, discovered the remarkable value of the acerola by accident. Resting from work on other fruits, he nibbled at a bowl of the tart cherries. Then, almost as a joke, he thought of testing the cherries. To his amazement the vitamin C content was so high no reading could be made. Before he left his laboratory that night he had learned that the wild cherry was the world's richest known source of Vitamin C.

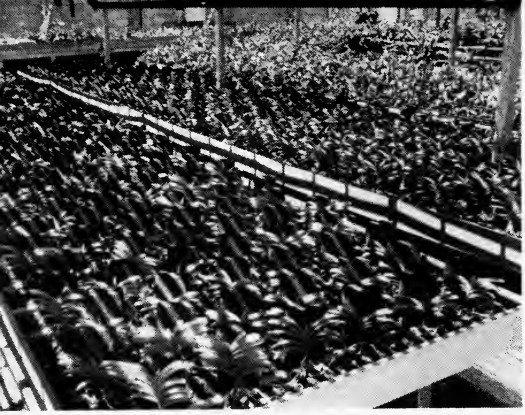
The University of Miami at its South Campus has pioneered in the commercial planting of the cherry in this country, growing the shrubs between rows of avocado trees.

The promising cherry, which is not a real cherry, has several names. It is called acerola, Barbados cherry, or Puerto Rican cherry. Botanically it is the Malpighia punicifolia. But, by any name, it is a fruit with a future. New food products include baby foods with a small quantity of Barbados cherry juice added to them to increase the Vitamin C content.

Opportunity Grows On Trees!

South Florida's agricultural frontiers are unlimited. You can grow anything in South Florida from orchids to mushrooms. In fact, both of these are "money crops." Orchids are grown in South Florida in glass buildings or cloth houses, sometimes even on trees. Mushrooms, of course, are grown in dark air-conditioned buildings and pickers work with a miner's lamp in their caps.

Opportunity grows on trees in South Florida! In 1955 there were 9,000 acres of avocados, 7,400 acres of Persian limes, and 2,500 acres of mangoes in Dade County alone. There is a constant demand for young budded and grafted trees. But not all opportunity concerns fruit trees. There are 4,000,000 acres of land in South Florida, from Orlando southward, in need of forestation and reforestation. South Florida has a monopoly on tropical timber production in this country.



The growing of orchids is a million dollar business in South Florida. Pictured are plants of the "Vanda Rothschildiana." The flowers are "Vanda Mabel Mae Kamahele."

Why not join the search by tropical foresters for fast-growing trees that produce beautiful cabinet wood or solid timber?

Even the saw, or scrub, palmetto is a chemurgic challenge. Wax can be made from the saw palmetto. The melaleuca tree which thrives in South Florida also presents possibilities. In Australia the beautiful bark of melaleuca trees is shredded and used as stuffing for hospital pillows.

Green Pastures!

The production of beef and dairy cattle is one of Florida's oldest and most interesting frontiers. But South Florida's herds of purebred cattle today are a far cry from the long-horn range cows left by the early Spaniards. Cattle ranchers today also are learning how to grow new pasture grasses. South Florida has dairy herds and milk plants comparable to any in this country. Broward County has one of the largest dairy herds in the world.

One of the phases of agriculture capable of great expansion in South Florida is the poultry business. Only a small percentage of the eggs consumed in Dade County is produced locally. There are but few broiler plants, yet the demand for eggs and chickens is increasing at a fantastic rate.

Here is a business that holds great possibilities, perhaps for you. There is an opportunity also for turkey, guinea, and goat farms in some areas in South Florida where zoning permits such activity.

South Florida cattlemen are progressive, up-breeding their beef herds. Note "scrub" cattle, left, with Hereford blood showing in their white faces. The pure-bred herd, at right, are Brahmans.

South Florida inspires farmers to do the unusual. In Lee County, one enterprising farm grows a special protein-rich "green" hay. It is eaten by circus animals, by valuable race horses and steers.

Crops Of Flowers

At Easter time flowers go out of South Florida by the millions in planes, in refrigerated trucks, and by express. They are shipped from Maine to California.

At South Florida's flower farms 'mums are grown in cloth-covered houses. Natural daylight is lengthened by electric lights so that the blooming stage is controlled at the desired time. As one houseful of flowers is harvested, another is brought into blossom. The assembly line operation goes on from September to June.

Other flower farms produce roses by the hundreds of thousands. Orchids are big business. South Florida has some of the largest foliage plant nurseries in the country. There is a future in flowers in South Florida!

Gladioli are one of Florida's big crops, too. In 1955, Florida marketed over 15,000,000 dozen of these blossom spikes. This crop grossed South Florida growers $25,000,000. There is still flower land available.

Farming In Water

Hydroponic gardens flourish in South Florida. Hydroponics means growing plants in water, by feeding them a solution containing nutrients the plants need. The plants are sup-

Electricity lengthens natural daylight and helps control blooming time so the flower-grower can command the highest prices.

Loading gladioli, near Fort Myers

ported by gravel and grow on trellises. Hydroponic gardens in this area produce tomatoes, cucumbers, and many other vegetables, as well as many kinds of flowers.

There Are Still Land Frontiers!

Agricultural frontiers in sunny Florida are as wide as you wish to make them. There is a constant demand for preserves and jellies made of tropical fruits and for sun-enriched health foods made of fruits such as the papaya. While it has long

been known that the guava makes superb jelly, many of South Florida's newer jelly factories are using unusual fruits such as the calamondin, the kumquat, and the Barbados cherry. The demand for mango chutney far exceeds the supply.

There's much work to be done in the field of chemical weed control and fertilizers. Disease-resistant vegetables are important in South Florida. The work of developing them is a challenge.

There is a challenge also, in the medicinal plants that grow wild or can be cultivated in South Florida. The aloe vera, for instance, is used in ointments.

A grape that will grow and produce in South Florida is a dream that never dies. Who can make it come true?

There are many other bright possibilities in Florida's future. Inevitably, we will begin to make better use of bamboo, palmetto, cattails, and Spanish moss, all valuable materials. (Bamboo is used in some countries as a building material; wax can be made from palmetto; cattails make upholstery material; wax can be made from Spanish moss, which is an excellent upholstery material.)

There will be increased production of "finish fed" beef in South Florida. Resin and plastics from sugar are a possibility by 1970, according to University of Florida scientists, and South Florida is one of the world's great sugar-producing regions. (Sugar is a cheap chemical.) There will be striking improvements in vegetable and fruit processing, including powdered citrus and tomato juices. And there is a strong possibility that row-planted pines may be tapped for turpentine by machines. Why not?

What's Ahead For Florida Farmers?

A forecast made by the Florida Council for the Study of Higher Education gives you a hint of the future:

Returns to citrus growers and packers to increase from $189,000,000 in 1954 to $253,000,000 in 1970.

Vegetable production from $142,000,000 in 1953 to $215,000,000 in 1970.

Improved pastures from 1,500,000 acres in 1950 to 3,500,000 in 1970.

Beef cattle from $31,000,000 in 1953 to $120,000,000 in 1970.

Poultry production to double, reaching $64,000,000.

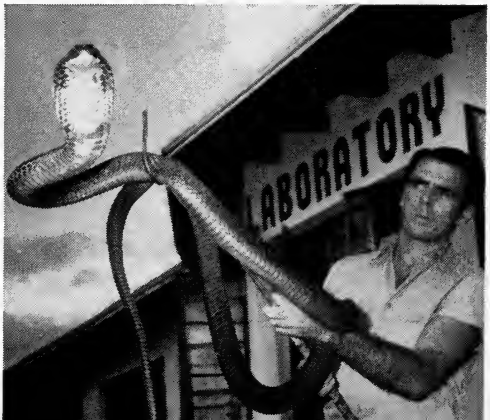
Milk production to double, reaching $80,000,000.

Greenhouse and nursery products from $22,000,000 in 1953 to $72,000,000 in 1970.

Atomic Agriculture

Today, science in Florida is aiding agriculture with radioisotopes. This work gives new and exciting interest to agriculture. For instance, scientists fed slightly radioactive minerals to hens and then followed the calcium fed to the mother hen right to the egg shell and from the egg shell into the bone structure of the baby chick. This was done with an adaptation of the Geiger counter. The hatching of baby chicks and air-shipping of chicks to Latin American countries has become a substantial business in South Florida, and modern science may make it even bigger.

Ramie, being harvested near Belle Glade



William Haast, with one of the king cobras from which he extracts snake venom for medicinal purposes

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Cucumbers are grown hydroponically in Miami. Note the cement beds and trellises.

Frontiers, Unlimited

There are many other land-related opportunities in Florida. Crops such as ramie, woven into cloth by the Egyptians thousands of years ago and used for the wrapping of mummies, today holds a bright promise for the muck lands of the Everglades. Kenaf, a substitute for jute from which burlap is made, also has been grown successfully in the Everglades. If war makes it necessary to grow a jute substitute in this country, it can be grown in South Florida.

Some types of tropical fish can be grown outdoors in South Florida. Today this is big business. South Florida tropical fish farms now are air-shipping live fish to the nation's pet stores. Many tropical fish breeders search the world for rare specimens to breed in Florida.

Many pet birds are bred in South Florida and shipped to the nation's pet stores, too. Even South Florida's wild snakes such as the cottonmouth moccasin and diamond-back rattler are being turned to the benefit of mankind by daring producers of snake venom for medicinal purposes.

The production of honey already is a million dollar business in Florida, which abounds in honey-making material—orange blossoms, saw palmetto blossoms, mangrove, and many other flowers. But the "hiring out" of bees to pollinate crops may become an even bigger business. A DeLand beekeeper

is pioneering, also, in the production of royal jelly, a substance upon which the queen bee is fed when in larval state. In 1956, this royal jelly was used in cosmetics and was selling for a fabulous price.

There is rich opportunity in the growing of aquatic plants, such as water lilies. These can be grown in outdoor pools in South Florida and marketed on a national basis.

Florida's agricultural frontiers are unlimited and the rewards are rich. Until mankind learns how to grow a mile-long row of radishes, a field of sugar cane, or a carload of celery in a laboratory, South Florida will continue to be the nation's winter market basket. Here, the land frontier is still wide open!

Question Box

1. Why are the farmers of South Florida able to grow more than one crop of vegetables and flowers in a year? What conditions might prevent the raising of two crops?
2. How is it possible to have an increasing farm income in Dade County when many groves and farms are now being developed as homesites?
3. What are the important crops of South Florida? Where are they grown?
4. How did the pioneer's way of farming differ from the way the modern farmer grows his crops?
5. What are some big problems facing grove growers and farmers?
6. How do universities help people in agriculture?
7. What are some of the promising agricultural frontiers in this area?
8. Where do the people who farm get their labor? How may the large increase in population during "picking" seasons create problems?
9. Why is advertising important in selling a "new" crop such as Barbados cherries or lychees?
10. What work other than "dirt farming" does agriculture include?

Suggestion Box

1. Obtain a copy of the *Florida Dictionary* by Jack Shoemaker (published by the State of Florida, Department of Agriculture), from the Dade County Agriculture Agency, 2690 N. W. 7th Avenue, Miami. The pamphlet lists and describes fruits, vegetables, and flowers of Florida.
2. Visit the Dade County Agriculture Agency and interview the County Agent. Find out how he helps people in agriculture. Ask him for publications you may use in class.
3. Have a fruit fair. Class members may bring in many different kinds of fruit in season. Arrange an attractive display on a table. Taste fruit with which you are unfamiliar.
4. Have a group draw a huge map of Florida on one side of the bulletin board and a map of the world on the other side. Use yarn from place of origin of plant on world map to where plant now grows in South Florida. Draw or cut out of colored construction paper plants for map.
5. Invite one of the science teachers into the room to set up an experiment for growing tomatoes or radishes hydroponically. Keep a careful record of materials used and results observed.
6. Take a pencil and pad with you the next time you visit the grocery store. List the fruits and vegetables grown in South Florida and those shipped in.
7. Tell about the fruit trees in your backyard or neighborhood. Ask your parents about the care they give the trees—amount of water, fertilizer, pruning, spraying.

Chapter V

Florida has seen a phenomenal growth in aviation . . . and now, with the dawning of the jet age, air-minded Floridians know that . . .

The Sky is Not a Limit

The jet age is here!

No period in South Florida's amazing aviation history has promised as much to youth as does this era of fabulous speed and comfort in air travel.

Look up and vision opportunity! Even the sky is not a limit today. The launching of a space satellite from an east coast mid-Florida base extends our frontiers into outer space and creates new opportunities and payrolls for engineers and technicians.

Consider South Florida's sparkling weather and clear blue skies plus its geographic position, and you will see why this is one of aviation's great frontiers.

Hub Of The Americas

Miami's International Airport is literally the hub of the Americas. Air paths stream outward in all directions from this 3,000-acre field to link South Florida to the world. An increasing number of persons and tons of cargo pass through this airport daily.

In 1955, it was estimated that the daily average of persons including visitors going through the terminals was over 30,000, a small city full of people. The same year, more than 17,000 persons worked at the airport, either for various airlines or for air-related industries and services. More than 3,000,000 passengers, 11,780,000 pounds of air mail, and over 137,000,000 pounds of air express and freight were handled in 1955 at the Miami International Airport.

Contrast these figures with those for 1950 and you will begin to glimpse the speed of aviation's growth. In 1950, passengers numbered 1,387,142. Mail was but 6,603,700 pounds and cargo, 71,871,000 pounds.

Figures for the first nine months of 1956 (see the table) clearly indicate the increasing activity at the Miami International Airport.

Traffic Report — Miami International Airport*
Nine Months Total — 1956

To and From Points *Outside* Continental U. S. Limits	
PASSENGERS—TOTAL	695,609
MAIL—LBS.—TOTAL	2,755,899
CARGO—LBS.—TOTAL	87,264,815
To and From Points Within Continental U. S. Limits	
PASSENGERS—TOTAL	2,066,175
MAIL—LBS.—TOTAL	6,708,599
CARGO—LBS.—TOTAL	26,791,462
Combined Totals	
PASSENGERS—TOTAL	2,761,784
MAIL—LBS.—TOTAL	9,464,498
CARGO—LBS.—TOTAL	114,056,277

*Data provided by Dade County Port Authority, Miami

The Jet Age Frontier

Ushered in with an expenditure of $2,500,000,000 by United States air carriers for new aircraft and facilities, the jet age opens new doors to South Florida. It makes this time in which you live one of seeming marvels.

Soon business people may be able to live in South Florida, enjoy our marvelous climate and reap its benefits in health, and work in New York. They will be able to fly from New York to Miami in less time than it would take them to drive to some parts of New York City, or to drive from Miami to West Palm Beach.

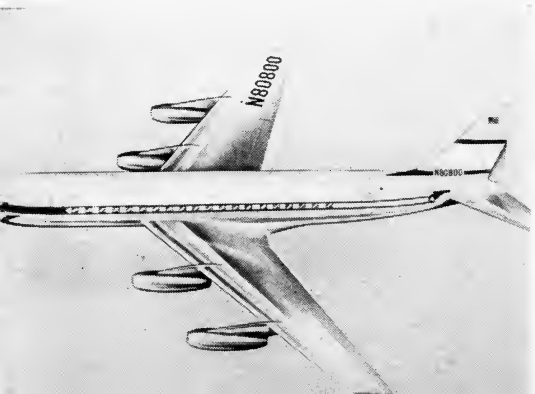
Even without jet transportation, non-stop flights are possible from Miami to Paris. Jet transportation will bring South Florida's climate and way of life within the reach of the world.

The new concept of air travel in which Miami has a vital part, is costly and magnificent. The jet planes will carry up to 145 passengers at speeds of 550 to 660 miles per hour. One jet transport will have a range of 4,000 miles with full payload. Wing span is 141 feet, 6 inches; fuel capacity is 21,200 gallons.

These planes will make the New York-Miami trip in little more than two hours. Air-borne radar, detecting weather 150 miles ahead of the plane, is but one of many new safety factors.

The major airlines serving South Florida today are actively engaged in the process of an expansion that staggers the imagination, and South Florida is meeting the challenge of changing times with a new and functional airport passenger terminal. Costing $10,000,000, this terminal is built in the form of fingers radiating from a U-shaped main building. It is designed to meet the demands of the future.

Jets, like this one, fly 575 miles per hour.



The first aircraft used by Pan American World Airways, when it began operations in 1927, was a tri-motor Fokker.

Air cargo

Growth Of The Airlines

The growth of the airlines using the airport tells the story of aviation's past and predicts its future.

Until about 1928, Miami's airport was a swampy pasture. Then Pan American World Airways built a hangar and runway on the Northwest 36th Street side of the present airport, and began to land a few planes there.

Pan American World Airways was born in 1927 when a monoplane lumbered over a muddy field at Key West and bravely took off for Havana to establish our first international air route.

In 1956, Pan American had 6,028 employees in Florida, with an annual payroll of $28,606,554. Its maintenance shops at the Miami International Airport are among the largest in the world. Much of the work is done out of doors, in sparkling sunshine.

In 22 years, National Airlines grew from a one-plane, one-pilot, one-route carrier to a leading airline. In 1956, National Airlines was employing more than 2,000 persons in Florida, with a payroll of almost $18,000,000.

In 1955, Eastern Air Lines reported a total of 6,069 employees in Florida with a payroll of $28,964,025. The same year Eastern Air Lines embarked on an expansion program costing $417,000,000!

Delta Air Lines in 1956 employed 415 persons in Florida, with 317 of them in Miami. Its total annual payroll in Florida was almost $2,500,000.

In addition to the major United States airlines, and many minor airlines, the airplanes of many other nations fly in and out of the Miami International Airport carrying passengers, mail, and cargo.

This cargo takes many forms. A part of it may be live tropical fish being flown into this country from South America, or from South Florida's fish farms to other points in this country.

Air cargo may be Miami-made fashions, pressed and on hangers, ready for sale in shops throughout the nation and Latin America. It may be aluminum windows, furniture, or jalousies bound for ports around the world. It may be fresh flowers. It may be precious blood serums produced in Miami. Vast quantities of baby chicks take to the air in Miami, too, bound for Latin America. Lions, cobras, monkeys, iguanas and other animals have been shipped through Miami's airport. Race horses often are flown.

Careers In Aviation

The opportunity for you to create a career or find employment in South Florida's aviation or air-connected industries is almost unlimited.

To most of you, the airline pilot may seem to have the ideal job. But this coveted and rewarding job in aviation is a long climb, calling for years of study, training, and experience. It demands physical fitness and usually a college background—and even more. This is what Pan American World Airways says of its ocean-spanning pilots:

"When a man gets a clipper captain's rating, he is more than just a pilot. He's a personnel director, medic, lawyer, linguist, mechanic, engineer, meteorologist, customs and immigration official and diplomat."

Still want to try for the job? Then it may be yours.

But there are other jobs concerned with the flying of planes, the movement of air cargo, or airport administration. You

Clipper skipper Capt. Roy E. Keeler has flown 5,000,000 miles.

Planes serviced in sunshine

may become an aircraft mechanic or manufacturer of aircraft parts. You may learn the infinitely precise techniques of testing instruments. You may work at a military base or be in the armed services.

You may join the growing ranks of engineers and technicians required to do the important work of launching missiles and recording their behavior in flight. The recording of data on how these missiles perform on their 5,000-mile, down-range sky path from Cape Canaveral to Ascension Island opens fabulous new opportunities to engineers and technicians in Florida.

Graduates of Florida universities and technical high schools today receive a special welcome at Patrick Air Force Base, where in 1956 the RCA Service company had more than 1500 employees at the base and on the down-range stations.

The work at Air Force Missile Test Center is an immense cooperative effort in which, if you become an engineer, you well may play a vital part. The work, of course, concerns the testing of missiles and weapons systems. A complete record of all the data concerning the missiles is kept from the time the missile leaves its launching pad until it is either destroyed or brought back to its home base. There is other exciting

work, too, perhaps on satellites and inter-continental ballistic missiles. Florida is forging the world's future, and if prepared, you can be a part of this exciting adventure.

Aviation Makes For Ease Of Living

Aviation affects life in South Florida in many interesting ways. The fact that Havana and the Bahama Islands are but minutes away from the Florida coast by air gives all South Florida a cosmopolitan outlook on life and broadens your vision.

The air routes streaming out from Miami's International Airport link Miami easily with far-off foreign cities—with Santiago (Chile), Karachi, Calcutta, Hong Kong, Oslo, Mexico City, and many others, as well as to all major cities of our country.

Floridians can travel easily to cities within their own state. Scheduled airlines serve Miami, Jacksonville, Tampa, West Palm Beach, Fort Lauderdale, Vero Beach, Melbourne, Daytona Beach, Marianna, Gainesville, Ocala, Orlando, St. Petersburg, Clearwater, Panama City, Tallahassee, Pensacola, Bradenton, Fort Myers, Lakeland, and Key West. In addition, there are air taxi routes between some Florida cities. No Floridian can live far from an airport or air travel facilities.

Florida is dotted with modern terminal airports used by certificated scheduled airlines. There also are private airports for business and executive planes. The list of terminal airports in 1956 follows:

Bradenton (served through Sarasota)
Clearwater (served through St. Petersburg)
Fort Lauderdale, Broward County International Airport
Fort Myers, Page Field
Gainesville, Municipal Airport
Jacksonville, Thomas Cole Imeson Airport
Key West, Meacham Airport
Lakeland, Drane Field
Marianna, Municipal Airport
Melbourne-Eau Gallie Municipal Airport
Miami, International Airport

Ocala, Municipal Airport
Orlando, Municipal Airport
Panama City, Municipal Airport
Pensacola, Municipal Airport
St. Petersburg, Pinellas County International Airport
Sarasota, Sarasota-Bradenton Airport
Tallahassee, Municipal Airport
Tampa, International Airport
Vero Beach, Municipal Airport
West Palm Beach, International Airport

Air cargo service is available at many points in Florida. Farmers can air ship flowers and plants overnight to the great population centers of the North. Strawberries and chrysanthemums growing one afternoon in Florida, can be on tables in northern homes the following day. The wide-awake smaller cities of Florida—Fort Pierce, Lakeland, Orlando, Palatka, Sarasota, Fort Myers, and Stuart—are well served by cargo carriers. Tomatoes, tropical fish, flowers, and plants fly out of these areas by the plane-loads in season.

The popularity of air travel in South Florida has given impetus to yet another big business—the renting of automobiles to air travelers. Today, in Miami, thousands of cars are rented to air passengers.

Working By Air

Aviation enters boldly into many other fields of activity in Florida. Today insecticides are sprayed from airplanes over vast areas of the state. Crops are dusted, fertilized, and sometimes fields are seeded, by airplane. Maps are made and new real estate subdivisions are plotted from the air.

Sportsmen fish from airplanes. Salesmen use airplanes to hop from one city to another. Pilots and fliers who live within the state often stage "air-cades," happy, friendly gatherings. Aviation lifts Florida living completely away from the routine and humdrum. It gives wings to everyday enterprises and stimulates new thought.

There is a future in Florida for business pilots—men and women who can fly planes and hold responsible positions as well.

This may be your field.

Consider the fact that American business owns and flies almost 20 times as many airplanes as the airlines, and you will see that the business pilot has a future. The expert pilot, man or woman, who can double as a competent business executive can command a high salary.

A business pilot, for instance, might be a salesman, purchasing agent, demonstrator, a personnel expert, or a public relations man. As a combination pilot and an executive, he or she would command a salary ranging from a low of $350 a month to a high of $1,100 a month.

Aviation Has No Ceiling, Vocationally!

There is a demand for airport managers and for teachers in aviation schools. Even the field of public relations and advertising ties in directly with our progressive aviation. Today the airlines sell "package vacations," which include air transportation, hotels, entertainment, car rental, and all expenses.

Aviation schools in Miami tend to turn the city into a "melting pot." Enrolled at the Embry Riddle International School of Aviation are students from Spain, China, Africa, Japan, Korea, and many other countries.

In South Florida, there are many air-related industries. These include manufacturers of airplane seats, of survival equipment such as life preservers and life rafts, of plastic and metal aircraft parts, of instruments and radios. There are firms that specialize in the testing of instruments and servicing of aircraft. There are Miami firms dealing in new and used aircraft parts on an international basis.

There is no ceiling on opportunity in South Florida's aviation, especially for those of you who know the Spanish language. Even the sky is not the limit.

Transportation to the moon from Florida may come in the exciting era in which you live!

Aviation sparks the sales of aircraft accessories and instruments. This factory faces the Miami airport.

Question Box

1. Why is the saying "the sky is the limit" no longer appropriate today?
2. How will the "jet age" affect aviation in South Florida?
3. Why is it more practical for the large airlines to maintain maintenance shops in Miami rather than New York or other northern cities?
4. Will the airlines eventually force railroads and trucks out of business? Defend your answer.
5. How does the airplane "shrink" our world?
6. How can air travel help South Florida create better understanding with Latin America?
7. Why is it important for a person to know a language other than English if he plans to work for an airline?
8. For what are airplanes used other than transportation?
9. What are the frontiers in aviation?
10. What are the vocational opportunities in aviation?

Suggestion Box

1. Compile a list of the airlines in the area, including foreign airlines. (Look in the classified section of the telephone book.) Find out where you can go on the various airplanes. On a map, draw airline routes from Miami to other parts of the United States and the world, having a different color represent each airline.
2. Have individual class members select a vacation spot. Gather information on the place you plan to visit, including plane fare, clothes to take along, what to see, customs of the people. Use an almanac for facts and figures, a geography textbook for customs of the people, and an encyclopedia for general information.
3. Make an occupation's chart showing the jobs involved in flying and maintaining a plane. Discuss aviation as a possibility for employment.
4. Give reports on the history of aviation. Place stress on the changes brought about by the air age.
5. Invite an airline pilot to speak to the class. Have him cover such points as education needed for the job, what the job involves, and how he depends on others so he can do his work well.
6. Make a picture collection of old and new planes. Discuss the progress made in aviation.
7. Draw a plane of the future. How would your plane be an improvement over those now in operation?
8. Have a poetry contest on the subject *Flying*.

Chapter VI

We're envied for it . . . we're growing because of it!
Take your place in the sun and reap the
bountiful harvest of . . .

South Florida's Fabulous Climate

Climate makes Florida different from all other states!

It is climate that makes the land produce so bountifully, and produce rare fruits not found elswhere in the continental United States. Climate makes health the birthright of every Floridian and gives you the right to expect to live longer and with more zest than in other regions of this country. Climate gives South Floridians an opportunity to live out-of-doors, to enjoy sports like tennis and swimming, and hobbies like gardening and landscaping the year around.

Climate Is The Magnet!

A billion dollar tourist business, most of it in southeastern Florida, rests solidly on Florida's golden climate!

Climate adorns the South Florida landscape in rare beauty and color and makes seascapes a thrilling sight. It brings a wealth of rare bird life to home gardens, to the pine lands, to the keys, and to the Everglades National Park.

In fact, climate is so threaded into the economy and life of southeastern Florida that it may truly be called the *magnet* moving populations southward and creating exciting new frontiers in which you will play a part.

The climate of all South Florida is balmy and refreshing; the days sparkle with sunshine, the nights are cool. But southeastern Florida's climate is unique.

Three major factors make it so—the sun, the Gulf Stream, and the trade winds. Other factors are rain, clouds, daytime sea breezes, the amount of moisture in the air, and the contour of the coastline.

Florida's Sun

Let's consider the sun first.

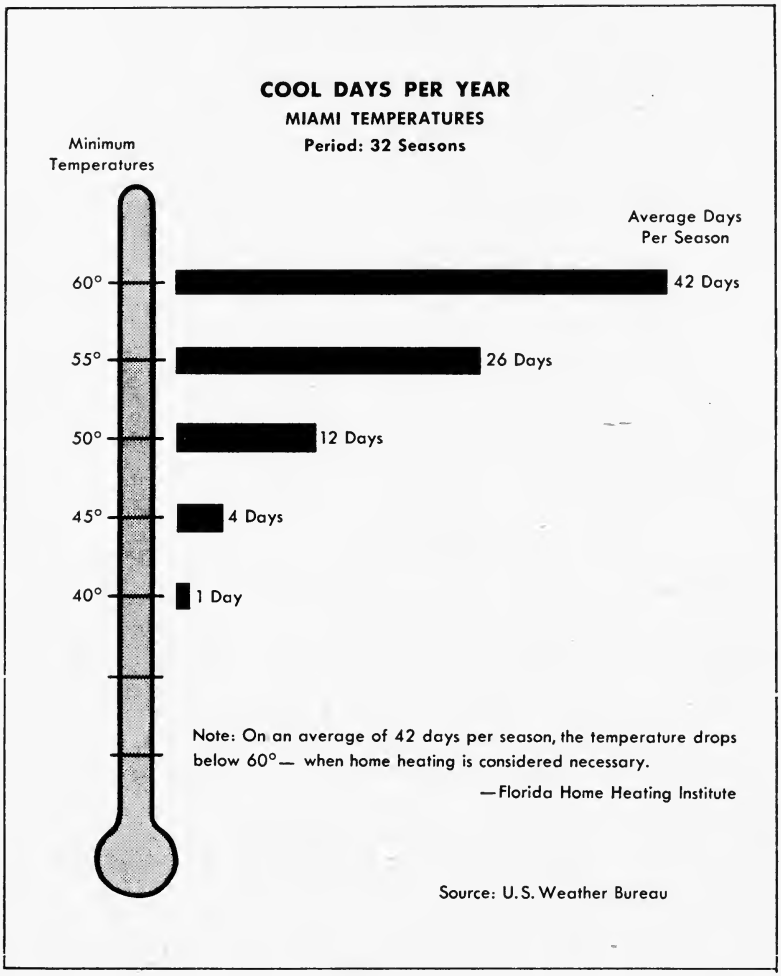
South Florida is this country's southernmost point. Thus the tilt of the earth's axis in winter has less effect on this area than on more northern regions. South Florida's winter days are longer and warmed with intense sparkling sunshine. You can work and play outdoors the year around in South Florida.

In summer, when the north pole tilts toward the sun, South Florida's days are shorter than the days of northern areas, and consequently cooler. The sun has less time to heat the air and cause extremely high temperatures.

The Gulf Stream

The Gulf Stream—warm, northward-flowing river in the sea—rounds the western tip of Cuba, pushes through the Florida straits and passes closer to South Florida's eastern shores than to any other part of the United States. It acts as a weather-moderator, warming in winter, cooling in summer.

Of course, it is easy to see how a warm current modifies winter's chill. But the cooling action in summer is more complex and this brings us to the action of the winds.



Clouds are an important influence on South Florida's weather. In winter, Florida's clouds are light and fleecy. They beautify the sky, yet permit sunshine to pass to the earth. In summer, clouds are of the heavier cumulus type—dramatic billows moving in from the sea to march across the peninsula. These

beautiful summer clouds act as giant parasols, cutting down the intensity of the summer sunlight. Winter or summer, sunset glorifies the clouds with remarkable color.

Florida's Winds

The winds that sweep across South Florida have a profound effect upon the climate. Year-round, the trade winds are a priceless asset to southeast Florida. They carry the warmth of the Gulf Stream to the land in winter. In summer, when water temperatures are much less than daytime land temperatures, the winds bring coolness to the shore.

In southeast Florida, too, the prevailing winds are added to the daytime sea breeze—the wind off the water. (This is peculiar *only* to the east coast.) The result is that Florida has cooler summers than those in many northern cities.

Chicago and St. Louis, for instance, occasionally have summer days with temperatures exceeding 100 degrees. Not so in South Florida.

Rain And Clouds

South Florida receives plentiful rain, year-round. Normally, winters are drier than summers, when the rains are cooling, but there are no long dry periods to parch crops or threaten the water supply. Thus, Florida is generously endowed with fresh water, and in South Florida several crops a year are the rule rather than the exception.

Those Storms?

Few tornadoes of any strength strike Florida, and South Florida is well prepared for hurricanes. Storm warnings now give ample time to residents to lower awnings and fasten shutters over windows and store fronts. Those who live in old, insecure homes, on keys, or in low-lying districts have time to move to strong shelters. Boats are moored and planes fly to safe areas.

A part of the research work at Florida's great universities concerns the tracking of storms by radar, and scientists are

continually at work to solve the mysteries of the birth and growth of storms, the "whys" of weather. Meteorology is one of South Florida's fascinating frontiers.

Radar will play an important role in future weather predictions and flat South Florida, more than any other spot in the country, is suited to the propagation of radar waves. The radar science is in its infancy. You will see it grow into a valuable aid to meteorologists and to those who sail the seas. A radar beam already has been bounced off the moon. Who can measure now the uses to which radar may be put? The tracking of storms is but one.

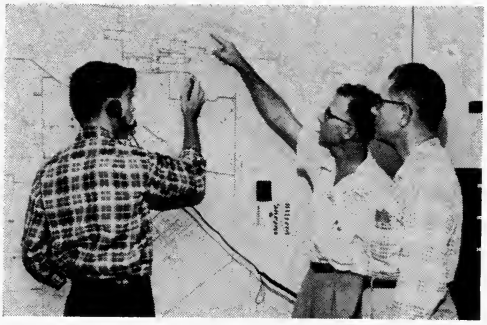
Builders and architects in South Florida are learning to design roofs for minimum resistance to wind. The new home today stands up to the fury of a tropical storm.

There is no reason to fear a hurricane in South Florida and every reason to respect it. The intelligent person stays indoors, even during the lull or quiet in the center of a storm, and waits until the hurricane is safely past before venturing out. Then he or she avoids fallen or dangling wires and snapped tree limbs.

Unsung Heroes

Those who must work during the roaring winds—Florida Power & Light Company linemen, for instance—are the unsung, often unknown, heroes of the storm's fierce drama. But they do work for which they have been trained with special safety precautions. In fact, at the first hint of a storm, a carefully worked out and often rehearsed plan goes into action at the Florida Power & Light Company. This plan to keep electric service flowing to vital centers, such as hospitals, and

Florida Power & Light Company men rehearse a plan to keep electric power flowing to vital centers during storms.



Power map for use in storms

to as many homes as possible, and speedy restoration of service after a storm passes involves the use of a giant map upon which each line and street is plotted. Specially trained repair crews, augmented by linemen from neighboring states if necessary, work 'round the clock until the central map reveals that service is 'back to normal.'

Coastlines And Cold Snaps

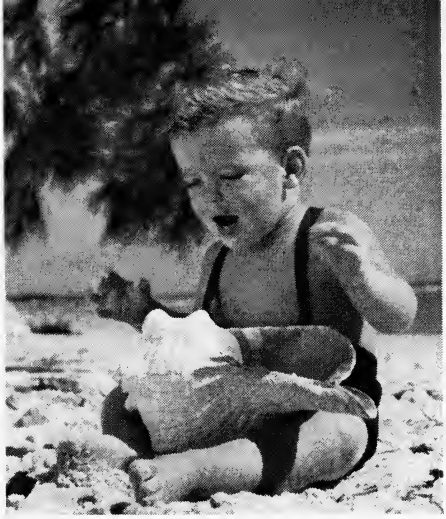
A factor not to be ignored in the making of southeast Florida's mild but tonic climate is the contour of the coastline. Look at the map and you'll see why.

Florida's coastline turns southeastward at Jacksonville. Thus a cold wind that strikes St. Augustine, for instance, has but a short trip over warming waters. But such a wind striking the Jupiter-to-Miami area has passed over a stretch of water almost certain to moderate its intensity.

The few cold snaps that do come to South Florida's tropical eastern shores invigorate rather than chill. They are a positive blessing. They tend to check the year-round growth of vegetation—to make mangoes bloom, to ripen oranges and flavor vegetables. The cold strengthens tree trunks and gives some trees and shrubs a needed rest from speedy growth. The cold snaps keep down annoying insects.

Heating?

The short periods of cold, or near-cold, give natural exuberance and livability to the Florida climate. They stimulate good health. Usually they are of short duration, perhaps two or



Health is the birthright of Floridians.

three days in length, so that home, office, or factory heating costs are small. Homes are built without costly basements, and factories are constructed without expensive insulation or central heating plants.

For the few days when heat is needed, Floridians have discovered the advantages of low-cost, efficient oil heating. Small and compact heaters that can be tucked away in closets, walls, and floors, do an adequate job during Florida's cold snaps. They have proven so practical that they have become known as "Florida furnaces," and are being built into new Florida homes. With air-conditioning, oil-heating provides the ultimate in comfort.

Climatic Frontiers

The state of Florida, in its entirety, provides a variation of climates and environments. It leads all states in the variety of its soils, trees, flowers, crops, and fishes. But there is a narrow windward shore in southeastern Florida where climate approaches the ideal. It is the only energizing tropical area in the Americas. Thus Miami is destined to become one of the world's great population centers.

The southward trend of industry shows clearly the pull of the sun in shifting America's population. The South Florida manufacturer not only saves on heating costs; he also finds that his employees lose few working days from colds or other

sickness, and that worker efficiency is up to 20% greater than in colder regions.

The years of World War II gave America the opportunity to test the benefits of South Florida's climate. Men in the armed forces were trained here, by the tens of thousands. The blue skies were filled with military planes; new factories were set up, some without walls. It became obvious at once that men and women worked more efficiently in this temperate climate than in colder regions.

The fact that South Florida has so much and such strong sunshine made it the ideal testing ground for paints, preservatives, and materials used outdoors. It stimulated the manufacturing of sun tan lotions. Sunshine also made the area a vacation land for those who needed to relax and renew their energies.

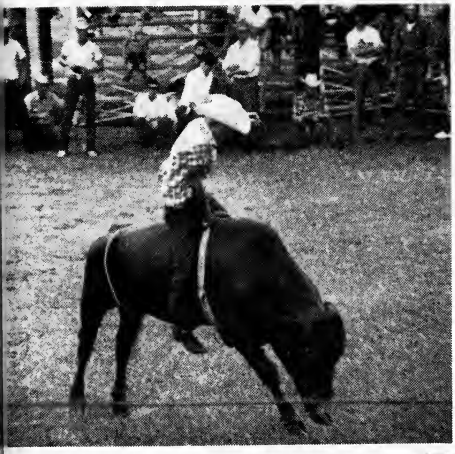
30,000 Swimming Pools

That South Floridians enjoy outdoor recreation and the balmy climate is shown by the fact that in 1956, there were more than 30,000 swimming pools in the Broward-Dade area, with 3,000 more being constructed. South Florida has one of the largest concentrations of boats in the world. There are swimming, water-skiing and skin-diving schools, fishing and bait-casting classes in many South Florida communities.

The South Floridian pursues many outdoor hobbies—grow-

Swimming pools take many forms in Florida.

ing orchids, photography, painting, bird-watching, gathering driftwood and sea shells. He has a wide choice of outdoor recreation from shuffleboard to wild west rodeos. Stadiums, such as Miami's Orange Bowl, provide the setting not only for exciting football games but also for music fiestas.



Rodeos, Florida-style

Shuffleboard

Beachcombing

Football in the Orange Bowl, Miami

A Tropical Climate

You find South Florida on the map just north of the Tropic of Cancer, the northern limits of the tropics. It is a sub-tropical region, geographically. But the Gulf Stream and the trade winds combine to bless this sub-tropical area and bestow upon it a temperate tropical climate.

Tropical trees, such as the gumbo limbo and the mahogany, thrive in this region. (The seeds of many trees thought to be native probably were blown to our shores on the winds of hurricanes.) Many exotic shrubs thrive here, also. During the years of World War II, classes to teach men how to survive in tropical jungles were conducted at the Fairchild Tropical Garden south of Miami, the only spot in this country where many rare tropical plants are found.

Tropical birds live in this zone in Florida.

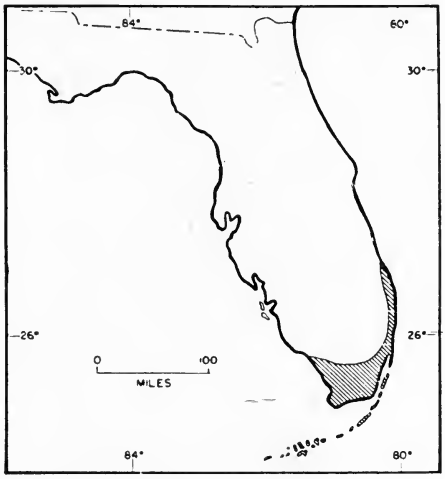
Florida's Bird Life

The study of Florida's wealth of bird life has intrigued man since the time of the early Spanish explorations. The accounts of the English and French, as well as the Spanish explorers, abound in descriptions of birds. The great bird student and painter, John James Audubon, wrote that the swirling clouds of birds on a lonely Florida key almost lifted him from the sand.

Florida's rare birds, yours to enjoy today, but a half century ago faced extinction. Some such as the American flamingo, have not yet made a come-back. Others are increasing steadily in numbers. These include the roseate spoonbill, once prized by plume-hunters, and the great American egret, whose fragile, dainty nuptial plumes caused the "war of the feathers." The smaller egret, whose aigrettes, or nuptial plumes, also were prized, is increasing fast in numbers on the Florida Keys.

Florida's famed flamingos

Upon you as upon all Floridians and visitors to Florida, rests the responsibility for the conservation of Florida's natural, climate-born assets—its birds, forests, game fish, and wild animals.



Shaded area is tropical zone in Florida inhabited by tropical birds.

A Frontier For Ideas

You who live in South Florida are fortunate. Climate does more than make you work efficiently and play happily.

Florida's temperate, relaxing, exuberant climate provides the atmosphere in which great ideas are born. Even a skimming of Florida's rich history tells you that the dynamic developments in Florida did not "just happen"; they developed under the leadership of a man or men. They were climate-inspired and the ideas were turned into facts by men and women who worked efficiently in a moderate, energizing climate, and enjoyed outdoor recreation year-round, who wanted these advantages for others, too.

This ideal climate which thousands of persons seek today is yours as a birthright. You have a heritage of ambition and enterprise from the men and women who voyaged years ago into this sub-tropical land, drawn by climate, eager to develop the resources and natural advantages of living here. Let it inspire you to make the most of the wealth of opportunity and the unique advantages of living and working in South Florida today.

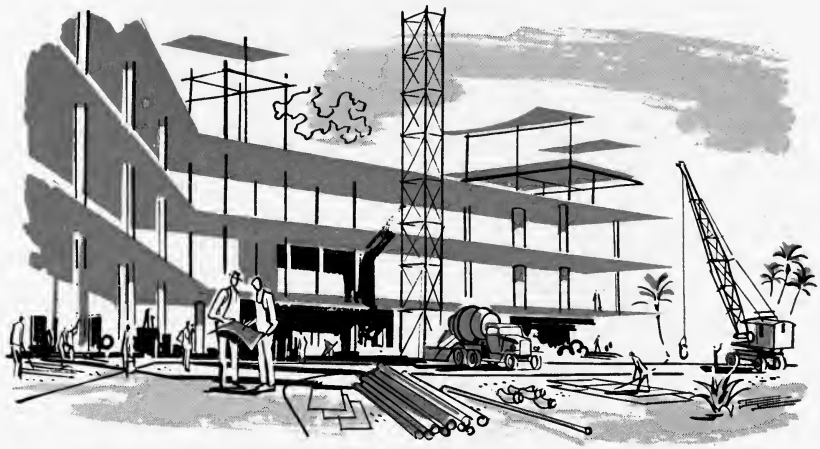
Question Box

1. How does the Gulf Stream affect the climate of South Florida?
2. What part do the winds play in creating sub-tropical climate?
3. How do Floridians prepare for hurricanes? Cold snaps?
4. How does the climate influence the types of homes built in this part of the state?
5. What recreation is possible year-round?
6. Why are occasional cold snaps welcome?
7. What frontiers does climate open?
8. Why is it important that we conserve our resources? How does climate make South Florida's resources "different"?

Suggestion Box

1. Consult a geography book for further information on climate. Prepare posters or charts showing the effect weather has on daily living (food, shelter, clothing, and recreation).
2. Collect weather reports from the daily papers. Compare temperatures with other sections of the country.
3. Consult your textbooks and encyclopedias for information on hurricanes. Answer these questions:
   a. What causes a hurricane?
   b. What areas of the United States may be "hit" by hurricanes?
   c. What would you do if a hurricane is expected?
4. Find out what a meteorologist is. Why are the farmer, pilot, tourist, and fisherman dependent upon him?
5. Build a "weather" vocabulary by finding out what the following words mean:
   a. precipitation
   b. cumulus clouds
   c. exposure
   d. temperatures
   e. velocity (wind)
6. Discuss how the following climatic conditions affect people in South Florida:
   a. too much rain
   b. too little rain
   c. frost

Chapter VII



Light manufacturing . . . diversified manufacturing?
We're growing on solid foundations because . . .

South Florida Industry Is on the March

South Florida's young and growing "light" industry presents a tremendous and diversified frontier crammed with opportunity—especially for you who are growing up on this industry's home ground.

As you read this, bear in mind the words "light" and "diversified." They hold the key to South Florida's balanced development as both a golden vacation land for millions and a place

Industry is moving southward.

where hundreds of thousands of people can work and live happily.

The word "light" as applied to industry means a product involving no smoke, smog, soot, or unpleasant odors or noises. It has nothing to do with size. The manufacturing of plastic swimming pools is a "light" industry.

Diversification means a variety of opportunity for all. It means that South Florida's industry is no "all-the-eggs-in-one basket" business.

From Shoes To Ships

In some American communities, one industry dominates the local scene. It may be steel, aircraft, automobiles, or some other product. In such cities a shortage of material or labor can work disaster by shutting down the plants and cutting off payrolls. But this is not true of South Florida where hundreds of different products are being manufactured and sold all over the free world. Today, the Miami area has factories turning out products that range from shoes to ships.

South Florida factories turn out all types of wearing apparel, for men, women, and children—dresses, shoes, shirts, skirts, swim suits, handbags, and beach coats. They also produce numerous items from aluminum and plastics. There are many factories turning out electronic products. There are furniture factories, souvenir factories, and hundreds of food processing plants. There are mammoth box manufacturing plants and factories that turn out cosmetics, ceramics, wallpaper, lamps, pictures, fishing tackle, aircraft parts, and hundreds of other items. One

A fashion factory, in Miami

Miami's modern factories look like country clubs. This one manufactures fibre glass boats.

Miami laboratory specializes in the production of more-precious-than-diamonds blood serums which are flown to many Latin American and European countries.

In the years from 1946 to 1956, the number of factories in greater Miami multiplied four times and still it is growing. The number of industrial workers in Miami is growing faster than in Tampa and Jacksonville, both older cities.

New Industries — New Careers

Miami's industry is new, and being new it is efficient, colorful, and inviting. It calls for the talents of the artist and designer, the skills of the engineer, tool and die maker, and machinist, as well as for office and factory workers. It inspires architects and landscapers to design the unusual factory.

Industry is growing fast and you have the rare opportunity to grow with it. You can be a part of the exciting development of new techniques and new products.

You can begin now to become an engineer, a tool and die maker, a production expert, an industrial designer, or any one of hundreds of other workers in demand by industry. The fields of advertising, public relations, and transportation tie in with industry, too, and present opportunity!

You will watch the building of great electronics plants in South Florida. You will see the dawn of the nuclear era in industry. You will see Florida processing its "Cinderella metals" —titanium, hafnium, and zirconium. You will watch your state make the most of its phosphate and its forests. All Florida is being rapidly, and happily, industrialized.

How It All Began

To rightly start the story of South Florida's industry, we should turn the calendar back one million years!

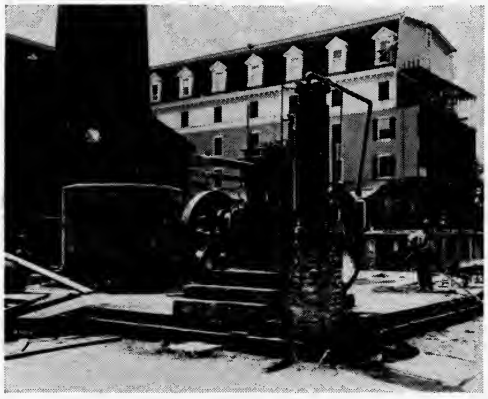
Millions of years ago, water covered what now is South Florida. In this water lived countless marine organisms, or small animals. These animals died and their skeletons were piled up by the shifting currents of the sea until at last they formed a shelf extending across southern Florida. Today, these skeletons are being made into cement through the magic of electrical industry.

To pass quickly from ancient to fairly modern times, the first manufacturing in South Florida was the making of starch from the coontie root. Early settlers in the Miami region learned from the Indians how to extract edible starch from this poisonous root. Records tell us that they were making starch here before 1840 and selling it on the northern market for about 8 cents a pound.

As the years passed, other settlers began to make guava jelly and some attempted to make products from sisal and from coconuts. But South Florida's industrial progress was snail-slow.

Electrifying South Florida

Industry awaited electricity. In the years from 1904, when Henry Flagler built Miami's first electric power plant, to 1925, when the Florida Power & Light Company was formed, south Florida was served only by a number of small unconnected electric light plants.



This gasoline engine powered Miami's first electric generator of 40 kilowatts capacity in 1896.

The silver-shining Cutler plant of the Florida Power and Light Company generates 402,000 kilowatts, in 1957.

Many of these plants were operated as sidelines to ice plants, or in conjunction with real estate developments. Often they provided hit-or-miss electric service, since ice-making was far more important than electric lights in the early days.

This is easy to understand. Real progress in sub-tropical Florida began with ice-making. (A Floridian, Dr. John Gorrie, perfected mechanical refrigeration.) The making of ice, electrically, meant undreamed-of comfort and convenience to South Floridians. It meant better food, better health.

Since electricity originally was not readily available for purposes other than ice-making, industry had little opportunity to flourish.

All Florida went into the real estate boom years of 1924 and 1925 with a series of small, unconnected electric light plants. As real estate sales skyrocketed and building permits mounted (building permits in Miami alone exceeded $60,000,000 in 1925), these electric plants staggered and often broke down under the load. Candles were standard equipment in hotels. Oil lamps were kept ready. Occasionally, newspapers were hand set and hand printed for lack of electricity.

Out of this confusion was born the Florida Power & Light Company, with its interconnected system and mammoth generating plants. Electrification gave industry its first real opportunity to grow. Early industries using electricity included garment plants, ship yards, machine shops, and jelly and preserve factories.

Miami was building. By 1939, Miami's tourist business was exceeding the abnormal peak in 1925. But industry, although off to a start, was lagging far behind tourist activities. Miami went into World War II with less than 500 factories.

The Turning Point

During the early years of World War II, a few Miami industries turned to defense work, to the manufacturing of aircraft parts, canvas products, optical supplies, and even ships.

There were many who said, "It can't be done." But it was done. The war years proved that factories could function efficiently in the Miami area. In fact, they established certain assets, that men and women could work outdoors in sparkling sunshine on airplanes, that there was in the Miami area a vast supply of skilled labor and technicians, and that there was less sickness here than in the north.

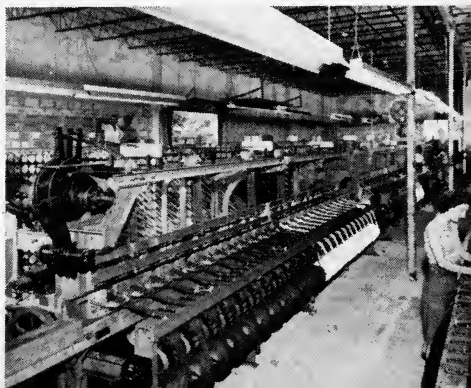
For a few years after World War II, shortages held industry back. But meanwhile Miami was growing.

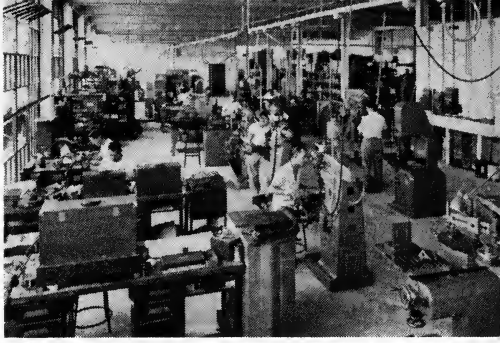
Thousands of homes were being built. There now were places for people to live. Many of the men who had trained in the Miami area in the armed services during the war years and had enjoyed the unique climate came back with their families to live here.

Aluminum Products

The aluminum-consuming industry began in Miami in the years succeeding World War II. The need for a rust-free metal window was apparent. The salt-laden air of southeastern Florida was rusting out steel windows. Thus, the aluminum window was a logical development. Being a necessary product, it sold

(left) Miami manufactures aluminum outdoor chairs to be shipped around the world. (right) Some factories have looms for weaving the plastic webbing for chair seats.





(left) A 1250-ton extrusion press, in a Miami factory, forces aluminum into shapes used in the manufacturing of jalousies and window frames. (right) Some factories are moved, intact, to Miami from the north. This plant, manufacturing model trains, was moved to Miami from Chicago.

immediately and on a national and even an international scale. Other aluminum products followed. One or two manufacturers began to turn out aluminum chairs. These, too, caught the public's fancy. Today, Miami has some of the largest aluminum-using factories in the world. An aluminum chair factory started in 1946 with three employees, by 1956 had almost 600 employees in a modern electrified factory.

In 1950, greater Miami factories used 18,353,421 pounds of aluminum. By 1956, they were consuming more than 100,000,000 pounds and the total was going up.

The number of plants using aluminum shot up from 114 in 1950 to 184 in 1955. In the same period the number of employees skyrocketed from 2,680 to 6,170 and payrolls went from $11,651,031 to $18,685,721. This meant that one out of five persons employed in the Miami area was working with aluminum and that they earned 22% of the annual manufacturing payroll of $88,431,616 in 1955.

From small beginnings, big industry was growing. Miami was manufacturing air-conditioning ducts, aircraft parts, frames, moundings, screens and screening, windows, ladders, thresholds, venetian blinds, golf carts, boxes, furniture, trailers, awnings, store fronts, jalousies, lighting fixtures, hardware, and even whole rooms—all of aluminum.

By 1956, there were several aluminum extrusion plants and a color anodizing plant in the Miami area. One plant was mixing aluminum alloys. Cars of aluminum ingots, or billets, were rolling into Miami at the rate of 60 a week. Miami had become one of the great aluminum-using centers of America.

The gigantic aluminum industries in South Florida are the plants turning out windows, screens, and lawn furniture. It is a true but seemingly contradictory statement that Florida, while it is a good market for all these products, consumes but a small percentage of this output. South Florida-made aluminum products are sold all over the free world.

Marine industries rank near the top in the Miami area. The building of boats is a "natural" in our sunny climate.

The enormous amount of building in South Florida stepped up concrete industries. There are plants in the Miami area producing cement, ready-mixed concrete, concrete blocks of all types, bricks and tiles, and many pre-cast concrete products, such as structural parts for business buildings and homes, outdoor furniture, fences, pipes, and sea walls. The University of Miami became interested in the pre-stressing of concrete and in "hurricane" testing of products such as awnings and shutters.

Fashions Begin Here

Beginning about 1950, the garment industry began to move into Miami. A number of manufacturers moved entire factories here from the north. By 1956, there were more than 250 garment factories in the Miami area, employing about 5,000 persons and creating more than $45,000,000 a year in business.

Many of these factories could serve as models of what a garment plant should be. They are modern, colorful, spacious, air-conditioned and completely electrified. They are equipped with the latest and safest machinery. They have kitchens,

A Miami setting for Miami-made fashions

lunchrooms, luxurious rest rooms, and spacious parking lots for employees. Many have elaborate showrooms for out-of-town buyers.

The development of the garment industry in South Florida makes you and your family pace-setters in the nation's fashion parade. Buyers from department stores and shops all over the world come to South Florida to take note of the latest fashions worn on the streets and to sports and social events. What you wear in winter predicts what the nation will wear the following summer.

Miami, in fact, has developed many styles. The Cuban-type jacket for men is one, the sun-back dress for women, another.

Fashions Of Living, Too!

This fashion pace-setting is not confined to the garment industry, either. The entire nation, and even the world, today is reflecting South Florida's relaxed, casual, and happy way of living. Aluminum windows and jalousies are termed "Miami windows" in many countries. Many northern homes have "Florida rooms."

The South Floridian idea that work should be fun is one the nation will copy in years to come. Today, new industrial areas in Florida are planned with clubs, swimming pools, cabanas, bowling alleys, excellent cafeterias, and many other exciting features. Factory buildings are long and low, with clean, sweeping lines and many built-in planter boxes and garden areas. They are beautifully and tropically landscaped. They are colorful and air-conditioned, pace-setting electrified plants.

In truth, the inspiration for much of South Florida's burgeoning industry comes from climate. For instance, the foliage and flower colors are reflected in an up-and-coming ceramics industry. One potter, whose studio is located on the Indian River, uses only the colors of flowers, trees, water, fish and animals.

Fashion designers draw freely from the colors of bougainvillea and hibiscus, and from the landscapes and seascapes of South Florida. They gather inspiration from Florida's relaxed and casual way of living. They even call upon South Florida's

store of romantic lore for color-names, using words like, "flamingo," "coral," "shrimp," "oleander pink," "avocado green" and "Biscayne blue." In time, the fashion industry may use Florida-grown fabrics, such as ramie.

The colors used in furniture upholstery and in the plastic webbing for outdoor aluminum chairs reflect Florida's sunny colors. Even boats built in South Florida are more likely to be sunshine yellow and cool blue than traditional white.

Frontiers For All

Today South Florida's industry provides millions of dollars in annual payrolls. But it does more than that. It gives you a share in the pride of achievement, the knowledge that if your country calls upon this area for emergency defense work at any time, South Florida is well prepared to meet the call. With

Ceramics are part of Florida's new industry.

tourist business, industry provides a solid foundation for South Florida's continued prosperity.

Today, South Florida industry offers unlimited opportunity, not only to you, but also to manufacturers in the north.

Many prosperous South Florida industries started on the proverbial "shoestring." A gigantic Miami factory, turning out aluminum-framed windows, was started by one man in a

Rainbow-colored bricks in a Miami brick plant

home garage. Within six years it had attained world-wide importance.

Many garment factories were started by one man, or woman, with a sewing machine and ambition. A multi-million dollar corporation manufacturing awnings began when a man made an aluminum awning under a tree in his yard.

The South Florida manufacturer finds our sunny climate his chief asset. He saves on heating costs, on building costs and on loss of working days from colds or other sickness. Here in sunny Florida, skilled labor is abundantly available. There is plentiful electric power. Latin America with its promising markets is near.

South Florida builders have developed a rapidity that amazes northerners, who once thought of Floridians as being slow-paced. When a manufacturer wishes to move into the Miami area, a builder will erect a building suited to his needs in less than 90 days. Today South Florida industry is growing fast and that means rich opportunity for all.

Industry is in its infancy. Opportunity is but beginning. South Florida is a growing area, and industry will grow, almost automatically, as markets expand. Moreover, there is a psychological effect, call it a "Florida fervor," resulting from the growth factor in Florida industry. You can be a part of this mounting contagion of business enthusiasm.

South Florida has learned to mate its golden tourist business with lucrative industry so that each enhances the value of the other, and it now appears that this happy relationship will be maintained. In fact, many South Florida industrialists once were tourists who came here on vacations or for reasons of health. Thus, they not only look upon South Florida as the nation's coming "light" industrial area, they also realize the "dollars-and-cents" value of a smogless climate and clear blue skies to a vacationland.

South Florida's industrial potential is tremendous. With a southward mass migration of people, there is always an ample supply of labor and especially of skilled technicians. The availability of electric power, of land and space, of natural daylight and strong sunlight, of water, and transportation facilities and markets, all figure largely in the industrial picture.

To the west of Florida's "Gold Coast" lies the vast region of the Everglades—a challenge to the industrialist who wants the Florida climate and "elbow room." In 1956, a manufacturer of jet aircraft engines made plans to build a big plant in this "far-away-from-cities" area. Will other industries follow?

To the South lies Latin America—a rich, new market for Florida products and Florida ideas. With standards of living rising, Latin America presents a fertile frontier for the Florida manufacturer. And not far away, by air, is Africa, another growing region.

You live in a time of change and industrial progress. Your future will hold much more than today holds for the Florida industrialist. For you who are prepared to meet its challenge, industry is an exciting and magnificent frontier!

Question Box

1. What is "light" industry? Should South Florida establish "heavy" industries, such as steel, here?
2. How did the establishing of electric power plants encourage industrial expansion?
3. How did climatic conditions help in the development of the aluminum industry? What industries depend upon the use of aluminum?

4. Why is Miami suited to "set" the styles in tropical clothing?
5. What communication facilities make it possible for manufacturers to expand their markets? Give an illustration.
6. Will the lack of coal and iron discourage industrial growth?
7. How will the peace-time use of atomic energy affect industry?
8. Will the further industrialization of South Florida discourage tourists from coming here?
9. What can our community do to keep industrial areas from becoming "eyesores"?
10. What industrial frontiers may the people of this area look forward to?

Suggestion Box

1. Have the class divide into groups. Each group may represent an industry in our community. Work out what you need to make the business successful: personnel (who does what), materials needed, communication, transportation, and creation of markets (advertising).
2. Work out a chart showing industries dependent upon our climate.
3. Make posters showing the products manufactured in Dade County.
4. Design clothing suitable for our tropical climate. Compile a fashion book from your sketches.
5. Make a list of industries that might succeed here.
6. Make a list of articles in your home that are manufactured in South Florida.
7. Find out the variety of parents' occupations. Group occupations on a chart, showing whether they deal with food, clothing, shelter, transportation, or recreation. Discuss what changes are taking place or will take place in these areas.
8. Look in the classified section of the telephone book. Select ten types of work that go on in Miami, work now unfamiliar to you; or secure a copy of the *Miami Gold Book,* a compilation of Miami's industries, from the Chamber of Commerce.

Chapter VIII

Our construction methods and growth are making news!
Join the prospering thousands who are . . .

Building a Better Tomorrow for South Florida

Construction is one of South Florida's fabulous, fast-moving frontiers.

No frontier affects you more personally. In South Florida, construction constantly is changing your way of living, even your thinking. The vast and dazzling shopping centers far out in the suburbs, where you can buy almost anything you need and get many services, are among Florida's quick steps forward in the march of construction progress.

The planned communities that offer luxuries in homes at moderate prices are another forward step. So, too, are the in-

dustrial cities now springing up, with their long, low factory buildings set in lush green lawns amid tropical palms. Your home, with its open-to-the-outdoors aspect, is another.

Consider the University of Miami buildings, with their extensive use of glass. This was pioneering in building. Look at the new aluminum and glass office buildings. Consider your own schoolhouse. All this wealth of sunny color and "climatization" is new and challenging to many other regions.

Frontiers For Home Owners And Home Builders

Do you plan to become an architect or builder? A manufacturer of building materials? A furniture designer? A decorator? Are you interested in any field of activity related to the building and furnishing of homes and other structures?

Then look upon South Florida as a land of unique opportunity stemming from an unparalleled climate. No spot in this country, perhaps in the world, offers richer and more exciting challenges to the home owner and builder today than does South Florida.

In the late 1940's, new communities for working people, whole new "retirement" cities, vast shopping centers, and luxurious hotels and motels began to spring up all over South Florida with almost magical rapidity.

There was sound reason for this fervor of post-war building. New residents were pouring into the Sunshine State at the rate

The outdoors brought indoors

of more than 2600 per week. Many of these sunshine-seekers were locating in South Florida. Why? The sunny climate was the answer. Service men who had trained in South Florida during the war years had sampled South Florida's balmy climate. Now, they were returning to seek homes built to take advantage of this alluring climate.

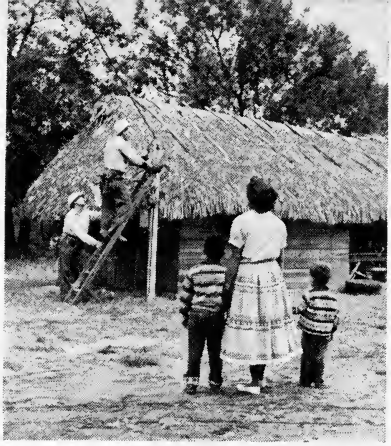
Early Florida Building

South Florida is today and always has been a land of changing concepts in building. Construction tells you much of Florida's history. The early Spanish settlers in Florida, feeling insecure, built with quarried coquina rock. (The Castillo de San Marcos in St. Augustine is an example of their work.) The English built less permanently with wood.

In 1846 the United States of America built Fort Jefferson, using thousands of bricks. This long out-moded fort, on lonely Garden Key, 70 miles west of Key West, speaks dramatically of changing times. The walls of Fort Jefferson, now a national monument, are 8 feet thick and 45 feet high. The fort is semi-surrounded by a moat, once crossed by a drawbridge.

This medieval fort, designed to protect South Florida's coast, never fired a shot. Its only place in history is a tragic one. It was at Fort Jefferson, in the vast expanse of lonely seas, made more desolate by the incessant crying of birds, that Dr. Samuel A. Mudd was imprisoned. Dr. Mudd was the man who set the leg of Abraham Lincoln's assassin, and for this innocent mistake he was chained in the world's loneliest prison. When yellow fever broke out among the prisoners, Dr. Mudd was released to do what he could for his fellows. Then he went back to his chains and two years passed before he was granted a pardon.

The Seminole Indians of South Florida lived, and many live today, in "chickees." These "chickees" are open-air shelters, simply constructed of native materials. Several posts of pine, palm, or cypress are driven into the ground. These form the support for a roof framework of cypress poles. Palmetto fronds, nailed to this framework, form a roof that keeps out rain and sun. A platform about three feet above the damp earth forms the floor of the "chickee."



A Seminole "chickee," at Dania, gets modern electric power.

Homes Of The Pioneers

The "chickee" was not enough shelter for the early settlers in South Florida, who suffered from the mosquitoes. The daring settlers who came to South Florida in the 1880's built wooden homes standing, warily, high above the damp ground. These pioneers enjoyed the sunny tropical climate and made the most of it. They knew how to deal with its liabilities and claim its assets. Their homes had spacious verandas and wide overhanging eaves, to provide cool living areas and keep out rain.

Today it is difficult to imagine how the pioneers built their homes. No building materials except those washed up by the sea or dug from the ground were readily available. Although forests of tall pines and cypress fringed the coastal areas, sawmills were far apart. Many of the early settlers in South Florida simply chopped down trees, stripped part of the bark from the trunks, and built their homes of logs. They used palmetto fronds to thatch the roofs.

The First Resort Hotel

The construction of the enormous, sprawling Royal Poinciana Hotel in Palm Beach illustrated the hardships that beset the builder who used finished material. Ground was broken for this once-famous hotel on May 1, 1893. Nine months later, on February 11, 1894, the hotel opened for business. During those nine months, the builders of South Florida's first resort hotel achieved what now seems impossible.

Even by today's standards the Royal Poinciana was a dazzling achievement. It had 540 bedrooms. The elaborate dining room seated 1,000 guests. It was the world's largest resort hotel.

The historic Royal Poinciana Hotel, Palm Beach

The building of the Royal Poinciana illustrates, also, the driving energy of Henry M. Flagler, the great railroad builder. When Flagler made his historic decision to build a hotel in the drowsy village of Palm Beach, his railroad reached no farther down the east coast than Eau Gallie. Thus all of the lumber used in the building of the Royal Poinciana was shipped by rail to Eau Gallie, and from there, transported by water to Jupiter. At Jupiter, the building supplies were re-loaded on a narrow gauge railway known as the "Celestial Railroad." (The 8-mile long Jupiter and Lake Worth Railway had four stations—Jupiter, Mars, Venus and Juno—hence the description, "Celestial.") At Juno, the building supplies were re-loaded on barges and floated down the lake to Palm Beach.

The building of the Royal Poinciana brought 1,000 workmen into a tent-city set up overnight. They used 5,000,000 feet of lumber, 360,000 shingles, 4,000 barrels of lime, 500,000 bricks, 2,400 gallons of paint, 20 acres of plaster, 1,200 windows, and 1,800 doors.

Building Successes And Failures

Few of the pioneer homes were of comparable elegance though some stand today, testifying to the strength of the materials used. The "Pioneer House" in Fort Lauderdale, built at the turn of the century by Frank Stranahan, who traded

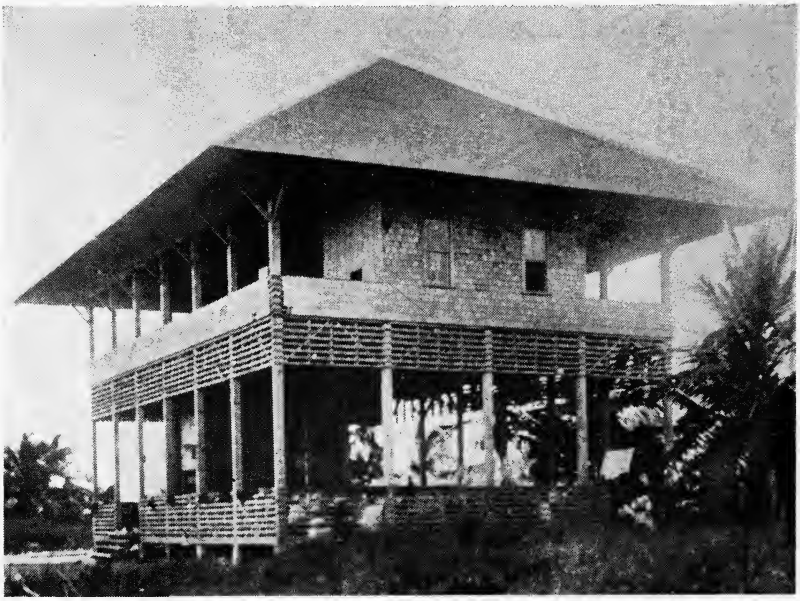
with the Indians, is a good example of pioneer construction. In 1900, Hugh Birch Taylor built a home in Fort Lauderdale Beach of concrete blocks made of materials at hand. This home withstood the years. There are many others left.

The pioneer's home, if not beautiful, was much more practical than the homes that were to follow it. The settlers brought to Florida by railroad excursions in the early 1900's carried with them northern ideas about building.

They used the sloping roof, practical where snow might load a flat roof. They built homes with a few small windows and without porches or patios. They knew how to keep the climate outdoors but not how to bring it indoors.

During the hectic real estate boom of 1924, 1925, and the early months of 1926, a modified type of Spanish architecture captured the imagination of South Florida builders. Home building underwent a revolution! Many elaborate, ornate and spectacular homes, influenced by Mediterranean architecture, were built in Coral Gables and other South Florida cities.

A pioneer structure



Bayfront Park, Miami, in 1926

. . . and 1956

Some of these castle-like homes stand today, a record of all that was best in boom-time building. But there was much that was bad. In the furious hurry of the boom years, many homes in the Miami area were built of weak "frame and stucco" construction.

Disaster Blows In

The disastrous hurricane of September, 1926, struck the city of Miami a staggering blow. The roaring winds carried salt water over the island of Miami Beach, swept cars from the causeway, and twisted a downtown Miami skyscraper. Boats, dredges and even ships, pushed across newly-made Bayfront Park, lay in the street. Thousands of homes collapsed, and more than 100 persons died. But this was the ill wind that blew good!

— But Homes Improve

The battered city, recovering from the shock, took note of the devastation, and rewrote its building code. There were to be no more frame and stucco homes reinforced with chicken wire. Miami was learning to build for the future.

In those troubled, transitional times a few firms set an example of faith in South Florida that did much to inspire the people to go ahead. One of these firms was the newly-organized Florida Power & Light Company.

The 1926 hurricane had left this company with 1500 miles of line on the ground and 55,000 customers out of service. Transmission lines were damaged, power plants under construction were virtually wrecked, and newly-acquired properties were almost totally destroyed. But the work of rehabilitation of the firm's system began almost immediately. By the end of 1926,

Today jalousies and windows for South Florida homes are hurricane-tested at the University of Miami.

the Florida Power & Light Company was serving 112 communities and 115,000 customers.

In the years following the great storm, builders learned to deal with the tropical furies, wind and water, and enjoy the tropical glories, sunshine and sea breezes. They learned to bring climate inside rather than shut it outside, except as desired.

Building For The Climate

Even industry learned to employ South Florida's climate as an asset.

Today at the vast aircraft maintenance shops located on Miami's International Airport, much of the work on airplanes is done out of doors, in bright sparkling sunshine. Many Florida factories are built to utilize the climate to best advantage.

For example, in the building of its great generating plant at Cutler, the Florida Power & Light Company again pioneered, this time in the field of "outdoor" construction tailored to South Florida's unique climate. Almost all of this silver-shining plant is outdoor construction, with little of the powerful machinery and equipment encased within walls. It is termed by architects one of the most beautiful industrial installations in America.

Although pioneering architects had long been experimenting with indoor garden areas, in the 1950's architects generally began to bring the outdoors indoors, and to build garden areas and swimming pools into the Florida home. A special type of indoor porch, usually furnished with Florida-made rattan furniture, became known nationally as the "Florida room."

In the same transitional period, local manufacturers developed the aluminum-framed window, aluminum and plastic awnings, and wood, glass and aluminum jalousies. (The jalousie is an old idea given a modern treatment. It was used

Modern South Florida factories are carefully landscaped. This one makes pre-fabricated aluminum panels for building.

in Venice long ago as a shutter through which one could see without being seen. The French used jalousies in early colonial buildings in New Orleans. Today, these shutters are commonly used in tropical countries, and in Cuba are known as "persianas.")

After World War II, manufacturers in the Miami area also began to develop many types of slump bricks and concrete blocks, as well as floor tiles of concrete and many pre-cast concrete items such as beams, joists, window frames, and even walls. Many Miami homes were roofed with white tile that reflects the sun's glare. Today Miami is one of the most concrete cities in the nation.

It is also one of the most air-conditioned. Even the average home owner is learning that a completely desirable climate is possible to all, at all times, through the miracle of electricity.

Contrast the old-fashioned building in which the University of Miami began classes with its latest and most modern structures. Look at today's school buildings and those of yesteryear, and you will realize the strides made in construction.

There's Still A Frontier In Building!

But only the first tentative steps in the direction of climate utilization have been taken. There is much to be done. The ideal Florida home, hotel, motel, shopping center, factory, office building, school building, retirement city or "planned project" is yet to be designed and built. Here in this vast inspiring field may be your frontier.

Native materials in South Florida offer a dynamic challenge to the builder and manufacturer. There is, for instance, a deep shelf of limestone under the very edge of South Florida. The tip of our state rests upon it.

In the early days of Miami's building, pioneers discovered that this limestone rock, dug from pits, was an excellent road building material. Spread on a road bed, wet down and then tamped or rolled, the rock dried into a durable road surface. Today, cement plants are tapping this supply of limestone rock. But who knows its vastness?

South Florida has a possible abundance of wood. The native pine is one of the most durable woods to be found anywhere.

Other woods hold promise. The Albizzia lebbek or "Woman's Tongue" tree makes beautiful cabinets. It grows almost wild in South Florida. The melaleuca, the eucalyptus, the Australian pine, the mahogany, and many other trees are useful in building and in making furniture.

The widespread interest in building generated by the balmy climate and the population growth in South Florida, continually opens new fields to South Florida manufacturers. South Floridians have developed aluminum windows, awnings, thresholds, furniture and carports, plastic patio roofs and swimming pools, and concrete floor tiles and roof tiles. What is next?

Furniture manufacturing in South Florida is an exciting field of work. Textile and wallpaper printing, ceramic art, outdoor and patio lighting, and many other fields of endeavor tie in with construction. Construction is, in truth, a limitless frontier offering a wide variety of careers. Almost everyone from the plumber to the artist can find therein his or her special work.

Construction offers a special challenge to you with imagination. You may develop new uses for metals such as aluminum and copper, new ways of using terrazzo, new precast concrete units, new ways of using air-conditioning and curtains of moving air, new ways of pre-stressing concrete.

You may, in fact, vision an entirely new concept of building. You may be the architect who slashes through old, outgrown ideas. You may be the lawyer who helps to scrap outmoded building restrictions. You may enter the vital field of politics with the thought of rebuilding cities to the needs of an increasing population. You may study retirement cities and communities as your special project. The future is yours and it is a challenge.

Your Future Home?

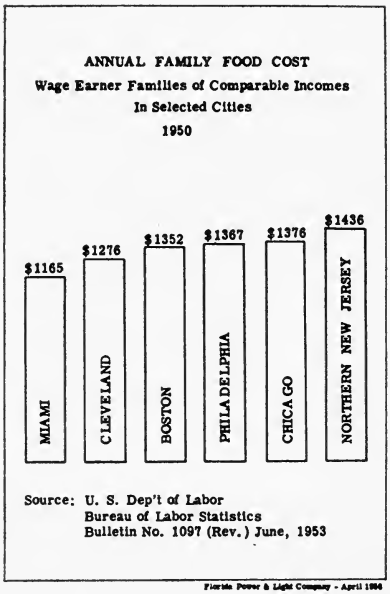
As a home owner in South Florida, you will enjoy inspiration derived from climate. Just as South Florida architects have pioneered in making school buildings a daily inspiration to pupils and teachers, so architects also have worked toward a new harmony in home building.

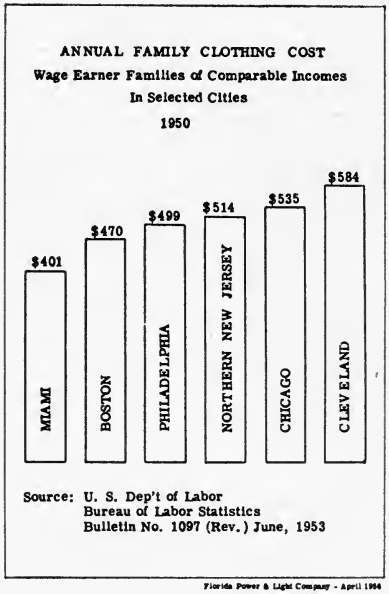
Interior and exterior of a Miami home built to take advantage of the ideal climate

The home of the future will be an honest structure, with proper orientation, or placing, for full ventilation. It will have structural security against high winds and will be built to temper the strong sunlight in summer and to utilize the warmth of the sun in winter. It will be cooled and warmed efficiently.

During depression years in South Florida, many homes were built without heating facilities. But this was a mistake. The cool snaps that add such vigor to South Florida's exuberant climate call for heating. New homes are using new types of small furnaces, concealed in walls, floors or closets, usually heated by oil or liquid petroleum. Today such furnaces are built into homes and operated, when needed, at little cost.

Your home of the future will be set in this country's most dynamic environment. In no other spot in the United States is the landscape more intensely colored, the sky clearer or the sea more brilliant in its dazzling greens, blues and purples, the year-around. Consider the trees around you—the blazing orange-red of the royal poinciana, the silver-grey of the palm trunks, the yellow-green of the palm fronds turning to silver in the sunlight. You can glimpse reds, yellows, blues, and purple in all South Florida's foliage. Such a landscape calls for a bold approach to color; it provides unique inspiration for daily living.





Florida Homes Can Cost Less

Always, in South Florida, there is an advantage working in your behalf. It is climate. Just as it costs the family less for clothing and less for food in sunny Florida than in comparable northern cities so it also may cost less to build here and to maintain a building.

The mild climate, making it possible to build without basements or insulation, also means savings on big, costly heating systems and fuel bills. This lowered cost is opportunity. It makes South Florida one of the most desirable locations in the world today for factories and for homes and hotels.

The use of aluminum walls and systems of windows built into wall panels, begun in the South Florida area in the mid-1950's, certainly forecasts the use of such panels in South Florida home building. The prefabricated walls, into which window units are built, provide an easy, inexpensive method of construction. This method is so inviting to the architect and builder that it is sure to be absorbed in the home construction

field. Moreover, some types of metal outside walls would do away with, or minimize, the cost of painting. A porcelain enamel home is in South Florida's future and yours.

A Miami manufacturer also has pioneered in an offshoot of the aluminum building industry—the prefabrication of light weight aluminum panels insulated with a honeycomb paper. This sandwich building material also is easy to install.

More People — More Homes — More Jobs

The building of South Florida today is one of the most exciting challenges in the world. Cities that have grown hit or miss must be rebuilt to the needs of increased population and traffic. Miami is rapidly and steadily growing into a tremendous city. The spaces between the "Gold Coast" cities are filling in.

As a measure of South Florida's growth, consider these figures:

Dade County Population

1920	42,753
1930	142,955
1940	267,739
1950	495,084
1955 (estimated)	713,757

The city of Miami, alone, increased from a population of 29,571 in 1920 to 249,276 in 1950. A city of more than a million in South Florida is inevitable!

It is not only southeast Florida that is growing. The west coast cities are building fast. In the years between 1950 and 1955, the prosperous city of Sarasota became the fastest-growing municipality in the nation on a percentage basis. The population soared from 18,796 to about 40,000, an increase of 108%. Clearwater, another west coast city, was rated second nationally and, with big industries locating nearby, this city is expected to continue phenomenal population gains.

Although some areas are growing faster than others, population gains in South Florida are general. Collier County doubled its population between 1940 and 1955. Monroe County's population in 1940 was 14,078 but in 1955, it was almost 50,000.

In 1940 Broward County had 39,794 residents. In 1955, this total had risen to almost 160,000. Palm Beach County, a resort county with a rich farm background, made population gains from 79,989 in 1940 to 157,086 in 1955.

Even the vast reaches of the Everglades are being utilized by industry today for factory sites. The value of construction in all Florida should reach more than $2,000,000,000 a year by the 1970's.

Lucky You!

Consider the fact that this fast-growing land of unlimited possibilities and matchless climate, a mecca for outsiders, is your homeland! You don't have to work and save for half a lifetime, as many do, to enjoy the special blessings of South Florida. You have the opportunity to live in a home constructed for specific, every-hour enjoyment of a beneficent climate. You can open the door to the home of the future! You can build the city of tomorrow!

Question Box

1. How did the early settlers of South Florida build their homes?
2. Why was the building of the Royal Poinciana Hotel an achievement? How did it influence future building growth?
3. What effect did the hurricane of 1926 have on home building codes?
4. What great change in home building took place in the 1950's? Will this trend continue?
5. How may native materials be used in building?
6. What climatic conditions need to be considered when building a home?
7. How does rapid growth in population affect home building?
8. Is South Florida in danger of creating "slum" areas?
9. What can people do to keep their homes from becoming shoddy?
10. What are the frontiers in construction?

Suggestion Box

1. Design a home in which you would like to live. Review the chapter so that you will take into consideration factors influencing home building.
2. Ask your mother and father to tell you what they do and don't like about your home. How would architects use this information?
3. Divide the class into small groups. Each group may work on one room in the home—living room, kitchen, bedroom, etc. After discussing the "ideal" room, members may build a "model" room.
4. Write a composition on "The House of My Dreams." Include type of architecture, features in rooms, furnishings. Read compositions to class.
5. Collect poetry about houses and homes. What do most poets emphasize: the building or the people in the house?
6. Cut out articles and pictures dealing with homes (from magazines or real estate section of newspapers). Discuss the price of the homes, sections in which they are built, features of homes.
7. Investigate the money involved if you buy a home:
   (a) down payment
   (b) closing costs
   (c) financing
   (d) insurance
   (e) taxes

Chapter IX

Tourists were our first, and will always be one of our greatest assets! In hotel work, transportation or entertainment, you can contribute to Florida's reputation as . . .

Vacationland, U.S.A.

Tourist business, or "tourism," resulting from South Florida's genial climate, pours millions of dollars annually into this sub-tropical area from other states and other countries.

Tourism is more than the "ism" of touring. It covers the unlimited field of tourist-related activities from transportation to entertainment. It may be said to include the work of hotels, motels, restaurants, clubs, theatres, shops, sightseeing boats and buses, travel agencies, and other facilities.

The tourist inspires and maintains Florida's great variety show—the unusual zoos where animals "go native" and people are protected, the tropical gardens, orchid jungles, serpenta-

riums, rare bird farms, tropical fish farms, and sea aquariums where porpoises perform as eagerly and happily as puppies.

Tourism generates many interesting industries, such as the manufacturing of souvenirs, gifts, and novelties from native materials—coconuts, driftwood, sea shells, pandanus, and palmetto.

Tourism Helps Us All

Tourism also contributes much to your living comfort. The elaborate air-conditioned motels with huge swimming pools, the luxurious hotels, the restaurants and recreational facilities designed primarily for tourists are available to South Floridians, often at reduced rates.

Tourism sparks many publishing enterprises and radio and television programs. It adds richness to your life because it brings into this area many interesting people from all over the world. Athletic events and cultural programs of national interest are staged here, because tourists enjoy your home area.

In truth, tourism enters vitally into the life of every person in South Florida, directly or indirectly. It changes your way of living and presents to you a field of opportunity as wide as your imagination and initiative.

In 1956, the Florida State Chamber of Commerce estimated the state's tourist business at one billion dollars! Much of this golden business centers in South Florida where the balmy climate, summer and winter, entices visitors. Each South Florida community has its individual charm.

Exotic birds add color to the tourist scene.

Rare birds at home in South Florida

The City Of Guest Rooms

But perhaps the most glamorous, the most exciting and certainly the most publicized of South Florida's resort cities is Miami Beach—unique city of fabulous hotels, spectacular motels, glamorous night clubs, and fashionable shops.

Miami Beach, in 1956, was edged on the ocean shore with a glittering strip of 380 hotels, or more than 53 hotels per square mile of space. It has well been called "City of Guest Rooms,"

The Fontainebleau, one of the newest of Greater Miami's glittering resort hotels

for Miami Beach has 30,000 hotel rooms, 2,000 apartments, and a dazzling row of motels providing all the luxurious accommodations of hotels. (A motel has been defined as a hotel grown not up but sidewise.)

A city of approximately 51,000 residents in 1956, Miami Beach was playing host to almost 2,000,000 visitors a year. Today almost as many of these tourists come in summer as in winter.

Miami Beach has more hotels than any other city in the world of comparable size. But turn the pages of its history back to 1915, and you see, in imagination, a far different picture.

A Hoosier Makes History

Stuck in dazzling white sand, newly pumped from the bay bottom, at an empty, desolate spot where the Roney Plaza Hotel now stands, there was a sign which read:

"If anyone will build on this site, a modern tourist hotel costing two hundred thousand dollars, we will give them this entire block of land."

The man who made this amazing offer made Miami Beach history, and he made it quickly and with furious energy. He was Carl Graham Fisher, developer of the Indianapolis Speedway.

Carl Fisher came to Miami in 1913. He was only 40 years old, but already he was a millionaire of tremendous achieve-

Carl Fisher
human dynamo

In 1915, Lincoln Road was a mangrove jungle infested with mosquitoes and rattlesnakes.

ments. He said that he was going to rest, but resting, he took note of the work of John S. Collins, a nurseryman from New Jersey.

Collins, who was in his seventies, was attempting to build a wooden bridge across Biscayne Bay, a herculean project that appeared doomed to failure.

Both the bridge and the gallant character of the man who was attempting to build it caught Fisher's admiration and fired his energies and imagination. Here was a challenge and Fisher wasted no time in accepting it. In return for his financial help in completing the Collins Bridge, Fisher took land on the island the bridge linked to the mainland.

It is almost impossible today to envision Miami Beach as it was then—an area of dense hammock bordered with sandy beach on one side and, on the other, tracts of oozing mire from which mangrove trees struggled upward on their stilted roots. In this wilderness that hummed with insects and provided a haven for rabbits, coons, and rattlesnakes, there survived a few coco-

nut palms—bleak reminder of coconut planters who failed to make their dreams come true. Here Collins had planted an avocado grove and built a canal, but there was little else to predict the dazzling city that Fisher saw.

A lesser man could never have seen what the "Fabulous Hoosier" envisioned nor accomplished what his driving energy wrought. Pumping up sand from the bay bottom to fill in the swamps of Miami Beach remains one of Florida's most amazing pioneer projects. It ranks with the building of the railroads and the Tamiami Trail, proof that Florida's climate inspires men to do the impossible.

There was a period during which dredging alone cost the man from Indiana as much as $50,000 a day! But the work went ahead at a pace that amazed the people in the growing city across the bay, who made no secret of the fact that they thought Carl Fisher was crazy. Pouring his money into a swamp, they said, when there was plenty of good land available in South Florida!

But Miami Beach took shape swiftly. With the island covered with glaring white sand, the next step was to cover the sand with fertile muck dug from the Everglades and floated on barges across the bay.

Grass was hand-planted over vast areas, and within a few days, Miami Beach began to glow with jewel-colored bougainvillaea blossoms, with pink oleanders and yellow allamandas, with scarlet hibiscus.

A polo field, golf course, and tennis courts were laid out. The building of hotels began. The offer of free land, for a $200,000 hotel, was made.

The first hotels set patterns of luxury far from today's extravaganza but yet spectacular. The lighted dome of the Flamingo Hotel on the bayside could be seen for miles. The Roney Plaza, built at a cost of $2,000,000 on the land offered free to anyone building a $200,000 hotel, introduced a startling innovation—the cabana!

In the swift years to follow, Miami Beach established a publicity pattern which other South Florida cities have followed in some measure and with some changes.

The bathing beauty posed against a palm tree made a sunlit picture spelling "Miami Beach" to a nation shivering in winter. It lured tourists southward. And all that Carl Fisher did made exciting copy for newsmen. His elephant, Rosie, became a trademark of the fabulous new city. A gentle beast, Rosie roamed the golf courses, showing active dislike only for an elephant trainer imported from India. Rosie chased him up a water tower.

The Story Of Palm Beach

But the development of Miami Beach as a vacationland is recent compared to that of Palm Beach. The history of Palm Beach as a famous resort area goes back to 1893, when Henry M. Flagler made his decision to build the Royal Poinciana Hotel. But even before that historic year, the sunny days and moonlight nights had drawn a few daring settlers into the region around Lake Worth.

In the 1840's, the United States government built a lighthouse at Jupiter. A few people settled there. Their nearest contact with others of their kind was at Fort Brooke, near Tampa. But the lonely pioneers sometimes walked the trail across the state,

Tropical enchantment

Stately royal palms line a street in Palm Beach.

braving hostile Indians, bears, wildcats, snakes, alligators and insects, as well as hunger and thirst, to enjoy the solace of company and conversation.

In the 1870's, the entire area around the lake was named Lake Worth, in honor of Brigadier General William Jenkins Worth, an Indian fighter, for whom Fort Worth, Texas, also is named. But on January 9, 1878, there occurred an event that was to give Palm Beach its enticing name.

A Spanish barque, the Providencia, bound from Havana to Spain, ran ashore on the sandy beach. The ship carried a cargo of hides and 20,000 coconuts. The captain of the wrecked vessel presented the cargo to the settlers, and 14,000 of the coconuts were planted. (The pioneers probably hoped to establish a copra plantation.) The ship, itself, was sold for $20.80—a sum which tells you how little money there was among the pioneers.

The coconuts sprouted and grew lustily in the hot white sand. But there were few tourists to enjoy their tropic beauty. The travelers who ventured into Dade County (Palm Beach was then a part of Dade County) were either desperate invalids seeking health or men of considerable stamina. During the years from 1886 to 1896, travelers walked the beach from Lake Worth to Miami with the mail carrier, paying him $5 for the security of his company. The story is told that one man walked more than 200 miles, in those days, to borrow and return a book on botany.

The great railroad builder, Henry M. Flagler, discovered the verdant beauty of Palm Beach in the early 1890's. He opened the first hotel—the magnificent, sprawling "Royal Poinciana"—in 1894. In 1895, he opened a second hotel, the Palm Beach Inn, later re-named the Breakers. He bridged Lake Worth and extended his railroad to the very doors of the new hotels. Thus a famous winter resort community was born.

The pioneer settlers in the Lake Worth country, remembering the long walks to Miami and to Tampa, watched with amazement the wealthy tourists arrive by train to be pushed about Palm Beach in fashionable chair-mobiles which the settlers called "lazy-backs." By 1900, the rich, the famous, and

the socially prominent were making Palm Beach their winter home.

Meanwhile on the western shore of Lake Worth, Flagler had laid out the townsite of West Palm Beach. This was to be a commercial city. And he pushed his railroad southward toward Miami.

Fort Lauderdale

Not many settlers lived in the silent wilderness between West Palm Beach and Miami. A fort had been built near New River in 1838, and named for its commander, Major William Lauderdale. But hostile Indians had massacred the women and children of a pioneer family named Colee, living not many miles from the fort, while the men were in Key West buying supplies. A Seminole boy had attempted to warn Mrs. Colee, and for this treason, his ears had been cropped. The sight of "Crop-Ear Charlie" may have discouraged settlers in the area around Fort Lauderdale.

However, the government maintained a House of Refuge near the beach as a haven for shipwrecked mariners. (The Houses of Refuge in Florida were barren structures, sometimes furnished with cots and provided with meager supplies of hard-tack biscuits and water. They were designed only to provide enough shelter and food to keep mariners and travelers alive.)

At the turn of the century, a few hardy settlers, friendly with the Indians, lived on the banks of the shining New River which, according to Indian legend, appeared overnight. Frank Stranahan ran a ferry and trading post. He and his energetic young school teacher wife were liked and trusted by the Seminoles and gradually their home and store became the nucleus of a settlement. But Fort Lauderdale did not become a resort city until later.

"Just Follow The Crowds"

The coming of the railroad to Miami in 1896 and the opening, the following year, of Flagler's Royal Palm Hotel on the Miami River brought the Magic City into the resort picture.

But the name of Miami had little magic then. Henry B. Plant, a railroad man who pioneered in developing the west

Miami Beach, winter-summer vacationland

Miami Beach, city of guest rooms

coast of Florida and who built a hotel in the well-known city of Tampa, jokingly wired Flagler:

"Where is Miami?"

"Just follow the crowds," Flagler wired back, "and you'll find it."

Flagler's words were more prophetic than he dreamed. The crowds began to come to Miami and, later, to Miami Beach.

The first Miami Beach tourists, like those who came to Palm Beach, were people of wealth. Gradually, through the changing years, people of more moderate means began to establish themselves in Miami Beach. In 1926, the island city had 2600 residents.

It was not until World War II that the people of America became conscious of Miami's mild summer climate. Thousands of soldiers training in Miami Beach and living in once-luxurious hotels wrote home the surprising news that South Florida was cooler in summer than home cities a thousand miles farther north.

After World War II, there began a steady influx of former servicemen and their families into South Florida. They had known South Florida's magnetic climate and were drawn back now, with wives and children, not to visit but to stay. Many returned, too, to complete their education at the University of Miami.

During the same period, the airlines developed the "package vacation"—an inexpensive combination of travel, hotel accommodations, and entertainment.

The package vacation caught the public fancy. Here was the opportunity to sample "million dollar luxury" on a budget. Summer vacationers poured into Miami Beach.

Latin Americans also began to make the Miami area their vacationland and second home, winter and summer.

By 1956, summer tourist business was growing faster than winter business, and it almost topped the winter peak.

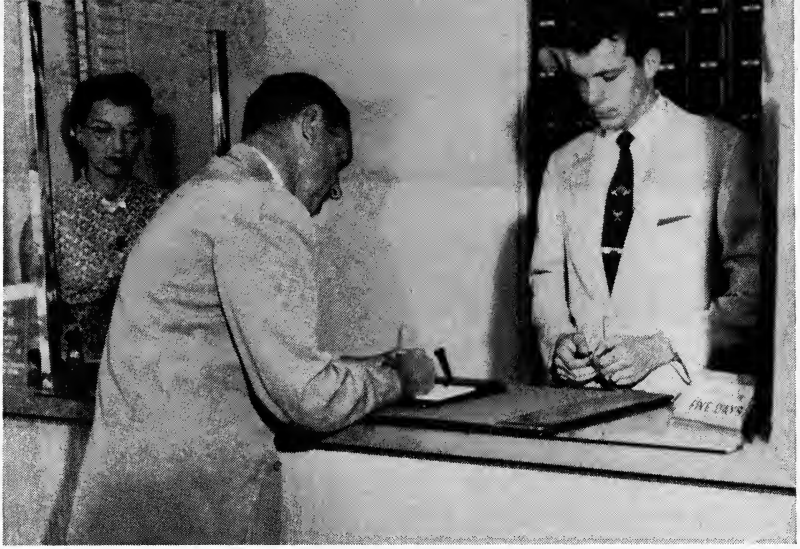
Today tourism presents a frontier especially challenging because of strong and open competition from the Caribbean and Bahama islands. It is up to South Florida, and you, to hold and increase a billion dollar business! Actually, the advantage is South Florida's, by virtue of climate and accessibility. But competition must be recognized and met.

A School For Hotel Training

For those interested in hotel work, the Dade County Board of Public Instruction operates, in Miami, one of the most complete hotel training schools in the United States. This is a school with courses especially tailored to the needs of a resort area.

The training school is actually a hotel operated not for profit but for practice. Named the "Hotel Lindsey Hopkins," the school-hotel occupies the top three floors of the building housing the Lindsey Hopkins Vocational High School. Here

The Lindsey Hopkins building houses a hotel school.



Prospective cashier and room clerk receive experience at the "Hotel Lindsey Hopkins" in the final stages of training.

half the work concerns the theory of hotel service and management, and half, the actual operation of a hotel.

So well is this hotel operated that during the period from July, 1955, to July, 1956, it accommodated 16,191 transient guests.

The courses at the Lindsey Hopkins Hotel School cover the fundamentals of hotel work from housekeeping to management. Placement of students in positions averages 82 per cent.

The present hotel school grew out of a real need in a blooming resort area. The first hotel classes began, on a small scale, in 1930. At that time the present Lindsey Hopkins building, at 1410 Northeast Second Avenue, was a gaunt skeleton of a building, an eyesore known as the "Roosevelt Hotel." This building had been started in boom years, and then abandoned, unfinished.

In 1940, when the war production training program shifted into high gear in Miami, the Dade County school board decided to acquire this old skeleton and transform it into a useful building.

Included in plans for a vocational school to be housed in this building were plans for a hotel school. But during the war years, the top floors of the building were occupied by

military agencies. The hotel school was not dedicated until December 5, 1951. Today it is outstanding among hotel schools in the world.

Opportunities In Tourism

Tourist business, or tourism, in South Florida is not limited to hotel or motel work, however. It embraces the entire field of transportation, living accommodations, and entertainment.

While the position of manager of a dazzling resort hotel or motel may seem the ultimate goal to many students of tourism, it is actually but one of many lucrative goals. Tourist attractions range from roadside stands where fresh orange juice is sold to million dollar aquariums and rare bird farms.

Can you train porpoises? Sell real estate? Direct a television program? Edit a resort magazine? If you can do any of these, or hundreds of other interesting things, you fit into the tourism picture.

And Problems, Too

Tourism enriches your own living. It brings you music, art, the theatre, and much thrilling entertainment and fun. But it also creates problems which, in themselves, create a challenging frontier. Because Florida's dazzling sunshine draws millions of visitors each year, your schools, streets, shops, waterways, hospitals, courts, and even the skies are crowded.

How will you solve this problem in years to come?

Industry is moving to South Florida. Big factories, even entire industrial cities, are being built. Will they smog the clean skies and drive away a billion dollar business? Or will they enhance Florida's beauty?

Tourism is a changing, exciting frontier, full of questions and rich rewards!

Question Box

1. What is "tourism"? Why is it South Florida's biggest industry? How does it affect you both directly and indirectly?
2. How was Miami Beach changed from a desolate area into a thriving tourist city?
3. Why is South Florida a popular summer vacation spot?
4. How does the Lindsey Hopkins Hotel School help the tourist industry?

5. What are some future "frontiers" of the tourist industry?
6. What are some of the outstanding tourist attractions in Dade County?
7. How can a tourist enjoy himself without spending much money?
8. What problems of the future are connected with tourism?

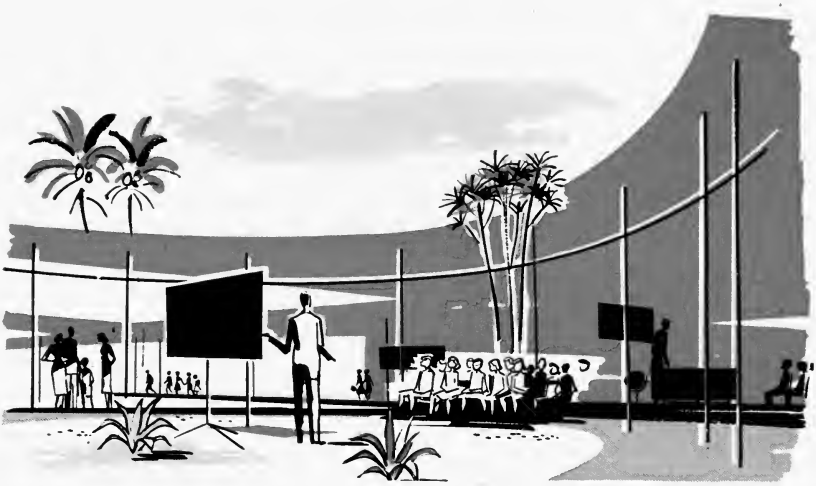
Suggestion Box

1. Plan a list of places you would take a visiting relative. Why did you select these particular places?
2. Write a letter to a friend encouraging him to visit you. Mention the things you would do and the places you would go. Try to be convincing.
3. Plan to give a short talk on "What I Consider Dade County's Most Interesting Attraction."
4. Make a class booklet on a "Tourist Guide for Dade County." Have each class member responsible for one attraction.
5. Interview a hotel manager. Find out the following:
   (a) What occupations are necessary to run a hotel smoothly?
   (b) What does the hotel offer guests for entertainment?
   (c) What does the hotel manager do?
6. Keep a list of out-of-town license plates for a week. At the end of the week discuss the variety of plates seen, where most of the automobiles come from, the number of out-of-the-country tags.
7. Write a story telling why your family came to Miami. Read the stories in class. Discuss the reasons for coming here. Which are in the majority?
8. Start a classroom project on "Where to Go in South Florida." Have two or three people assume the responsibility for organizing the project. The project may be organized in chart form something like this:

   Where to go Location What to see

   Illustrate with photographs, drawings, and articles.

Chapter X



The need is great . . . the future is exciting! In teaching, administration, science or research, you'll reap special rewards in helping to meet . . .

South Florida's Educational Challenge

Is education a challenging frontier in South Florida? Is the field of education rich in opportunity for you? Does education in South Florida, like living in South Florida, have a special excitement engendered by the exuberant climate, the fast-growing cities, the clear skies, and the mysterious and abundant sea around us?

The answer to these questions is an emphatic "Yes." Education in South Florida is a new frontier, the more exciting because it is new. Education opens on the ever-widening fields of nuclear knowledge, of marine biology, of tropical agricul

ture, of tropical medicine, of new architecture, new methods of teaching, and new thinking about the planning of curriculums.

The entire field of inter-American relations is a challenging frontier in South Florida. This challenge goes deeper than the teaching of the Spanish language in South Florida schools. It embraces the inter-related histories of the western hemisphere countries, their trade relations and future friendship. It may even hold the key to world peace!

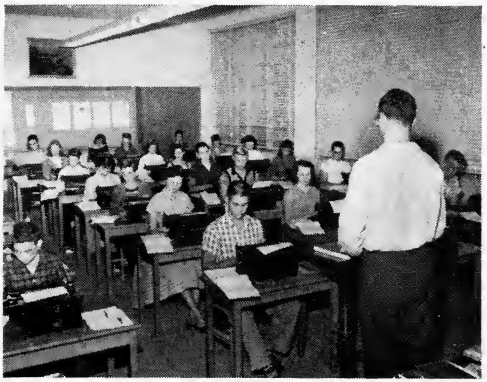
There is, of course, evident need and opportunity for teachers in fast-growing South Florida. For example, by 1956 Dade County alone was employing 900 new teachers for its public schools each year and the University of Miami was adding 120 new teachers to its large staff.

Educational Frontiers For All

But is education a frontier for you if you do not become a teacher?

The answer to the above question is affirmative and twofold. First, education in South Florida is synonymous with progress. It means that your children will enjoy even better

A study in contrasts—a pioneer schoolhouse in Coral Gables and the West Laboratory School, also in Coral Gables. Half a century passed between the construction of these two buildings.



School activities change, too. Today's student uses school libraries, and learns to type. (Photographs were made at the Coral Gables High School.)

schools than those you now attend. Their schools will be better equipped, more efficiently lighted, more pleasantly furnished. Both teaching and learning will be easier and more effective. Why? South Florida's educators are looking ahead. They are setting a pace for the nation. They are delving into the how's and why's of learning.

South Florida's schools comprise a frontier in which you now play a part because you go to school. In the future, you will participate in the schools as taxpayers, parents, home owners, and members of the community. The progress of schools is your future frontier.

Second, education is a frontier full of opportunity for interesting work other than teaching. Consider the variety of personnel employed by the Dade County school system, which in 1956 enrolled 12,000 new pupils.

In January 1956, the Board of Public Instruction in Dade County employed 7,452 persons. Of this number but 4,612 were doing instructional work, teaching or serving as librarians, deans, supervisors, or curriculum assistants. The teaching staff amounted to 62 per cent of the total. The others included:

Custodial staff	474
Clerical staff	465
Maintenance staff	233
Transportation staff	143
Administration	136
Lunchroom workers and managers	1289

The custodial staff included janitors and maids; the clerical staff, secretaries, stenographers, clerks, and registrars. The maintenance staff was made up of carpenters, plumbers, painters, and other workers. The transportation workers included bus drivers and supervisors.

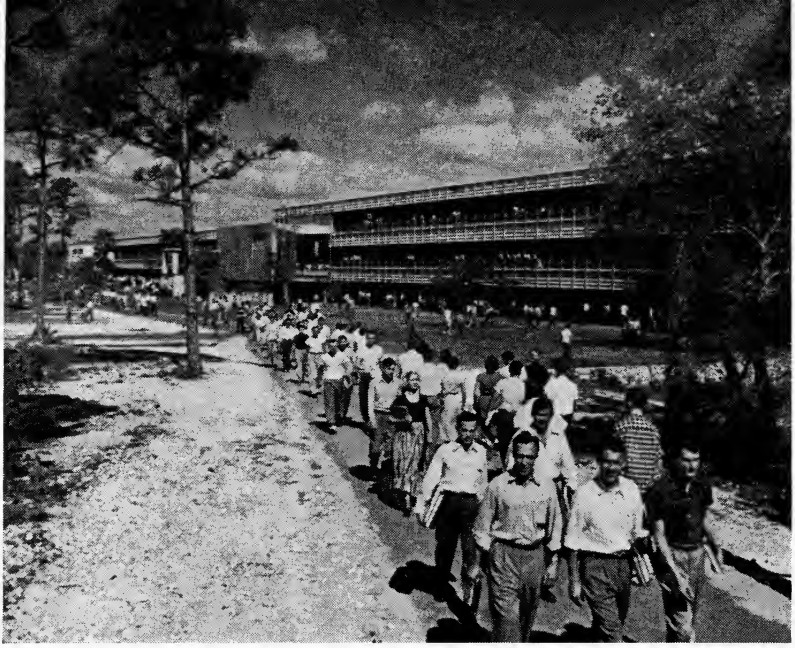
At the same time that the public schools of Dade County were employing 7,452 persons, the University of Miami (with an enrollment of almost 13,000) employed a maintenance and clerical staff of more than 1,000 persons and a faculty of 551 full-time teachers, plus many part-time instructors from the community. Add to this figure of almost 10,000 persons the numbers of teachers and other workers employed by private and parochial schools, by Barry College, and by other South Florida counties, and you will begin to envision the opportunity for employment in the interesting field of education.

Opportunities At The University Of Miami

If you have been thinking of the field of education as limited to teachers, consider the personnel employed by the University of Miami. Those who do non-teaching work at this modern and amazing university range from campus police to scientists. The list of those who perform services includes: garage and transportation workers, truckers, landscapers, plumbers, refrigeration and air-conditioning experts, key makers and locksmiths, electricians, carpenters, painters, police, parking lot attendants, welders, engineers, and draftsmen.

For qualified personnel, science presents an unlimited and exciting frontier at the University of Miami. The research work in the field of science runs from A to Z—from allergies to zoology. Research delves into methods of construction in

Beauty in building—the University of Miami's Ashe Memorial



Memorial Classroom Building, University of Miami

South Florida, into aviation, soil studies, sources of water supply, storm-tracking by radar, and methods of transportation.

On September 1, 1956, research work under way at the University of Miami was financed to the extent of $1,383,951.76. This frontier field offered part-time employment for many students and graduate students and full-time work for many faculty members.

The full-time scientists at work at the University of Miami are fully qualified and have demonstrated their ability in their chosen fields. These fields range from the most practical, such as how to pack and ship lychees, to the most abstract, such as fixed points in mathematics. Science in South Florida is a fruitful, challenging frontier.

Schools For Many Thousands

The future University scientist beginning his studies in the lower grades of South Florida will find himself, or herself, a part of one of the most exciting and modern school systems in the world today!

Dade County's public schools, typifying the public schools of all South Florida, rank with the 18 largest school systems in the United States of America. In the 16 years from 1940

to 1956, these schools grew from 38,000 pupils and 1,300 teachers to 119,000 pupils requiring a staff of more than 4,600 teachers. At this rate of growth, by 1965 there will be 267,000 pupils in Dade County's schools and a teaching staff of 9,000.

In 1956, the operation of Dade County's public schools cost more than $30,000,000, of which 79 per cent was spent for the salaries of teachers and other instructional personnel and for supplies.

Schools Change, Too!

But turn the pages of South Florida's history back to 1887 and you will see a far different picture.

The total sum appropriated for schools in Dade County (which then included Palm Beach County) was $550. A school building cost $200. There were no desks. The first teacher was Miss Hattie Gale, whose salary was not recorded, perhaps because it did not exist. The first teacher mentioned in the minute book of Dade County's schools was Miss Susie Brown, who received $180 for teaching during the winter of 1886-1887.

An early schoolhouse in Dade County makes a striking contrast with the modern Key Biscayne Elementary School.

The old and the new

The books used in the pioneer schools of Dade County included readers, histories, dictionaries, grammars, and Spencerian copybooks. (The Spencerian system was a method of penmanship.)

There are many things about today's South Florida schools that would amaze Miss Susie Brown. For one thing, her salary of $180 would range from $3600 upward to $6100. If she became an outstanding professor at the University of Miami, she might even hope for a salary of $10,000 a year.

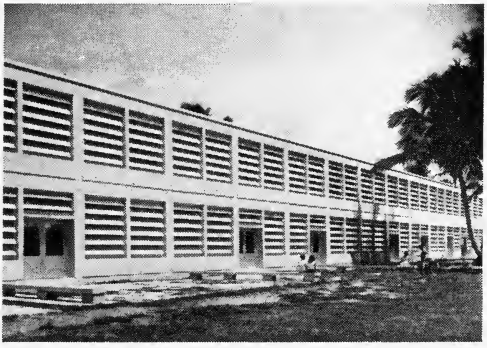
Miss Susie Brown, if she could view today's schoolhouse, might think she was on another planet. South Florida has pioneered in the construction of open-air schools. South Florida schoolhouses are built to receive the prevailing breezes. They are of one-story construction, usually, with many outside play and work areas, and outdoor classrooms.

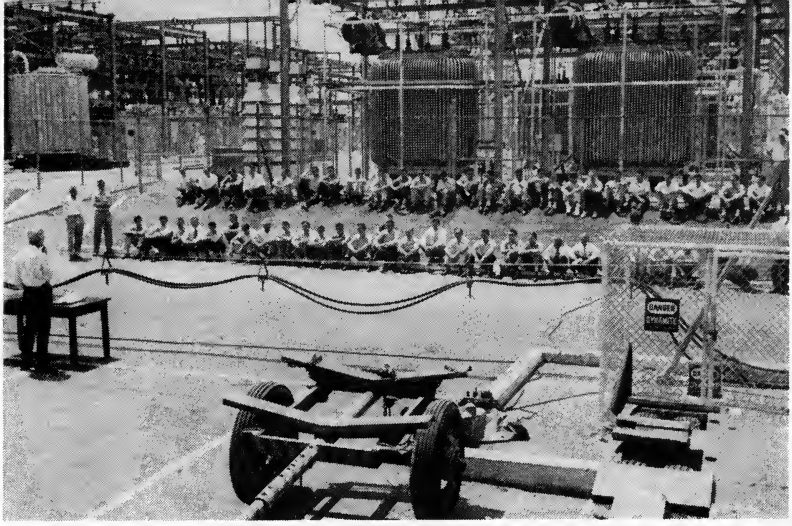
The new schools in South Florida are excitingly different. They have glass walls and open patios, spacious auditoriums, and colorful classrooms. Even the older schools are far from the dark-as-dungeon buildings in many other parts of this country.

The Frontier In School Construction

South Florida's schools serve as model buildings for tropical and sub-tropical areas throughout the world and many features of our schools are being adapted to climates less favored than ours.

Modern schoolhouses, in Dade County, have sunshades on the exterior, and glass jalousies on the interior. Thus sunlight is tempered and natural daylight used to greatest advantage.





University of Florida engineering students get outdoor, on-the-spot education at the huge generating plants of the Florida Power & Light Company.

In South Florida, the architecture of schools is, in itself, an inviting and colorful frontier. There is probably more glass in the school and university buildings of South Florida than in many great cities of our country.

In 1956, more than one half of the school buildings in Dade County were less than five years old. Being new, these schools lend themselves to new school practices. Thus education becomes an exciting frontier for those who look ahead.

Your Schools Lead The Nation's

Without musty traditions to hamper new fields of work, South Florida schools lead the nation's in many ways, including curriculum and guidance programs and in the use of audio-visual aids, such as radio and television programs and films. In fact, the Dade County Board of Public Instruction operates a radio and a television station, both of which present opportunity-frontiers.

South Florida presents the most exciting vocational education frontier in the world today. The vocational, technical, and adult education programs and facilities in Dade County call for a teaching staff of 435 and provide work for 161 non-teachers.

In 1956, from 25,000 to 30,000 persons were enrolled in vocational, technical, or adult education classes in Dade County.

Over 5,000 persons a day attended classes in the Lindsey Hopkins Building, which houses Miami Technical High School.

No secondary school in the country presents a wider area of specialized education than does Miami Technical High School. Here students have a choice of 29 fields of specialization within the range of accredited high school studies. The general vocational field covers homemaking, business, trades, services, production, distribution, and marketing.

Vocational education in South Florida is tailored to the needs of one of the world's fastest-growing population centers, to our unique climate, and to our geographic position as the hub of the Americas.

Aviation Education Frontiers

This is especially true of education in the field of aviation—the training of mechanics and stewards and stewardesses.

At the very doorway to aviation, across a busy street from Miami's throbbing International Airport, the Dade County Board of Public Instruction proposes a school like no other in the world! This school will provide complete aircraft maintenance and repair training with the same modern facilities actually used by the airlines. Here hundreds of students (and they are "students," for those who do not, or will not, learn are weeded out early in the term) will become airframe and aircraft engine mechanics. Golden opportunity for permanent jobs waits just across the street for the graduate with a CAA license.

Airlines stewardesses and stewards also may be trained in this unique school which overlooks an airport and tailors its courses exactly to the needs of South Florida's largest year-round industry—aviation. Looking always toward the future, this school is prepared to extend its training facilities into the field of aircraft manufacturing. The field of aviation is a vast frontier, both for the educator and the educated.

And Many Other School Frontiers

Another unique phase of vocational education fitting the needs of South Florida's fast-expanding cities concerns dental research. In the Lindsey Hopkins Vocational School building

Dental clinic at the Vocational School

there is a dental clinic. This clinic trains dental technicians and assistants and keeps dentists aware of, and working with, every advancement in dentistry. It also provides dental care for charity patients.

Begun in 1946 on a shoestring with war surplus materials, this dental school today is a model for communities throughout this country and other countries.

Curriculum planning in both the vocational and the elementary and high schools of Dade County is in many ways unique and stimulating. For instance, Spanish is an important subject in the elementary school curriculum.

The entire junior high school program in South Florida is vital evidence of the modern outlook of this sub-tropical area. While schools in many less-favored parts of this country are following an "8-4" plan, schools of South Florida generally follow the "6-3-3" plan—or six years of elementary grades, three of junior high school, and three of senior high school. Our junior highs are seeking to offer the best school program for young adolescents.

In a land so blessed by climate, physical education is an integral part of education for all. Special physical education teachers are employed in all schools and physical education programs are conducted out of doors, the year around. Here the opportunity for physical education teachers is an interest-

The library at the Madison Junior High School, Miami, has light, acoustical ceiling; modern, indirect lighting; wide glass jalousies, and natural stone wall.

ing frontier. In fact, the entire field of physical education is a frontier. It is your right to envision the school your children will attend as having swimming pools and many other new facilities.

The Phenomenal University Of Miami

The growth of the University of Miami is as dramatic as that of the public schools of Dade County.

In 1940, there were 1,614 pupils enrolled at the University. In 1956, there were almost 13,000. In 1946, the payroll of the University of Miami was but $1,800,000. For the year ending May 31, 1956, the payroll amounted to $5,531,000!

While the growth of the university is phenomenal, it is not surprising. Certainly, it did not surprise Dr. Bowman Foster Ashe, first president of the sub-tropical university. In his first announcement of university policy, made many years ago, Dr. Ashe foresaw the University of Miami as a hub of research work in marine biology, tropical medicine, tropical and subtropical agriculture, and inter-American relations.

He realized the significance of geographic location, the importance of climate.

The curriculum at the university today illustrates the immensity of South Florida's frontiers. Studies range from ocean-

The Embry Riddle International School of Aviation, located in the very heart of Miami, in 1957 had more than 800 students from many foreign countries. Here is a "melting pot" class in aircraft work.

ography to aviation, from agriculture to psychology. Art is regarded as both a cultural interest and an avenue of income of special importance in an area rich in color and history, rich in promise for new industries such as fashion designing, ceramics, and the printing of textiles and wallpapers.

With the same practical approach to useful living in sunny South Florida, the university presents courses in many other fields. One is food technology, a study important in a land which produces abundantly. Another is marine biology. Courses in zoology recognize the fact that the University of Miami is the only institution of its kind in this country located in the "Tropical Life Zone."

In this "Tropical Life Zone" are many questions for you to solve. The vast Everglades teems with unclassified life. The Florida Keys present a unique environment for plants and animals. So does the great inland lake, Okeechobee. The offshore coral reef, south of Miami, is a wonderland, rich in incredible color and life. It is a dazzling, sun-lit submarine frontier! The birds, animals and plants of South Florida, like the colorful Seminole Indians, combine to make this a unique frontier in education.

As Dr. Ashe predicted when the University of Miami opened in September, 1926, it has become a useful agent of friendship and understanding between the Americas.

Many research projects affect the Caribbean area and South and Central America as vitally as they affect South Florida. Studies concerning shrimp, plankton, shellfish, commercial fisheries, weather, and the Gulf Stream link the Americas in a search for knowledge to open new frontiers.

The practical advantages of speaking both Spanish and English are illustrated in many of the projects at the University of Miami. Cuban doctors, for instance, hold forums in Miami, and doctors and medical students from South Florida go to Cuba.

Today Spanish is our second language, taught children, youth and adults. The knowledge of Spanish has done much to provide jobs for South Floridians, to strengthen trade relations with the countries to the South, and to foster peace and unity through education.

U. of M. research probes new frontiers

Frontiers In Science

Occasionally, science reaches a helping hand from South Florida into the Latin American countries. A university scientist, for instance, appeared before the Cuban Academy of Sciences with information concerning "sleeping sickness."

This disease was killing many horses in a year in nearby Cuba. But work on viruses accomplished in Miami and presented to Cuban scientists, did much to conquer this disease.

The frontiers of tropical medicine are varied and exciting. For instance, new work on viruses is possible because university scientists experimented. They injected living virus particles into tropical fish eggs. The virus liquid was injected into the tiny fish eggs through a glass syringe with a diameter of 1/25,000th of an inch. Consider how tiny this instrument is but how big the work! The transparent fish eggs provide the scientist with a crystal ball through which he, or she, can watch the mysteries of life. Exciting work also is being accomplished on cancer and polio.

Many persons who find their frontiers in research and education move on to useful and lucrative work in industry. The quick and determined march of industry in Florida is opening new fields to those who are prepared to invade them—fields such as electronics, nuclear energy, and aviation.

New Frontiers Ahead

In fast-growing South Florida, education presents a bright frontier for teachers, parents, and pupils. In no spot in this country is a community more vitally awake to school life. There is confidence in the schools and in the teachers. Teachers have exciting opportunity to employ new methods of education, to become frontiersmen in a new science of education.

One measure of South Florida's fabulous growth, as a frontier state, concerns power. Thomas A. Edison, whose name is

School for your mother and father was never like this! Shown here is a science laboratory at the Coral Gables High School.

identified with Fort Myers, invented the incandescent electric light in 1879. Less than 20 years later, Henry M. Flagler built one of Florida's first electric plants to serve his Royal Palm Hotel in Miami.

Today you would laugh at that first flickering glow of electric light in a hotel no longer standing. Today, you can look toward the research and development of a major plant in South Florida using atomic energy for fuel!

Nuclear power is now a great frontier. Florida has uranium and thorium, both a source of atomic energy. Deposits of thorium are being mined in north Florida. Uranium is being recovered as a by-product of phosphate in central and west Florida.

There is nuclear power in South Florida's future and much more! Who knows what beneficial wonders will be wrought, through atomic energy, in the fields of medicine, agriculture and industry? You may see the conquering of cancer, the end of food shortages, the beginning of a new era in industry. You live not only in the most exciting area in the United States today, but in the most exciting time of its history, a time of transition from one era to another.

The future is what you make it.

Question Box

1. What are the educational frontiers in South Florida? How does this frontier tie in with the others studied?
2. Why does Dade County have the reputation of having a "modern" school system?
3. How did Miss Susie Brown's school differ from one of today?
4. How does Miami Technical High School serve the community?
5. Should Dade County build fewer, larger schools centrally located or more, smaller ones to serve neighborhoods?
6. What is the "curriculum"? Should changing times influence changes in the curriculum? Give reasons for your stand.
7. What can the schools do to better people's understanding of our Latin American neighbors?
8. Why are educational frontiers open for all people?

Suggestion Box

1. Invite the following people to your class to explain their part in operating your school:
   (a) the principal (administrator)
   (b) the librarian
   (c) the dean of girls or boys
   (d) the curriculum assistant
   (e) a custodian
   (f) the registrar
   (g) one of the school's secretaries
   (h) the cafeteria manager
   (i) a school bus driver
2. Make a chart listing the duties of the above speakers to get an over-all picture of school operation.
3. Get a recent bulletin on courses from the University of Miami. How many different schools are there? What courses are new to you? Find out what they are. Each class member may look up one or two subjects.
4. Ask your teacher to bring books or pamphlets showing how different school systems in the United States rank as to number of pupils, number of teachers, and salaries paid to teachers. Which states rank highest? Lowest? How do the figures given in these sources compare with Florida? Dade County?
5. Secure a bulletin from Miami Technical High School showing different courses offered. What are some interesting hobby courses? Job preparation courses? College preparatory courses?
6. Have a panel discussion on the topic "Education Is More Important Now Than in the Past."
7. Review *South Florida Frontiers* by having one class member summarize briefly each chapter. Which chapter did you like best? Why? Discuss.

For Further Study

Books For Pupils To Read

Fiction

1. Blackford, Charles M., *Deep Treasure,* Winston, 1954.
2. Capron, Louis, *White Moccasins,* Holt, 1955.
3. Carmer, Carl, *Hurricane Luck,* Aladdin, 1949.
4. Cheney, Cora, *Key of Gold,* Holt, 1955.
5. Dunsing, Dee, *Swamp Shadows,* Longmans, 1948.
6. Enright, W. J., *Sailor Jim's Cave,* Dodd, 1951.
7. Lawrence, Mildred, *Sand in Her Shoes,* Harcourt, 1949.
8. Lenski, Lois, *Strawberry Girl,* Lippincott, 1945.
9. Masters, Kelley R., *Joe Panther,* Holiday, 1950.
10. Masters, Kelley R., *Wilderness Teacher,* Rand McNally, 1956.
11. Monroe, Kirk, *Flamingo Feather,* Webster, 1949.
12. Pratt, Theodore, *The Barefoot Mailman,* Duell, 1943.
13. Watkins, Richard, *Hurricane's Secret,* Harcourt, 1950.

Non-Fiction

1. Aldrich, Bertha, *Florida Sea Shells,* Houghton, 1936.
2. Bailey, Bernadine, *Florida,* Whitman, 1949.
3. Bailey, Bernadine, *Picture Book of Florida,* Whitman, 1949.
4. Bickell, Karl, *Mangrove Coast,* Coward, 1952.
5. Brookfield, Chas. M. and Griswold, Oliver, *They All Called It Tropical,* Data Press, 1949.
6. Clarke, Mary H., *South Florida Treasure Trails,* Kay, 1949.
7. Douglas, Marjory Stoneman, *The Everglades: River of Grass,* Rinehart, 1947.
8. Francis, Phil, *Florida Fish and Fishing,* Macmillan, 1955.
9. Hunt, A. Lowell, *Florida Today,* Scribner, 1950.
10. Longstreet, R. S., *Stories of Florida,* Prather, 1951.
11. McNeer, May Yonge, *Story of Florida,* Harper, 1947.
12. Morris, Allen, *The Florida Handbook,* Peninsular, 1956.
13. Smith, Tom Q. and Mike, *47 Ways to Make Money in Florida,* 1952.
14. Vilas, C. N., *Florida Marine Shells,* Bobbs, 1952.

Films And Film Slides

Available in Dade County Schools Materials Center

Films		***Order No.***
1. Florida, Wealth or Waste	22′	612.3
2. Microscopic Wonders in Water	10′	591.9
3. The Story of the Sponge	16′	639.2

Film Slides

1. Then and Now in Florida	917.3
2. Seminoles of the Everglades	970.1

Kodachrome Slides

Set II D Miami

1. Miami Skyline from Biscayne Bay
2. Home on Inland Waterway
3. Miami University
4. Biscayne Boulevard
5. Hialeah Park, Florida
6. Miami Beach
7. Miami Beach
8. Causeway to Miami Beach
9. Scene at Rare Bird Farm
10. Scene at Rare Bird Farm

Sources For Teachers

1. Dade County Teachers' Professional Library. Complete bibliography published October 1, 1955.
2. *The Florida Handbook,* Allen Morris, Peninsular Publishing Company, 1955-56. Excellent bibliography—fiction and non-fiction—pp. 58-65.
3. *Materials About Florida,* July, 1956, Thomas D. Bailey, Superintendent, State Department of Education, Division of Instructional Services, Tallahassee, Florida.
4. *Supplement to Materials about Florida, Free and Low Cost Materials About Florida,* September, 1956. Thomas D. Bailey, Superintendent, State Department of Education, Division of Instructional Services, Tallahassee, Florida.
5. For a good background to *South Florida Frontiers* read—
   Muir, Helen, *Miami, U.S.A.,* Holt, 1953.
   Wilson, F. Page, *Miami, From Frontier to Metropolis,* Florida Power and Light Company, 1956. (Reprint from "Tequesta," 1954.)

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Baumgarten, Edward, Teacher, Southwest Miami High School.
Baxley, Willis A., Curriculum Assistant, Robert E. Lee Junior High School.
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Boggy, Dale H., Curriculum Assistant, Henry H. Filer Junior High School.
Bright, Kyle C., Teacher, Hialeah Senior High School.
Brown, Mrs. Madolyn, Supervisor of Social Studies, Dade County Schools.
Carlson, Mrs. Mary Trigg, Curriculum Assistant, Miami Springs Junior High School.
Chipley, Claude I., Curriculum Assistant, South Dade High School.
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Gardiner, Anthony E., Curriculum Assistant, Carver School.
Garth, J. Hunter, Teacher, North Miami Senior High School.
Gillingham, Jonathan, Curriculum Assistant, Westview Junior High School.
Hasentufel, Mrs. Genevieve, Curriculum Assistant, Horace Mann Junior High School.
Hay, Edgar, University of Miami.
Ilioff, Louie, Curriculum Assistant, Nautilus Junior High School.
Johnson, Clifton D., Teacher, Miami Edison Senior High School.

Koschler, Theodore A., Assistant Director in charge of Day programs, Lindsey Hopkins Vocational School.

Liberto, Mrs. Alice, Curriculum Assistant, Miami Edison Junior High School.

Lockhart, E. K., Curriculum Assistant, Dorsey School.

Lynch, S. John, Director of the Experimental Farm, University of Miami.

Magness, Calvin, Teacher, Miami Jackson High School.

Matheson, Mrs. Thelma, Teacher, North Miami Senior High School.

Matthews, Wesley W., Assistant Superintendent for General Education, Dade County Schools.

McCall, Mrs. Gretchen, Curriculum Assistant, Southwest Miami High School.

McIntyre, John, Curriculum Assistant, Kinloch Park Junior High School.

Meredith, Mrs. Nora C., Curriculum Assistant, North Miami Senior High School.

Messler, Mrs. Irma K., Curriculum Assistant, Shenandoah Junior High School.

Miami Beach Chamber of Commerce.

Mitchell, Mrs. W. Lemmie, Teacher, Northwestern Senior High School.

Monroe, W. F., Teacher, Coral Gables Senior High School.

Moore, Tom, Teacher, Miami Technical High School.

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Peavy, John, Teacher, Northwestern Senior High School.

Pierce, John A., Instructor of Hotel Training, Lindsey Hopkins Vocational School.

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Riopel, Edward H., Instructor in the aircraft shop, Lindsey Hopkins Vocational School.

Ross, Malcolm, University of Miami Editor.

Rowe, Mrs. Vivian, Curriculum Assistant, South Miami Junior High School.

Seagren, P. W., Director, Lindsey Hopkins Vocational School.

Selby, Lowell B., Assistant Superintendent for Vocational Education, Dade County Schools.

Smith, F. G. Walton, Professor of Marine Biology and Director of the Marine Laboratory, University of Miami.

Smith, William G., Instructor in the aircraft shop, Lindsey Hopkins Vocational School.

Stahl, Arthur H., Director of the Tropical Food Research Laboratory, University of Miami.

Sturmer, Mrs. Anna M., Curriculum Assistant, Allapattah School.

Walker, Walter O., Dean of the Division of Research and Industry, University of Miami.

West, Jeff, Director of Curriculum and Instructional Services, Dade County Schools.

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