

Tequesta:

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Tequesta:

Jacob Housman of Indian Key

By DOROTHY DODD

In the early 1820's a young captain appeared on the Florida reef whose name was to become notorious in those parts. During some fifteen years in South Florida, Jacob Housman was known far and near as an enterprising, adventurous, and unscrupulous man—as a bold wrecker and the autocratic proprietor of Indian Key. The manner of his coming to Florida waters, if we may accept the account given by Ned Buntline,¹ was perfectly consonant with his later career.

Housman, so the story runs, “was entrusted with the command of a small schooner at an early age, by his father, who owned the vessel. She was employed in the coasting and packet business along the shores of Staten and Long Islands, also up North River. The young *Captain*, however, was too much of a sailor to keep fresh water, and one day took it into his head to make a ‘West Indie’ trip without asking his father’s permission, making said experiment in his father’s vessel. The young Captain never reached his destination, for running off his course he struck the Florida reef. This injured his little craft so much that he was obliged to put into Key West for repairs, during which time he got such an insight into the ‘wrecking’ business that he concluded to become a wrecker himself. His father having insisted upon considering Jacob’s elopement in the light of a theft, the Captain could not return to New York with safety, therefore this was the very business for him to take up.”²

Ned Buntline apparently concurred with those who thought Florida wreckers to be little better than pirates or thieves. It is not too much to say that Housman, more than any other man, was responsible for the ill-repute in which the wrecking business was held. Arriving on the reef in the days before there was any effective regulation of wrecking, he continued to operate in a high-handed and oftentimes illegal manner even after the business was placed under the supervision of the Superior Court at Key West in 1828.³

The first notices we find of Housman’s activities as a wrecker appear in the fall of 1825, in connection with the French brig *Revenge*, although he had previously “been much engaged in the wrecking business.”⁴ The *Revenge*,

bound from Campeachy to France with cochineal and logwood, early in September went on the reef about three miles from Caesar's Creek. Housman boarded her after she had bilged and been abandoned by her crew. On September 7 he took off in his schooner *William Henry* "eight Ceroons of cochineal, two boxes of Sugar, and a quantity of Logwood unknown, but supposed to be twelve tons, and a parcel of sails and rigging."⁵

Whether he decided to appropriate the salvaged goods without benefit of legal proceedings or clashed with the authorities at Key West over the adjudication of salvage is not clear. But on September 25, Fielding A. Browne, of Key West, charged him with "a most villainous act," namely with robbing the *Revenge*. It was the intention of Housman, who had "defied both the civil and military authorities of this place," Browne said, "to proceed to Charleston to dispose of his cargo." Browne therefore requested Captain Brown of the U. S. revenue cutter *Florida*, to pursue Housman and recover the French property.⁶

Whatever his intentions might have been, on September 27 Housman brought the salvaged goods into St. Augustine. A week later he libeled the property under the territorial law of July 4, 1823, which provided for adjudication of salvage by a five-man jury. The St. Augustine jury allowed Housman 95 per cent. Considering the award excessive, the French consul at Charleston, who happened to be in St. Augustine, took the case into the Superior Court, where Judge Joseph L. Smith found the territorial law invalid. He did, however, award two-thirds salvage to Housman.⁷

In the meantime, Fielding A. Browne's letter charging Housman with theft had been widely published. Pointing to the Superior Court's decree as a vindication of his conduct, Housman branded the charge as libel. Then, as was to be his custom, he hit back at his opponent. He would, he said, "take another occasion to lay before the public, a history of the impartial and disinterested conduct of the gentlemen of many avocations at Key West, in their disposal of property falling under their control, and it will then be fairly understood whether there was more wisdom or folly in my giving preference to a decision at St. Augustine over one at Key West."⁸ From that day on, a dogged enmity underlay relations between Housman and the Key Westers.

Three years later Housman was again in the news as the result of a collusive agreement with the captain of the French brig *Vigilant*. The *Vigilant*, which was carrying \$32,000 in specie in addition to a regular cargo, went on shore near Key Vacas. She afterwards floated herself, but was surrounded by shoal water and accepted the services of two wreckers to pilot her into Key Vacas. After she was safely at anchor in a good harbor, Housman ar-

rived in the wrecking sloop *Sarah Isabella* and agreed to pilot her to Key West for 75 percent on the vessel, cargo, and specie, "with an understanding that Housman would return part of the money to the Captain, for Himself." Vessel and cargo were sold at Key West and the 75 percent duly paid to Housman. One of the real salvors of the *Vigilant* sued the Captain for \$6,000 salvage. The latter deposited that amount with an agent and sailed for Charleston with Housman.⁹

It was undoubtedly his wrecking profits that enabled Housman to develop Indian Key. This island, only eleven or twelve acres in area, not only possessed a good harbor for wreckers but was admirably situated for a wrecking rendezvous, lying as it does halfway between Key West and Cape Florida. Housman acquired it in 1825 from two squatters named Fletcher and Prince, who had settled there a year or two before.¹⁰ All accounts agree that he spent lavishly on the improvement of the key, transforming it, as one observer wrote, from a barren rock into "a miniature Eden."¹¹ "It is, upon the whole," remarked another, "a delightful residence, reminding me forcibly of the lines of Moore—

"Oh had we some bright little isle of our own,
In a blue summer ocean far off and alone."¹²

Housman neatly laid off the island into streets and squares. He built himself "a large and elegant mansion," erected another large building for use as a hotel, and constructed a number of smaller houses for the families of his crews. He extended three substantial wharves out to the channels on the north and south of the key. He had several cisterns cut in solid rock to store rain water, and laboriously brought top soil from a distance to make gardens in which subtropical fruits and flowers flourished.¹³ By 1834 he was said to have spent nearly \$40,000 on such improvements.¹⁴

In December, 1832, the Government stationed a customs inspector at Indian Key, Charles Howe being appointed to the post.¹⁵ The harbor must have been quite a busy little port, for Howe reported 637 arrivals in 1834 and 703 in 1835.¹⁶ On the other hand, the charge of Key Westers was probably true that "every little fishing boat, turtler, or wrecking vessel that stops there is noted as an *arrival*" in order to magnify the commerce of the place.¹⁷

In the spring of 1834 a post office was established with regular monthly mails from Charleston and New York. In an advertisement dated May 15, 1834, Henry S. Waterhouse, postmaster, stated, "All letters and papers for persons residing on this island, at Cape Florida, Kayo-Biscayno, New River, Key Vacas, on board the lightship *Florida*, or on board any of the wrecking

vessels, excepting the *Pizarro*, will reach their intended destination most readily if mailed for this Office."¹⁸

As this advertisement indicates, many wreckers used Indian Key as a headquarters where they procured provisions and ships stores and were in an advantageous position to hurry to wrecks occurring to the eastward. Housman held a tight rein over his little island and exploited its advantages to the utmost. As his fortunes increased, he acquired three more wrecking vessels. His was the hotel which provided accommodations for transients and amusement for wreckers ashore in the form of billiards and nine pins. His, also, was the sole mercantile establishment, which grossed \$30,000 a year from its trades with wreckers, settlers to the eastward, and Indians of the Southern coast.

"There are many poor persons, and some of them not noted for honesty, settled on the Florida Keys," wrote a visitor in 1833, "who are compelled to deal with this man. He, by allowing them credit and indulgence in his store, gains an ascendancy which he turns to some account. These people are his agents, or spies . . . when occasion requires they are brought in as *disinterested* witnesses to prove a meritorious claim for salvage."¹⁹

One such case, for which ample documentation exists, was that of the *North Carolina*, Captain George McIntyre, which left Apalachicola for Charleston March 9, 1833, laden with 336 bales of cotton. On the night of March 14 she went ashore at low tide on Pickles Reef. The *Hyder Alley*, Joshua B. Smith, master, came up at daybreak to relieve her. Although neither took any part in the relief of the *North Carolina*, the *Sarah Isabella*, Housman, master, and the *Brilliant*, Austin Packer, master, were consorted with the *Hyder Alley* and would, according to the custom of the reef, automatically share in any salvage awarded the latter. The *Hyder Alley* took off 115 bales of the deck load to lighten the schooner. The *North Carolina* then floated off the reef and accompanied the *Hyder Alley* into Indian Key.

Housman, neglecting to inform McIntyre of his own financial interest in the salvage, persuaded the Captain to consign schooner and cargo to him as agent and to submit the salvage to arbitration instead of going to Key West. Lemuel Otis and Charles M. Johnson, both residents of Indian Key, were named arbitrators. They appraised schooner and cargo at \$8,940, valuing the cotton at \$20 a bale although it had actually cost \$36 in Apalachicola, and awarded 35 percent salvage. McIntyre paid the salvage of \$3,129 with 122 bales of cotton, \$100 in cash, and a \$600 draft on the owner of the cargo. In addition to his share of this salvage, Housman received the customary agent's commission of 5 percent, or \$156.45, on the salvage.

Housman apparently expected to reap additional profit by purchasing the other two salvors' share of the cotton at the low appraised price. When Oliver O'Hara, as agent of the consignees, on May 18 libeled the cotton taken from the *North Carolina*, Housman appeared as claimant. At that time he had only 72 bales in his warehouse, having sold 50 bales in Charleston at \$50. Judge James Webb of the Superior Court at Key West decreed restitution of the 72 bales to the consignees on the grounds of a fraudulent agreement between Housman and McIntyre. Pending an appeal, Housman was permitted to keep the cotton at an agreed price of \$33 a bale. In 1838 the Territorial Court of Appeals upheld Judge Webb's decision, whereupon Housman carried the case to the United States Supreme Court. Before that tribunal finally decided against him at the January term, 1841, his little kingdom had collapsed in ruins.²⁰

In 1836 Housman was found guilty of embezzling goods taken from the *Ajax*, the penalty being forfeiture of his share of the salvage.²¹ In the fall of 1838, soon after the Court of Appeals had ruled against him in the cases of the *Ajax* and *North Carolina*, Judge Webb revoked his license as a wrecker. The immediate occasion for this drastic penalty, according to Charles Nordhoff who was in Key West at the time, was the wreck on Carysfort Reef, "of a large merchantman—large according to the standard of the times—with a full cargo of assorted merchandise." "It was charged," said Nordhoff, "that a certain wrecker had received from the wreck goods which he failed to deliver at Key West. Further, this wrecker had on his way stopped at his home at I. Key. The main fact having been proved, the wrecker was denied all salvage for his four vessels employed, and deprived also of his wrecking license."²²

In the meantime, the outbreak of the Indian war had greatly alarmed inhabitants of the south Florida coast. With characteristic energy, Housman prepared for the defense of his island, which was expected to be attacked because of the large quantities of provisions and munitions in his store. On January 1, 1836, he procured the assent of all the able-bodied males, both white and slave, then at Indian Key to a "convention" which, declaring it to be "the duty of every man who enjoys the protection of Society to be prepared and willing to defend it," did "ordain determine and declare to raise such number of good Sober faithful men who are willing to enlist and Conform to the rules and regulations of the officers' under whose Command they may be placed." "It is therefore understood," the document concluded, "that those who Sign their names to this paper are inlisted and willing to obey the officers placed over them."²³

A week later, 24 men, including at least six slaves, enlisted for 40 days in Company B, 10th Florida Militia. Housman was elected captain and William H. Fletcher lieutenant. Others were later recruited, the greatest effective force of the company being 39 early in May. Housman advanced pay and subsistence at the regular army per diem of 30 cents for wages and 50 cents for rations. He also provided arms and powder for the recruits.

By the end of January, embankments had been erected and a half dozen six- and twelve-pound cannon had been mounted at strategic points.²⁴ As a place of refuge for women and children, in the event of a successful attack, "a vessel, belonging to Housman, was prepared with portholes, a bulwark around the decks, and an armament, & moved a short distance from the Island."

For the next eight months the inhabitants of Indian Key lived in daily terror of an attack, and with good cause. The little Island was crowded with refugees who had been driven from their homes at Cape Florida and on the eastern reef. Frequent reports were received of concentrations of Indians—now at New River, now at Cape Florida or Cape Sable.²⁵ "The Indians were all around them—on the maine, on the neighboring Islands—ready with blanket sail canoes, to cross at any moment." There was scarcely a night but their fires could be seen from the island.

But the only incident that occurred was on March 16, when a canoe with a lone Spaniard²⁶ in it, came to Indian Key, under the pretense of trading. Suspecting that he was a spy, the islanders "obliged him to tell that two Indians came with him, and that he left them on an island about one mile distant. A boat was immediately dispatched with a number of men in search of them, and after some difficulty, they were found and brought to the island."²⁷ The three "spies" were imprisoned at Indian Key until July, when they were turned over to the revenue cutter *Dexter*, from which they succeeded in escaping.

In spite of the Indian war, Housman continued to develop and promote Indian Key. In 1837 and 1838 he employed James Dutcher, a marble cutter of New York City, to cut a large cistern out of solid rock at a cost of about \$4,000. This and the smaller cisterns previously built, according to Dutcher, "furnished the only supplies of water for the inhabitants and the navy in the vicinity."²⁸ In 1836 and 1837 Samuel A. Spencer assumed management of the hotel and advertised Key West as "A Resort for Invalids" where there was "just sufficient business done . . . to amuse and not annoy invalids."²⁹

One person, at least, was attracted to the key as a health resort early in 1837. Thomas Jefferson Smith is of interest primarily because his is the only

favorable estimate of Housman that has been found. Housman, Smith wrote in 1846, "combined skill, bravery, coolness & discretion, with great personal strength to a pre-eminent degree." He was, moreover, "a man strictly of his word, correct in his deportment and honest in his dealings." The reader should be informed, however, that Smith was undoubtedly Housman's "man," having been for several years his "confidential and legal adviser and attorney."³⁰ And like his master, he was not noted for honesty.³¹

More important than the continued physical development of the island were Housman's efforts to make Indian Key independent of any control from Key West. A step that promised much in this direction was the establishment of Dade County on February 4, 1836, with Indian Key as the temporary county seat.³² Housman probably was the leading spirit in this matter. Certainly his name headed the following petition, which resulted in the creation of the new county.

"To the Legislative Council of the Territory of Florida

"The memorial of the undersigned citizens of the County of Monroe in said Territory respectfully represents, that your memorialists reside in the northern section of said County, some of them Two hundred and thirty miles from the Court house, and none less than seventy five miles from it the whole of which distance they are obliged to travel by water in open boats in tempestuous weather during the fall and winter months. Your memorialists are not generally detained by public duty more than 6 days and some times not so much; but in bad weather they are frequently unable to reach their homes in less than three or four weeks, their Jury fees will not pay their board in Key West, and the whole of their expenses of boat hire and provisions are a dead loss to them, besides having to leave their families and domestic concerns at the times they are most required to be at home—your memorialists believe that no people in the U: States have ever been in a similar situation, and a cursory view of the map will be sufficient to convince your Honl body of the necessity of granting them relief. They therefore pray that the County be divided as follows. A line running from West end Bay Honda Key, to Cape Sable and from thence to Lake Macaco, and thence to the head of what is known now as Hillsboro River, (the north branch) and down said River to the Atlantic Ocean—Your memorialists would further represent that so long as Monroe County remains in the present state, that the public interest must of necessity be neglected and the ends of Justice be defeated, this has frequently been the case of late, and the reason is Witnesses and Jurors cannot find the means to transport themselves by Water to Key West to the Court

House. Your petitioners will ever be found willing to perform all the public duties incumbent upon them as good citizens, but some of them are in circumstances which precludes the possibility of their attendance at Key West as witnesses or Jurors.”³³

Within the boundaries of the new county, which were those specified in the petition, the principal settlements were at Indian Key, Cape Florida, and Key Vacas. The possible claims of the latter two were tacitly recognized by leaving open the location of the permanent county seat. Until that should be effected, the judge of the Southern District was to hold one term of the Superior Court each year at Indian Key and the judge of the county court was to hold a term each at Cape Florida and Indian Key. The clerks of both courts were to keep their offices and records at Indian Key. The provision for holding a term of the Superior Court there was annulled by an act of Congress of July 2, 1836.³⁴ The next Legislative Council, however, calmly reestablished a Superior Court in Dade County.³⁵

Partly because of unsettled conditions incident to the Indian war, Dade County soon became, for all practical purposes, Indian Key—the one being as much under Housman’s domination as the other. He took the most effective means of keeping the county seat at Indian Key by building a courthouse there “out of his own private funds.”³⁶ Most of the principal county officers were also his employees. Thomas Jefferson Smith was the first county judge.³⁷ George W. Somarindyck, Housman’s chief clerk for eight years, was the first clerk of the county court.³⁸ He was succeeded in that position in 1840 by Walter C. Maloney, also a clerk to Housman, who had previously served as clerk of the Superior Court. From 1840 to 1842 Maloney was clerk of the county court, a justice of the peace, and an auctioneer. James Dutcher, the New York marble cutter, was a justice of the peace during his stay on the island. And Lemuel Otis, one of the arbitrators who decided the salvage in the case of the *North Carolina*, was a justice of the peace from 1836 to 1842 and was elected sheriff in 1840.³⁹

After three years of Housman’s autocratic rule, inhabitants of Key Vacas, supported by residents of Monroe County, appealed to the Legislative Council to repeal the law establishing Dade County, or at least to repeal the laws establishing Superior and County Courts there. The petition was referred to a Select Committee of the Senate, under the chairmanship of William Marvin, then U. S. district attorney and soon to be judge of the Southern District.

The chief plaint of the petitioners, as stated in the report of the Select Committee, was that before the division of Monroe County, “it was with great difficulty that offenses could be punished on account of the paucity of

jurors, and that since such division, Monroe county is in as bad a condition as before, and that in the county of Dade it is utterly impossible to obtain a legal grand and petit jury. The administration of justice . . . is therefore rendered impossible in the county of Dade, and very much embarrassed in the county of Monroe." The petitioners further averred "that on account of the want of jurors in Dade county, and of the consequent perfect irresponsibility of its officers, and on account of the superior power which wealth and position always gives, all power both Executive and Judicial is exercised by one man, the proprietor of Indian Key."

In support of the latter statement, the petitioners presented affidavits by William H. Eldridge and John Sicher. Eldridge testified "that while at Indian Key, in the month of August last [i. e. 1838], he saw in the warehouses of Jacob Housman two white men, of the sloop *Brilliant*, confined in stocks, by order of Capt. Housman, and that in the month of October, he also saw two other white men, belonging to the schooner *Sylph*, in like manner, and by the orders of the said Housman, confined in stocks, and that it is a general report that such practices are common with the said Housman at that place." To which Sicher added the details that the men from the *Brilliant* "had been in that situation three days and were only allowed biscuit and water and no bedding, or musquito bars, and were obliged to sleep in that situation."

The Committee gave full credence to the allegations of petitioners and affiants. "Dade county has, according to the best information in possession of your committee," said the report, "about sixteen legal jurors, Monroe has about forty, the whole put together will hardly enable the court to punish offences where the whole extent of peremptory challenge is allowed, but are sufficient to secure the punishment of offences where the whole extent of these peremptory challenges are not allowed."⁴⁰ As to conditions at Indian Key, the report said: "Mr Housman holds no office.⁴¹ It is vain for these men to appeal to the laws for redress. The suit must be tried in the county of Dade, and there, there is no jury . . . It is certainly unjust that that portion of the citizens of South Florida, who are endeavoring to support the laws and to lead a quiet and an honest life, should be made to suffer in their character and reputations by the wanton outrages of others."

The Committee concluded, therefore, that the petitioners were entitled to relief. Since the existence of Dade County had been recently recognized by Congress,⁴² it did not deem it advisable to abolish the county. But realizing that the existence of courts in Dade County, with their clerks and other officers to issue and execute process by which a man's property or person might be seized without any possibility of bringing the matter to a trial, might be used

“to the very great oppression and injury of the petitioners,” the Committee recommended that the jurisdictions of the County and Superior Courts of Dade County be transferred to the similar courts in Monroe County.⁴³ A bill was reported for that purpose, which passed the Senate but was defeated in the House.⁴⁴

Late in 1839, Maloney resigned as clerk of the Superior Court. The office was in the appointment of the judge, and Marvin, though it must have been a bitter pill, was constrained to ask Housman to recommend a successor, or to accept the position himself, as he knew of no one to appoint. On November 21 Housman curtly replied:

“I have received your letter of 11 inst and have made application to four Respectable and Competent Gentlemen Who have Refused to hold any office in your Gift

“For myself, You should have known that any gift of yours would be promptly Refused.”

When the Superior Court met at Indian Key in December, with Judge Marvin presiding, a grand jury was empaneled which inquired into the imprisonment of the two seamen from the *Sylph*. Lemuel Otis testified that in his capacity as a justice of the peace he had committed the men on the sworn complaint of Samuel Sanderson, master of the schooner, who had charged them with mutinous conduct. The grand jury completely exonerated Housman and branded the evidence before the Senate Committee as “false and malicious.” The imprisonment of the seamen from the *Brilliant* was discreetly ignored.

Housman enclosed copies of his correspondence with Marvin and the grand jury presentment in a memorial which he addressed to the 1840 Senate. The report of the previous year, he said, with its “very Serious slanders,” was “evidently malicious”—the work of Marvin, who “has long been my most bitter and powerful enemy.”⁴⁵ The committee to whom the memorial was referred brushed it aside with the comment that its main object appeared to be the eradication of the “supposed injurious impressions” created by Marvin’s report.⁴⁶

Another way in which Housman sought to enhance the importance of Indian Key was by having it made a port of entry. Other hands than his signed the memorials to Congress requesting this in 1838 and 1839, but the voice was undoubtedly that of Jacob. His object was to cut into Key West’s monopoly of the salvage business, a monopoly due to the law that all property salvaged within the jurisdiction of the United States must be taken into an American port of entry.⁴⁷ In this he had the cooperation of Northern in-

surance underwriters and merchants, who believed that competition would prevent "many gross frauds committed upon underwriters" at Key West.⁴⁸ Opposing the project were Key West merchants and masters of wrecking vessels at Key West and Key Vacas.⁴⁹ So many and so conflicting were the statements, that Congress dropped the whole matter.

Among those who were active in behalf of a port of entry at Indian Key was Dr. Henry Perrine.⁵⁰ Perrine had been agitating the introduction of tropical plants into Florida and seeking a grant of land for the purpose since 1831.⁵¹ He had first interested Captain John DuBose, keeper of the Cape Florida lighthouse, who had made experimental plantings as early as 1833. In 1836 Charles Howe set out some plants at Indian Key. In the summer of 1837 Perrine visited Indian Key and, with Howe's assistance, began a nursery "where upwards of 200 species and varieties [were] planted in boxes for removal to the main land, when the Seminole war [should] cease."⁵² Finally, in the summer of 1838, Congress granted to Perrine and his associates, Charles Howe and James Webb, a township of land to be located on the mainland.⁵³ As the selection could not be made while the Indian war continued, Perrine decided to bring his family to Indian Key, where he could supervise his nursery.

The Perrines occupied a large, new house belonging to Charles Howe, located near Howe's own residence somewhat apart from the rest of the settlement. Although Housman was married, Perrine's wife and daughters did not associate with Mrs. Housman. "We were shut out from all social life," wrote Hester Perrine Walker many years later, "with the exception of the family of Mr. Howe."⁵⁴ Her statement lends credibility to Ned Buntline's story that though, "after building and settling up his island," Housman "made a voyage to Charleston, and returned with a beautiful bride," the law repudiated her after his death "in consequence of neither license, record, or matrimonial proof of any kind being get-at-able."⁵⁵

When Perrine landed at Indian Key on Christmas day, 1838, he found conditions somewhat different from those in the summer of 1837. Then the inhabitants of the island had still been under arms, although after August, 1836, Housman's militia company consisted of only 20 to 22 men, half of whom were Negroes. The company was disbanded in March, 1838, when the revenue cutter *Dexter* was based on Indian Key. After the withdrawal of the *Dexter* a few months later, vessels of the Florida Squadron made Indian Key their unofficial headquarters. At the time of Perrine's arrival, the island was being used as a supply depot by Lieutenant John T. McLaughlin of the U. S. schooner *Wave*.

In August, 1839, Commander Isaac Mayo, then commanding the Squadron, visited Indian Key in the U. S. Steamer *Poinsett*. "Considering the post of great importance, for should the Indians capture it, they would be abundantly supplied with ammunition and arms, also a large supply of provisions," Commander Mayo stationed there a gun barge and thirteen men under the command of a passed midshipman. Lieutenant McLaughlin succeeded Mayo as commander of the Squadron in December, 1839. He continued to use Indian Key as a depot until the spring of 1840, when he withdrew the garrison and established his depot at Tea Table Key, about a half mile away.

With the drilling of sailors and marines, and the coming and going of naval vessels, Indian Key must have appeared a busy place. But Housman was not prospering. As a merchant he did a small business with the Squadron,⁵⁶ but not nearly enough to compensate for the loss of his former trade with the Indians and reef settlers. He must have sorely missed, too, the income from wrecking cut off when his license was revoked in 1838. And his claim against the government for \$14,418 for the maintenance of the militia company, although he had pressed it since 1836, was unpaid.⁵⁷ The upshot was that he mortgaged all his property on the island to John Lawton and S. Murray, of Charleston, for \$16,000.⁵⁸ "It was thought before the invasion," Howe wrote in November, 1840, "that he could not stand it more than a year or two longer."⁵⁹

The embarrassed state of his finances may have prompted Housman to address two remarkable documents to Congress in 1840. The first was "a proposition . . . to the Governor and Legislative Council of Florida, and to the President and national Congress of the United States, to catch or kill all the Indians of South Florida, for two hundred dollars each."⁶⁰ The second was a request for authorization to form a settlement on the south coast of Florida and for a grant of land "to said settlers with the rights to the people of said settlement of *self-government* within the circle of three miles radius from the centre thereof, with an exemption from *all control of all officers* and *all laws* of the revenue, naval, and military department of the Government of the United States."⁶¹

Any chance Housman may have had of rehabilitating his fortunes vanished overnight. Between two and three o'clock on the morning of August 7, 1840, Indian Key was attacked and laid waste by a large band of Indians who paddled the 30 miles from the mainland in canoes. It was thought that they were guided by the two Indians imprisoned on the key in 1836, for though they approached from the north, they rounded the island to land at

a most unlikely spot on the southeast side. As they were stealthily deploying their forces, James Glass, a carpenter in Housman's employ who chanced to be wakeful, saw their canoes drawn up on the beach. The discovery by the Indians of Glass and his neighbor, George F. Beiglet, hastening across the island to warn Housman, gave the signal for attack.

The main objectives were Housman's residence and store on the north side of the key. A number of Indians rushed upon the former with "such fury that they soon burst open the doors and windows. Capt. H., the moment he awoke sprung for his guns, which were placed behind a door, but was met by them. He then rushed into another room, and jumped out of the window with his wife, and happened not to be discovered by the Indians, who were then all over the house. They ran across his garden, jumped fences, and plunged into the water at the south end of the island. He then took his wife and swam around to his Boat Pond, and got out one of his boats without being discovered, and pulled over to Tea Table Key."⁶²

The garrison at Tea Table Key had been reduced the day before to a score of men, all but five of whom were on the sick list, by the departure of the *Wave* on an exploring expedition into the Everglades. After some delay, Midshipman Francis K. Murray, in temporary command, succeeded in manning two barges, each of which was armed with a four-pound swivel gun. He set off for Indian Key about 7 o'clock with the intention of landing. The little task force was met by heavy fire, the Indians putting to good use one of the six-pounders Housman had mounted for the defense of the island. The barges returned the fire, but at the third discharge the swivels rebounded overboard and Murray was forced to return to Tea Table Key. Left in undisputed control of the island, the Indians loaded their own canoes and some of the small boats in the place with supplies of every kind from Housman's store, set fire to the buildings and wharves, and finally withdrew in the early afternoon. According to Lieutenant McLaughlin, they left in 34 boats, including those taken from the key. "In some of the boats, six, seven and eight people were counted; in none, less than four; so that the number could not have been short of one hundred and thirty-four persons."⁶³

At the time of the attack there were 35 white persons and 10 or 12 Negroes on the island. Six whites and a Negro child lost their lives. The white victims were Dr. Perrine, John Motte, master of the wrecking sloop *Key West*, his wife and two children, and James Sturdy, a boy who was scalded to death when the building over the cistern in which he was hiding burned. The others escaped by reaching boats or hiding in the cisterns and under wharves. Lemuel Otis, who was sleeping in Housman's store, was

wounded but managed to reach the south beach and float off in one of the canoes.

The destruction of property was almost complete. Only Charles Howe's residence escaped the conflagration. "The number of buildings consumed," said the account in the *Charleston Courier*, "was 38, consisting of dwelling houses and kitchens, ware-houses, stores, shops &c., all of which belonging to the enterprising proprietor, Capt. Jacob Housman, with the exceptions of Mr. Howe's [new house], and one dwelling house and kitchen, belonging to Wm. F. English, Esqr."

"Capt. Housman's loss can hardly be estimated,"⁶⁴ the writer commented. "What must have been his feelings on his first coming to the island to behold the total ruin of his indefatigable labors of twelve years—not a house left to shelter himself and wife—his splendidly furnished dwelling laid in ashes—his large warehouses and store, with every description of goods, all shared the general consummation—his charming garden, containing some of the most valuable vegetables and fruits of tropical countries, all burnt to the ground."⁶⁵

Housman and his wife presumably sought shelter at Key West, but in September he returned to Indian Key.⁶⁶ Henry Goodyear, a former clerk, urged him to open another store, but he decided against it. Toward the end of October, according to Charles Howe, he "cleared out for good—took everything he had left, to Key West . . . to sell at Auction—his Negroes—Boats—vessels & I think I see his object, he is as usual very schemy, he is a good deal in debt . . ."⁶⁷

After selling the few belongings that remained to him, Housman seems to have obtained employment on a wrecking vessel. He was killed on May 1, 1841, "while attempting to go on board a wrecked vessel in a heavy sea-way; being crushed between his boat and the side of the vessel." Thus, moralized Ned Buntline, having lost his ill-gotten property, he lost his own life, "leaving behind nothing of value, not even a good name."⁶⁸

Housman's widow soon found consolation for her bereavement in remarriage.⁶⁹ Before that happy event, however, she ordered a fine marble tombstone from the north. It was erected on the east side of the island where, presumably, Housman was buried. Though the stone is now shattered, the following inscription can still be deciphered:

"Here lieth the body of Capt. Jacob Housman, formerly of Staten Island, State of New York, Proprietor of this island, who

died by accident May 1st, 1841, aged 41 years 11 months.

To his friends he was sincere, to his enemies he was kind, to all men faithful.

This monument is erected by his most disconsolate though affectionate wife, Elizabeth Ann Housman.

Sic Transit Gloria Mundi."⁷⁰

NOTES

- ¹ Ned Buntline was the pen name of E. Z. C. Judson, who in 1840 was an acting lieutenant on the U. S. schooner *Otsego* of the Florida Squadron commanded by Lieutenant John T. McLaughlin, which was based on Tea Table Key. (Fred E. Pond, *Life and Adventures of "Ned Buntline"* [New York, 1919], p. 24). He thus had opportunity to learn, if not the true story of Housman's youth, at least the version current on the reef.
- ² E. Z. C. Judson, "Sketches of the Florida War—Indian Key—Its rise, progress and destruction," copied from *Western Literary Journal and Monthly Review* in *Pensacola Gazette*, March 29, 1845. I am indebted to Dr. A. J. Hanna for this reference.
- ³ For a general discussion of the subject, see Dorothy Dodd, "The Wrecking Business on the Florida Reef, 1822-1860," *Florida Historical Quarterly*, XXII (April 1944), 171-199.
- ⁴ *Pensacola Gazette*, December 3, 1825.
- ⁵ *East Florida Herald*, October 4, 1825.
- ⁶ *Ibid.*, November 8, 1825.
- ⁷ *Ibid.*
- ⁸ *Ibid.*
- ⁹ *Pensacola Gazette*, August 12, 1828.
- ¹⁰ H. Rep. 798, 30th Cong., 1st sess. [527], pp. 2, 6.
- ¹¹ Judson, *loc. cit.*
- ¹² T. Frederick Davis, "Pioneer Florida: Indian Key and Wrecking, 1833," *Florida Historical Quarterly*, XXII (October 1943), 58, quoting a contemporary account in the *Charleston Mercury*.
- ¹³ *Ibid.*; Judson, *loc. cit.*; John Lee Williams, *The Territory of Florida* (New York, 1837), p. 36; *Pensacola Gazette*, September 8, 1838; H. Rep. 798, 30th Cong., 1st sess. [527], p. 1.
- ¹⁴ *Floridian*, June 24, 1834.
- ¹⁵ H. Rep. 638, 27th Cong., 2nd sess. [409].
- ¹⁶ S. Doc. 71, 25th Cong., 3rd sess. [339], pp. 8, 10.
- ¹⁷ S. Doc. 140, 25th Cong., 3rd sess. [339], p. 15.
- ¹⁸ *Pensacola Gazette*, June 14, 1834. Charles Howe became postmaster about 1836. He held the position until March 31, 1842, being followed by I. W. Marshall and Luther A. Hopkins. The office was discontinued May 29, 1843. (*Official Register of the United States*, 1843, App., p. 340.)
- ¹⁹ Davis, *loc. cit.*, pp. 58-59.
- ²⁰ *O'Hara v. Schooner North Carolina & Housman*, Florida Supreme Court file no. 0793; *Housman v. Cargo of Schooner North Carolina*, Florida Supreme Court file no. 0794; *Housman v. The Cargo of the Schooner North Carolina*, 15 Peters 40.
- ²¹ See Dodd, *loc. cit.*, pp. 191-193.
- ²² "Wrecking on the Florida Keys," *Harper's Magazine*, XVIII (1859), 583, 585.
- ²³ Petition of Abraham P. Housman, administrator of Jacob Housman, deceased, praying the reimbursement of advances made for the public service during the Florida war, presented April 20, 1846, and related documents, U. S. Senate Files, 29th Cong., 1st sess., in National Archives. Cited hereafter as Petition of Abraham P. Housman. Unless otherwise noted, all data regarding the defense of Indian Key is from this source.
- ²⁴ *Niles Register*, XLIX (January 30, 1836), 370
- ²⁵ *Ibid.*, XLIX (January 30, 1836), 370; L (April 9, 1836), 98, and (August 6, 1836), 383.

- 26 For a brief account of the Spanish fishermen, who were suspected of cooperating with the Indians, see Dorothy Dodd, "Captain Bunce's Tampa Bay Fisheries, 1835-1840," *Florida Historical Quarterly* XXV (January 1947), 246-256.
- 27 *Niles' Register*, L (April 9, 1836), 98.
- 28 Petition of Abraham P. Housman.
- 29 *Floridian*, January 16, 1836, February 18, 1837.
- 30 Petition of Abraham P. Housman.
- 31 William A. Whitehead said that Smith's character, where best known, was such as not to entitle him to the notice of gentlemen (S. Doc. 140, 25th Cong., 3d sess. [339], p. 1).
- 32 Fla. (Ter.), *Acts*, 1836, p. 19.
- 33 MS. in Secretary of State's office, Tallahassee.
- 34 *U. S. Stat.* 70.
- 35 Fla. (Ter.), *Acts*, 1837, p. 6.
- 36 Petition of Abraham P. Housman.
- 37 *Ibid.* Charles Howard (Howe?) was first appointed, but apparently refused to serve (F. M. Hudson, "Beginnings in Dade County," *Tequesta*, July 1943, p. 18.)
- 38 Fla. (Ter.), *Acts*, 1838, p. 47.
- 39 See Petition of Abraham P. Housman; *A List of Officers of the Territory of Florida* (Tallahassee, 1842), p. 5, in Fla. (Ter.) House of Representatives, *Journal*, 1842; Fla. (Ter.) House of Representatives, *Journal*, 1843, App., p. 18.
- 40 The general law concerning jurors called for 23 grand jurors and 24 petit jurors, all of whom were required to be householders. The Legislative Council, by act of February 11, 1837, took cognizance of the situation in the Southern District by reducing the number of grand jurors in Dade and Monroe Counties to 16 men who were not required to be householders. An act of February 11, 1838, however, while continuing the grand jury of 16 in the Southern District, again specified that jurors should be householders. (John P. Duval, *Compilation of the Public Acts of the Legislative Council of the Territory of Florida, Passed Prior to 1840* [Tallahassee, 1840], pp. 194-197.) An act of March 2, 1840 required legal jurors in either county to serve in the Superior Court of the other (Fla. [Ter.], *Acts*, 1840, p. 39).
- 41 The only office Housman appears ever to have held was that of auctioneer for Monroe County in 1832 (Fla. [Ter.] Legislative Council, *Journal*, 1832, p. 117).
- 42 In the act of July 7, 1838, creating a bicameral Legislative Council (5 *U. S. Stat.* 263).
- 43 The full report of the Committee is in Fla. (Ter.) Senate, *Journal*, 1839, App., pp. 4-6.
- 44 Fla. (Ter.) House of Representatives, *Journal*, 1839, p. 16.
- 45 MSS. in Secretary of State's office, Tallahassee.
- 46 Fla. (Ter.) Senate, *Journal*, 1840, p. 61.
- 47 4 *U. S. Stat.*, 132, 133.
- 48 S. Doc. 55, 25th Cong., 3d sess. [339]. See also S. Docs. 54 and 71, 25th Cong., 3d sess. [339].
- 49 See S. Doc. 15, 25th Cong., 3d sess. [338]; S. Docs. 26 and 140, 25th Cong., 3d sess. [339]; and S. Doc. 255, 25th Cong., 3d sess. [341].
- 50 Although he did not sign it, he undoubtedly circulated a memorial at Princeton, N. J., as there is a manuscript addition, in his handwriting, to the printed document. The memorial averred that a port of entry at Indian Key would be beneficial "to the thousands of emigrating agriculturists, whose greatest anxiety is to engage in the culture of tropical plants." (Memorial of a number of citizens of New Jersey, praying the establishment of a port of entry at Indian Key, presented December 21, 1838, U. S. Senate Files, 26th Cong., 1st sess., in National Archives.)
- 51 Hudson, *loc. cit.*, pp. 9-11.
- 52 H. Rep. 564, Cong., 2d sess. [335], pp. 36, 60.
- 53 5 *U. S. Stat.* 302.
- 54 "Massacre at Indian Key, August 7, 1840, and the Death of Dr. Henry Perrine," *Florida Historical Quarterly*, V (July 1926), 20.
- 55 Judson, *loc. cit.* More explicit confirmation is found in the revocation by the Monroe County Superior Court, on May 10, 1842, of letters testamentary granted to Elizabeth Ann Housman as executrix of the estate of Jacob Housman (*Housman's Executrix v Cussans*, Florida Supreme Court file no. 0860).

- ⁵⁶ See H. Rep. 798, 30th Cong., 1st sess. [527], p. 5.
- ⁵⁷ Petition of Abraham P. Housman. The claim was never paid, due to lack of proof that the company was legally mustered into the service of the United States.
- ⁵⁸ H. Rep. 798, 30th Cong., 1st sess. [527], p. 8; Charles Howe, "A Letter from Indian Key," *Florida Historical Quarterly*, XX (October 1941), 198. When the mortgage was foreclosed on January 15, 1844, the property was bought for the mortgagees for \$355 (*News* [St. Augustine], January 27, 1844).
- ⁵⁹ *Loc. cit.*, p. 197.
- ⁶⁰ U. S. House of Representatives, *Journal*, 26th Cong., 1st sess. [362], p. 612. When the proposal was presented to the Legislative Council the House voted to recommend it to the favorable consideration of the President, but the Senate refused to concur (Fla. [Ter.] House of Representatives, *Journal*, 1840, pp. 117, 133, 166).
- ⁶¹ H. Rep. 593, 26th Cong., 1st sess. [373].
- ⁶² *Apalachicola Gazette*, September 12, 1840, quoting *Charleston Courier*, August 29, 1840.
- ⁶³ H. Rep. 798, 30th Cong., 1st sess. [527], p. 10.
- ⁶⁴ The administrator of his estate claimed it amounted to \$144,000 (*ibid.*, p. 1).
- ⁶⁵ *Apalachicola Gazette*, September 12, 1840. This account, the reports of Murray and McLaughlin in H. Rep. 798, 30th Cong., 1st sess. [527], pp. 9-11, and two accounts in *Niles' Register*, LVIII (August 29, 1840), 406, and LIX (September 5, 1840), 3, have been used in telling the story of the massacre.
- ⁶⁶ *News* (St. Augustine), September 25, 1840.
- ⁶⁷ *Loc. cit.*, p. 197.
- ⁶⁸ Judson, *loc. cit.*
- ⁶⁹ *Ibid.*; *Housman's Executrix v. Cussans*, Florida Supreme Court file no. 0860.
- ⁷⁰ I am indebted to Mr. Oliver Griswold, of Coconut Grove, for the transcription and other data concerning the tombstone.

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Thomas Elmer Will,

Twentieth Century Pioneer

By J. E. DOVELL

One of the major drainage problems of the United States concerns the Everglades watershed of the peninsula of Florida. This watershed extends one hundred miles southward from Lake Okeechobee in a shallow valley, thirty-five miles wide, to the Gulf of Mexico. The area of the Everglades, about four thousand square miles of land and water, is approximately the same size as the state of Connecticut. Within the present century a considerable part of the Everglades has been drained of surplus waters and brought into agricultural and commercial production.¹

The drainage and reclamation of the Florida Everglades has proven to be an enormous undertaking fraught with many difficulties. This transition, from a primeval morass, dominated by saw grass marshes that are almost level and which are flooded or nearly wet to their surface most of the year, has consumed many years of tedious effort. In addition to the problem of drainage has been that of handling the peat soils of organic origin, products of the growth and slow decay of vegetation in a region of low elevation enjoying a warm climate and a heavy rainfall.²

Random references to the Everglades are found in the records of the explorers of Florida, but little was known of them until the Seminole Indian wars in the 1830-1840's. The creation of an Internal Improvement Fund by Florida in 1851 marked the beginning of attempts to reclaim the Everglades. Efforts of the Trustees of that fund to encourage reclamation through grants and sales involved the area in a confusion of ownership and interests. This situation resulted in the establishment of the Everglades Drainage District, in 1907, with the authority to raise funds for drainage operations by levying a drainage tax on the overflowed lands. Prior to 1907, Governor Napoleon Bonaparte Broward and other members of the joint boards of Internal Improvement Trustees-Everglades Drainage District Commissioners had sought such funds through the sale of state lands.

Broward and his board had assembled a dredge in July, 1906, which began digging a canal from the north fork of the New River at Ft. Lauderdale toward Lake Okeechobee sixty miles northwestward.³ Another dredge, launched in April, 1907, was at work in the south fork of the same river. By

1909 the original dredges had cut their way fourteen miles into the Everglades and two new dredges were added. To finance these operations the trustee-commissioners sold large blocks of land in the Everglades to real estate operators. These sales amounted to \$35,000 in 1907 and \$123,000 in 1908.⁴ One purchaser, Richard J. Bolles, bought 500,000 acres in 1908 at two dollars an acre to be paid over a six-year period. The Bolles land sales companies in turn divided the purchase and resold it in five-acre and ten-acre plots at prices varying from \$20 to \$24 an acre.⁵ Perhaps the most spectacular Bolles promotion involved the Florida Fruitlands Company. Through this corporation Bolles sold 16,000 contracts for small tracts of Everglades land for which he received \$4,000,000 in a "scheme of financing that would have done credit to a Wall Street promoter."⁶

In the summer and fall of 1910 the trustee-commissioner's advertised Everglades lands in Florida and midwestern newspapers.⁷ In addition to the paid advertising by the state officials and the various companies, the Everglades received a great deal of publicity in the accounts of travelers and general writers. D. A. Simmons wrote in *The World Today* that: "When Okeechobee's surface has been lowered five or six feet, it will draw in the water from the surface of the Everglades, and the work of reclamation will be complete."⁸ By 1911 the rapid growth of Everglades land sales were approaching "boom" proportions. Among the many thousands of purchasers it was estimated that forty per cent of them were made to prospective settlers, and the remainder to small speculators who hoped to get an increase later on "when they come out from under the water."⁹

One of the largest syndicates interested in Everglades promotion at this period was the Everglades Land Sales Company with general offices in Kansas City, Missouri. Interesting in the light of subsequent events is a form letter issued by this company in 1910 and 1911 from its Washington, D. C., office which informed the prospect that "the work of reclaiming the Everglades is advancing by leaps and bounds."¹⁰ The letter pointed out that six state dredges were at work on the Florida project on a twenty-four hour schedule with several more scheduled to begin work. The communication declared that 224,000 acres of lands had been disposed of under the company's auspices and that land at fifty dollars an acre is "now almost gone." The letter further offered the facilities of its Washington office, with its displays of Everglades products, and "lantern lectures" three nights each week and expressed a desire "to present THE opportunity of a life time" to those who have not bought lands.¹¹

Among the productions of the advertising campaign of the Everglades Land Sales Company were two books: John Clayton Gifford's *The Everglades*

and Other Essays Relating to Southern Florida, and Walter Waldin's *Truck Farming in the Everglades*. Gifford's book comprised a group of articles, some of them reprints from various periodicals, on a number of topics pertaining to south Florida in general. In the first article Gifford drew certain parallels between the Florida reclamation project and those of the Landes of France and the Heathland of Denmark. He estimated that it would cost a dollar an acre to drain the Everglades.¹² Gifford declared:

There are agents at work selling this land in every state in the Union . . . the money from the sales is doing the work, and the further it progresses the more the land will bring and the more eager people will be to get hold of it. The Board of Internal Improvement is wisely holding back much of the land from sale. . . . In many cases the state has sold only the alternate sections.

By the application of lime, the cultivation of legumes, etc., this soil can be kept at a maximum state of fertility, so that five acres would be ample for the support of an ordinary family.¹³

The Gifford essay comparing the Florida Everglades with the French Landes and the Danish Heathland had been submitted to *Conservation*, journal of the American Forestry Association with headquarters in Washington, District of Columbia. The article attracted the attention of Thomas Elmer Will, editor and secretary of the Association, resulting in its publication in the August, 1909, issue of the periodical.¹⁴ Gifford's description of the Florida area and its possibilities so intrigued Will that he procured all the printed matter available on the Everglades for further information. In order to determine the possibilities of this unknown land, Will left Washington in January, 1910, and

. . . made his first visit to the Everglades, going to Fort Myers, by boat to Lake Okeechobee, and back to Fort Myers; thence to New Smyrna, Miami and Ft. Lauderdale. Thence to Jacksonville, Tallahassee, Jacksonville and Washington; all in the interest of Everglades reclamation and development.¹⁵

While in Florida Will met and talked with former governors N. B. Broward and W. S. Jennings and with R. J. Bolles and others interested in the promotion of the Everglades project. Upon his return to Washington Will decided to actively participate in the Florida proposition and resigned his position with the forestry group to become a free lance writer and lecturer on the Everglades.¹⁶ For the next twenty-seven years the development of the Everglades became the motivating force of Will's life, a force which at times seemed to be an obsession. At the time of his death in 1937, the *Everglades News* reported that the region had "lost not only one of its oldest settlers

and pioneer developers, but an ardent champion for all worth while improvements, and a recognized authority on Everglades affairs".¹⁷

Thomas E. Will was, by background and training, an able opponent for any man in the struggle to uphold what he considered the decent way of life. He was essentially a crusader and

. . . had something of a reformer in him. He usually took the part of the small fellow, the 'underdog' against 'vested interests.' And as with most reformers, the small man would often turn against him, and bite the hand that was aiding him.¹⁸

Born in a log cabin, in keeping with American tradition for self-made men, on November 11, 1861, Will spent his early years on his father's farm.

His education up to his twenty-first year had been in country and village schools; he had worked on the farm, and attended school some three or four months during the mid-winter. . . . He suffered a severe setback at seventeen, in a failure of the eyes that threatened total blindness. . . . Nevertheless, he was able, by the age of nineteen, to meet the county superintendent's test and entered upon the work of teaching. . . . After two years' service in a country school he had saved up enough money to enable him to take a course of treatment by an oculist. . . .

The September of 1882 found him at the State Normal School at Normal, Ill., from which he graduated in 1885.¹⁹

After three years as teacher and principal of public schools in Illinois, he attended the University of Michigan as a special student. In the fall of 1889 he entered Harvard College as a senior, where he graduated in 1890.²⁰ At the end of this year he was appointed to a fellowship in political economy and continued his education in the Harvard Graduate School receiving a Master of Arts degree in 1891. ²¹ "Throughout his university work he specialized in education, history, economics, and sociology."²²

There is reason to believe that Will had contemplated further academic study in German universities. But in July, 1891, he married Marie Van Velsor Rogers of Cambridge, Massachusetts, and during the summer accepted the chair of history and political science in Lawrence University at Appleton, Wisconsin.²³ "Here he continued for two years, after which he returned to Boston for one year, where he helped in organizing the Union for Practical Progress, delivered courses of lectures on economics, and wrote a series of sociological articles for the *Arena*."²⁴

In the summer of 1894 Will returned to the academic world as a professor of history and political science in the Kansas State Agricultural College at Manhattan, Kansas, a position he held for three years. In 1897 he

was elected president of this institution. One of the historians of Kansas State Agricultural College wrote, in 1909, that:

The executive office became his without an effort, but it gave him meager opportunities to test his abilities as the head of a higher institution of learning. The State was the center of a political upheaval in which he became a prominent figure. He was too warm-blooded and too young to play "hedger." He took sides and two years later his side lost. He was probably not a full blood Populist at any time, but he advocated bimetallism and state ownership of public utilities, and spoke and wrote boldly in favor of his doctrines. . . . The free silver combination lost and President Will, together with a number of his collaborators in the faculty were "resigned."

The Kansas State Agricultural College is deeply indebted to Ex-President Will for many new things and new ideas. . . . He will be given credit for greatly increasing the attendance, for diversifying the work by the organization of different courses, for habituating the legislature to the idea of appropriating liberally to the College, and for stimulating original work and research in the Experiment Station and in the many fields of abstract science.²⁵

Following the close of his work at Kansas State, Will was engaged in lecturing and writing on the principles he had taught and fought for in Manhattan. In 1900 he returned to the educational field as Dean of Ruskin College at Trenton, Missouri, and continued there until 1903. The next two years were spent in Wichita, Kansas, where he was again occupied in creative writing and speaking. Accepting a position in the federal census bureau in 1905, the Wills moved to Washington. A short time later Will received an appointment in the United States Forest Service, where under the direction of Gifford Pinchot, he toured the eastern half of the country and lectured from Chautauqua platforms in the interest of forest preservation. It was during this period that the forest service was agitating the establishment of forest reserves in the Appalachian and White Mountain areas.²⁶ At the conclusion of the forest service appointment he became secretary of the American Forestry Association and editor of *Conservation*.²⁷

When Will resigned his office as secretary of the American Forestry Association in late January, 1910, he severed a connection he had made in September, 1906.²⁸ He had been editor of the association's journal for most of those years and had written most of the editorials and a goodly number of articles that were published during the period.²⁹ In a short, farewell article Will summarized his activities as an official of the organization and noted

that although his official duties in the organization were completed he would continue to work for the conservation of the natural resources of his native land.³⁰

In 1910, when Will gave up his forestry affiliation he was in his forty-eighth year. In the prime of life he directed his efforts toward the Everglades drainage scheme with the same vigor and enthusiasm he had displayed throughout his earlier years. His son recalled that:

Physically, he was of an active, nervous disposition, full of driving energy. He was capable of extreme exertion, both physical or mental, and apparently never tired. He never did anything the easy way, even though it might have been just as good.

He was of medium height and build, and carried himself erectly. In order to counteract the effects of long hours bending over a desk, he regularly took exercises to keep him from being stooped and to keep in physical trim. He was always in excellent health almost to the time of his death at the age of 75. Early in his career he took lessons in elocution and since his speechmaking was before the days of public address systems, he developed a remarkably clear diction and a powerful voice.³¹

In the leaflet, "Where Nature Smiles," used by the Everglades Land Sales Company to advertise Will's Everglades lectures in Washington, mention was made of the careful investigation the lecturer had made of the possibilities of the soils found there. The advertising added that he had gone "thoroughly into the questions of production, transportation, and the marketing of products" and declared his belief that the Everglades offered the best "poor man's proposition" then before the public.³² "The Great West of Horace Greely's day no longer exists. . . . Were Greely alive today he would now say, 'Go South, Young Man, Go South!'"³³

The injunction to go South was not followed by Will on a permanent basis until the end of the year 1914. During the years 1910-1914 he spent most of his time in Washington agitating the sale and settlement of Everglades lands.³⁴ Early in 1910, Will was associated with E. C. Howe, General Agent in Washington for the Everglades Land Sales Company. Howe was also a former government employee, having been on the staff of the Interstate Commerce Commission. Under the auspices of Howe and Will a number of purchasers of Everglades land organized to promote their interests in the Florida peat soils. Any buyer of land in the area was eligible for membership upon payment of initiation fee and regular dues.

The organization boasted a constitution with by-laws and was named the Florida Everglades Homebuilders Association. Article II of the constitution stated that

The object of this association shall be to enlarge the knowledge, increase the effectiveness, and otherwise further the material interests of buyers of lands and builders of homes in the Everglades of Florida, and to assist them in establishing, in that territory, a community based upon the principles of justice, brotherhood and cooperation.³⁵

The homebuilders association had purchased a tract of land on the South New River Canal which was to be farmed by a manager to furnish the members information on how to "learn and earn" and "what can be done in the muck lands behind Miami."³⁶

The 1910-1912 boom in the development and sale of the Everglades and contiguous lands of South Florida was received with very decided differences of opinion in Florida and in the United States at large. As with any project in which there is a question of success, doubt as to the ultimate reclamation of the Everglades was expressed from the first attempt. The Everglades drainage operations gave rise to land selling by high pressure salesmanship with a considerable amount of speculation. The whole program was subjected to a vast amount of criticism: the methods employed in dredging, the accuracy of the surveys, the estimates of the engineers, the practicability and feasibility of drainage, and the resulting value of the soil. All of these became questions without immediate answers. In these years the enterprise became a subject of national recognition.³⁷

A series of letters and subsequent conferences between Governor N. B. Broward and his Florida officials and representatives of the United States Department of Agriculture in the spring and summer of 1906 had been climaxed by examinations by the Department's drainage division engineers of the Everglades area, beginning in January, 1907.³⁸ There was no official report of the federal drainage engineer's investigations until an abstract appeared in 1909. This abstract was part of a larger report made by a joint committee of the Florida Legislature of 1909 which had been appointed to inform the legislators on the progress of the work that was then being done by the Florida officials in the Everglades drainage program.³⁹

Data included in this excerpt was regarded by interested parties as being so favorable to this work of reclamation that it was circulated as advertising matter to stimulate the sale of Florida Everglade lands by companies who placed these lands on the market before the ditches were dug to drain. Thus with only a cursory examination in the field and no

critical review in the office, engineering plans for this vast reclamation work—the largest project in the world, was favorably recommended to the public, bearing the approval of the Department of Agriculture.⁴⁰

Evidence presented during the congressional investigations of the Everglades in 1912 showed that the 1909 excerpt had been secured through correspondence between Governor Albert W. Gilchrist of Florida and Secretary of Agriculture James Wilson and that Wilson had given Gilchrist permission to publish the extracts.⁴¹ Additional evidence was presented at the same hearings by Arthur E. Morgan who had been asked to examine the report of his associate supervising drainage engineer, James O. Wright. Morgan testified that the Wright plans were “so completely erroneous” and showed “such complete incompetency” that publication of the full report would be not only misleading, “but would be a serious reflection upon the professional character of the services performed by drainage investigations.”⁴²

The activity of the state drainage operations and the sales campaigns of the various land companies focused a good deal of attention on the Everglades. Since the United States Department of Agriculture was known to be conducting examinations in that area it was natural that many letters seeking information would be addressed to the federal agency. The delay in the appearance of the complete report aggravated the situation and to meet this demand a form letter was prepared in January, 1910, which was used to answer the requests for information on the south Florida region. The statements on the soil, agricultural value, climate, and amount of dredging and ditching necessary were of such a cautionary nature that they were objectionable to parties interested in promoting the Everglades.⁴³

On February 3, 1910, Senator Duncan U. Fletcher received a telegram from ex-Governor Broward, which read in part: “Received a telegram [from Chicago] ‘Bulletin coming out of Agricultural Department knocking Everglades.’ I earnestly ask you to investigate and prevent such action if you can.”⁴⁴ Senator Fletcher called on Secretary Wilson on the morning of February 4, read Broward’s message to him, and presented Wilson with a copy of the circular letter.⁴⁵ After some discussion Wilson called in his chief of the divisions of publications and informed him that it was the business of the department to furnish scientific data. “We are not here to give opinions or make statements otherwise than that, and I want this stopped right where it is.”⁴⁶

Within a few days after Fletcher’s visit to the Department of Agriculture, E. C. Howe and T. E. Will visited the drainage division of the federal agency and inquired as to the author of the circular letter. They were indignant at

what they termed the misinformation in the circular and sought to secure suppression of the letter and to have a retraction issued. The real estate agents were given a cool reception in the drainage division and took their case to Secretary Wilson, who had already taken action.⁴⁷

On May 10, 1910, Congressman Frank Clark of Miami, in whose district most of the Everglades lay, introduced a resolution on the floor of the House of Representatives proposing that the Secretary of Agriculture furnish the lower house with any information showing what the "Government of the United States" was doing "toward directing or supervising the drainage of any lands in the everglade region of Florida."⁴⁸ The resolution was submitted on the basis that the Everglades Land Sales Company stated in its advertisements that Everglades lands were "being drained under state and national direction and supervision."⁴⁹

Clark's resolution was referred to the Committee on Agriculture, ordered to be printed but was never reported on. Two years later at the congressional hearings Will stated that the resolution was but a part of the campaign of antagonism which the Miami congressman was waging against the Everglades project. According to Will the resolution tended to create "disquiet" in the public mind, which in Will's eye probably represented the "buying public" at that time.⁵⁰

Three days afterward, on May 17, Will and M. L. Bowen, an associate of Will's in the land company, paid a visit to Secretary Wilson in regard to the contemplated report which had been promised to the public some months previously. Will recalled that he had expressed the hope that the delayed publication would soon appear, when Wilson brought his fist down on the table and said, "I told them fellows I would not do a damned thing for them until they quit fighting among themselves."⁵¹ Wilson did not inform Will and Bowen that the revised page proof of the Everglades report had been presented for publication the previous January 28, 1910,⁵² nor did Wilson inform them, on June 14, that he had decided not to publish the disputed document.⁵³

Through 1910 and 1911 Will continued his interests in Everglades lands, particularly in the offices of the land company. The homebuilder's association was quite active, "meeting regularly, and earnestly studying all aspects of Everglades questions."⁵⁴ In addition, Will organized what he termed the "first Everglades Farming Association," a group which sponsored the transporting of a number of Everglades buyers from Washington and New Jersey to Zona, ten miles west of Ft. Lauderdale on the South New River canal. These pioneers became residents of the first true Everglades settlement.⁵⁵

David G. Fairchild recalled that "Some business men of Miami who were interested in the sale of Everglades lands had established an experiment station at a little settlement called Davie."⁵⁶ And John Newhouse, settler of the Upper Everglades, remembered Davie as "a lively place" in the fall of 1914.⁵⁷ Among the men that Will interested in joining the settlement at Davie was Felix A. Forbes of Washington. In 1912, Forbes established one of the first boat lines providing regular service from Ft. Lauderdale to Rita Island in Lake Okeechobee, and later extended from Miami to Ft. Myers.⁵⁸

No doubt a good part of Will's time in 1911 was filled with the work he did in connection with the completion of the papers and information of Senate Document 89. The two hundred page document contains all of the available major acts, reports and other papers relating to the Everglades and as late as 1933, was, according to Will, "the chief Everglades fact book to date."⁵⁹ The publication is a veritable documentary history of the Florida Everglades, containing such papers as the Florida Treaty, Congressional Acts of Admission for the State, abridged Buckingham Smith Report, Acts of the Florida Legislature, Legislative Reports, Drainage Reports, and other material on the south Florida area.

The Wright report on the Everglades lay dormant in the files of the Department of Agriculture for a full year before it was published in Senate Document 89 at the instigation of Senator Fletcher. Broward, Gilchrist and a host of others had attempted to secure copies of the government engineers' recommendations without success.⁶⁰ In June of 1911, Fletcher heard that the report had been killed, the plates melted down, and the number the paper was to have borne given to another document.

Senator Fletcher, who represented the progressive element that wanted to carry out the drainage project, figured out a plan to force its publication whether the department liked it or not. So he introduced a Senate resolution to have the whole thing published as a Senate document, along with much other matter bearing on the drainage enterprise. . . .⁶¹

This collection of assorted manuscripts pertaining to the south Florida lands became a "cause celebre" about which the gathering storm broke in the fall of 1911 when it appeared in print and played a major part in the congressional hearings which began in February, 1912. The responsibility for the idea which fathered the collection may be divided between Fletcher and Will. Fletcher stated that "The document was prepared at my instance, and under my direction . . . to state only the absolute truth in connection with that great enterprise."⁶² In an article published by Will in the *Ft. Lauderdale*

Call on June 12, 1926, Will wrote that he had conceived and compiled Senate Document 89.⁶³

Senator Fletcher began assembling the materials for the document in the late spring of 1911. George H. Carter, clerk of the Joint Committee of Congress on Printing, asserted that the material was prepared and arranged by T. E. Will. The former educator and editor went to various libraries and government offices in a search for the numerous papers and assisted Fletcher in getting the papers ready for publication. Will also managed to secure, without the Department of Agriculture's authorization, a copy of the notorious Wright Report for the printing committee.⁶⁴

At the congressional hearings in 1912 this document became a major subject in the questioning of the various witnesses. Testimony brought out the facts that the proofs were read and corrected in the late summer of 1911 in Jacksonville, Florida, by Senator Fletcher, ex-Governor Jennings, and Chief Engineer J. O. Wright of the Florida drainage commission.⁶⁵ During the course of the investigation William H. Ellis, attorney for the Florida officials, asked Henry E. Davis, attorney for the Committee, if the latter intended to attack this document. Davis replied that it was his purpose to point out the interests which its preparation served.⁶⁶ At the same hearing Chairman Ralph W. Moss read a large display advertisement from an Everglades Land Sales Company promotion into the record. It reads as follows:

United States Senate Document No. 89, regarding Everglades, now ready. Every person interested in the glades should send for this publication, compiled at the request of the Miami Board of Trade, submitted by Florida's distinguished Senator, Duncan U. Fletcher.⁶⁷

Moss questioned J. O. Wright as to the reputation of the volume in Florida as an endorsement of the Everglades project. Wright answered, "Yes, I think I could say it is an endorsement of the project."⁶⁸ When Will was asked if the Everglades Land Sales Company had used the document as a means of selling land, the latter replied, "I think so. They have used it."⁶⁹

Senate Document 89 was a very popular collection. The first edition, appearing in the late fall of 1911, was soon exhausted. On February 1, 1912, Senator Nathan P. Bryan, the junior senator from Florida, introduced a resolution providing for the printing of 4,800 additional copies of the document.⁷⁰ The printing committee reported the resolution favorably and it was adopted by unanimous senatorial consent on February 15, 1912.⁷¹

In August, 1911, Vance W. Helm, president and general agent of the Everglades Land Sales Company, wrote Will that he had received a letter from Senator Fletcher announcing the forthcoming publication of Senate Docu-

ment 89. Helm declared: "This is certainly great news and I want to congratulate you on this successful part of the program."⁷² Helm asked Will if it would be possible to secure a large number of copies of this document on the Everglades with Fletcher's wrapper "all complete for mailing with his frank."⁷³ On August 22 Helm again Wrote Will, ordering a thousand copies of the document in one, five, and ten thousand lots.⁷⁴ On August 26 Helm informed Will that the company officials were urging Senator Fletcher to persuade President William Howard Taft to stop and inspect the Everglades on a proposed trip to Florida in January, 1912.⁷⁵ Upon the appearance of this publication, Helm again wrote Will that he had "Just received a copy of the Senate Document. It is a peach. When making the big shipment to us you may keep out 25 copies for your use."⁷⁶ On December 15, 1911, Will wrote Helm that "your batch of documents, accompanied by franked envelopes start to you in the morning."⁷⁷

The high tide of the Everglades sales promotion campaign was reached in an advertisement which appeared in the February 5, 1912, issue of the *Washington (D. C.) Star*.

Business Opportunity—
United States Official Indorsement

First time in the history of the Government such a thing has been done. The Sixty-second Congress has recently issued a document of 208 pages indorsing the great reclamation, climate, healthfulness and fertility of the Everglades. The greatest opportunity of the century is offered here to the man with small capital to establish himself where the evident cooperation of the Government is sufficient to make the community rich and prosperous. Free literature. Call for some.

Everglades Land Co., 809 G Street, N. W.⁷⁸

But the 1910-1912 boom in the development and sale of the Everglades and contiguous lands of South Florida was received with very decided differences of opinion in the state and in the nation at large. There were many who had feelings on the subject similar to those of the Miami merchant, Isidor Cohen, who believed the reclamation of the Everglades had been a boon to Miami and that it was gratifying to note the subsequent experiments in agriculture had vindicated the attitude of the "boomers."⁷⁹ Joe Hugh Reese, a reporter on the *Miami Metropolis* (in 1909), writing in 1926, recalled that many newspapers in Florida were against the Everglades project in those early years on account of the exploitation by the land agents and the political connections which resulted. Reese felt, however, that "It was not until that time that Miami and Fort Lauderdale amounted to much. . . . At that period Miami

was pretty much of a dead town but the Everglades action woke it up, and in less than two years it was flourishing. . . .⁸⁰

Opposition to the Everglades reclamation project came from many sources. The corporate interests which had lost their grip on the bounty of state lands opposed the work from the outset and fought their way through the federal courts to stop it. Rufus E. Rose held the opposite view, when as State Chemist he wrote that an organized system of "criticism, slander, and defamation" had been started by "interested parties, citizens, and newspapers of the state, and of western states" who were envious of the emigration of capital and people to the region.⁸¹ J. C. Gifford found it hard to believe that there were hundreds of "knockers" among the "home people, who had nothing to lose and everything to gain, and who talked it down by the hour on the street corners to newcomers."⁸²

Concrete expressions of skepticism regarding the Everglades land promotion appeared in the media of articles and communications published in numerous periodicals. In a letter to the editor of *Harper's Weekly* by L. C. Parsons, citation was made of a prospectus of the Florida Fruitlands Company which offered 180,000 acres for sale, stating that "twelve hundred farms and homes are being practically given away."⁸³ Parsons said that questions of frost, fertilizer, irrigation, freight rates and profits of commission men should be settled before purchasing 'Glades land as the drainage project was many years premature. George T. Odell launched a severe assault against the promoters who sold ten acre tracts for farms. Odell asked who ever heard of making a living out of sugar on a ten acre farm. Prophesying the future trend of land holding in the Everglades, he added:

How many of those silly persons who bought their land "sight unseen" will have their tiny patches when the Florida Everglades is transformed into fertile farms?⁸⁴

For two years, Thomas Elmer Will had been busily engaged in the promotion of selling Everglades land contracts.⁸⁵ In a letter of December 16, 1911, from V. W. Helm to Will, the land company official outlined what he believed were reasons for "the present odium now attaching to the whole Everglades proposition."⁸⁶ Helm felt that if the land companies had shouldered the responsibility of supplying collateral drainage to supplement the state canals the "odium" would have been forestalled. As a means of allaying the ill-feeling Helm agreed to enter a six month contract with Will to conduct a Washington publicity bureau for the Everglades Land Sales Company. Will was to be paid \$100 a month for his services in providing mate-

rials for the press and periodicals in a campaign of education on the possibilities of the Everglades.⁸⁷

One of Will's literary productions in the interest of publicity was a six page article titled "The Everglades of Florida." The manuscript was brought out in the October, 1912, issue of the *Review of Reviews*, and differed very little from the descriptive writing that had been in common circulation. Reciting the current figures in regard to Lake Okeechobee levels, lengths of completed and proposed canals, and equipment in operation, Will noted that the state was following Broward's drainage plan of "cut and try" for the dredging of canals.⁸⁸ Significantly, in view of Will's professional background, he concluded that national public interests lay in the "bringing together of the man and the land" in the Everglades.

The odium which attached itself to the Everglades proposition, referred to in Helm's letter to Will, was not dispelled by the efforts of all the proponents of the drainage project. Throughout the fall of 1911 and early winter of 1912 references were made to probability that the House of Representatives' Committee Investigating Expenditures in the Department of Agriculture, under the Chairmanship of Representative Ralph W. Moss of Indiana, would look into federal participation in the Everglades drainage. Interest in Washington centered on the stories of the suppression of the engineering report of the drainage division, the famed circular letter, and the appearance of the Wright report in Senate Document 89 in December, 1911.⁸⁹ Meetings of the Committee were called on February 3 and 6, 1912, at which time Congressmen Frank Clark of Florida and E. R. Bathrick of Ohio came before the group and presented their reasons for asking the legislative group to investigate the Florida reclamation plans.

The Moss Committee summoned a large number of witnesses and many others became witnesses, including Florida's governor and several state officials, on a voluntary basis. The investigators wanted to determine if "public funds had been expended in the examination and survey of the Everglades" and whether reports prepared by the engineers as a result of this expenditure of public funds "had been refused publication" or "had been suppressed."⁹⁰ The committee sat through forty-three hearings from February 3 to August 9, 1912, and collected 1,759 pages of testimony and exhibits on Florida in general and the Everglades in particular. At the conclusion of the Everglades hearings the majority report of the committee found that

The vacillating course of the department in its treatment of this important project was . . . in part due to a difference of opinion among Members of Congress and the State Authorities of Florida; irrecon-

cilable differences in the opinions and conclusions among the engineers in the Division of Drainage was another contributing cause. The evidence . . . warrants the conclusion that the entire treatment of the project was most unfortunate and subjected the Department of Agriculture to much suspicion and criticism.⁹¹

The reaction to the Congressional investigation held in 1912 was expressed in several ways. Joe Hugh Reese believed the hearings had been a healthy thing for all of Florida since they had made drainage no longer an issue, but a definite policy.⁹²

Its most important consequence for the board of trustees of the internal improvement fund and for the large landholders was that they found difficulty in attracting new purchasers, and that the funds with which they expected to finance the work of drainage were seriously depleted.⁹³

Will, in an article on the history of the Everglades land owners' troubles, did not mention the investigation, but he did write that in the 'Glades slump of 1912 all the buyers deserted the market.⁹⁴ The Trustees of the Internal Improvement Fund attempted to stem the tide of adverse criticisms by appropriating \$1,000 to cover the expenses of a party of representatives of the press of the mid-western states on a "Cook's Tour" of South Florida and the Everglades. The party arrived in Jacksonville on April 12, 1912, and was accompanied on the trip by Governor Gilchrist, state officials, educators, bank and railroad presidents and others including "Dr. T. E. Wills, formerly of Agricultural State College, Kansas, and editor Conservation Magazine, Washington, D. C."⁹⁵

Will's primary purpose in coming to Florida in 1912, however, had been to lead a "large delegation from Washington to the Bryant and Greenwood auction held on the present site of Lake Worth during the week of April 6-13."⁹⁶ A large majority of the persons who attended the land distribution plan were representatives of groups of land buyers who held clearance receipts and contracts issued by the Florida Everglades Land Company.⁹⁷ The Bryant and Greenwood Realty Company served as agents of the land company which in turn owned the land that was auctioned to the buyers near West Palm Beach. The representatives organized an assembly and held a number of meetings, discussing and debating matters of Everglades settlement and agriculture. The assembly appointed a committee to call on the Moss Investigating group to invite the congressmen to personally inspect the Everglades project. The assembled buyers also passed measures censuring

Congressmen Clark and Bathrick and approving the work of the Everglades Land Company.⁹⁸

The people in attendance at the West Palm Beach meeting represented 4,860 buyers of small tracts—amounting to 64,240 acres. As an inducement to purchase tracts of five and ten acres, townsite lots were thrown in free of charge.⁹⁹

A name, Okeelanta, was chosen for the townsite as the area was between the Atlantic Ocean and Lake Okeechobee. In 1914 the townsite was surveyed and staked. Altogether in the one and a half sections allotted for the townsite there were 4,800 lots, with provisions for streets and alleys, parks and public building sites, residence and business districts, and shipping and marketing districts. "Nicely painted white stakes with black numbers dotted the townsite for a couple of years afterward, but fires, decay, and squatters played havoc with the survey and soon most of the stakes disappeared. No buildings were ever located on the townsite, except squatters' shacks."¹⁰⁰

The tracts sold at auction were located in townships running from 42 South, Range 37 East to 47 South, Range 34 East. The large blocks of land which the State of Florida had sold in the 1908-1910 period had been delivered in alternate sections, thus the West Palm Beach land purchasers found themselves scattered over several different townships in the raw sawgrass lands south of Lake Okeechobee. "In transferring the land to Bolles and other purchasers, the trustees reserved alternate sections for themselves, a practice which was applauded as a shrewd means of withholding the lands from the market until drainage should appreciably increase their value."¹⁰¹ The sale of the alternate sections by the land companies and the resale in small tracts to the out-of-state purchasers posed a difficult problem to the members of the Florida Everglades Homebuilders Association which had been organized by Will in 1910 with the intention of making a cooperative settlement in the Everglades.

Will later wrote that the buyers' attendance at the 1912 meeting was an evidence of "their sincerity, preparing to start settlement."¹⁰² He added that he "drove, aggressively and incessantly, for a practical plan and an early start." The proposed Okeelanta settlement plan was abandoned because of the scattered holdings and Will returned to Washington. From that place he made several attempts to consolidate the tracts into one contiguous tract, but he was not able to interest the land companies or the State of Florida in his settlement plan.¹⁰³ As a consequence of this failure, he again visited Florida and in February, 1913, appeared before the Trustees of the Internal Improvement Fund in Tallahassee. On February 6, he purchased 880 acres from the

Florida trustees to add to the 120 acres he already owned.¹⁰⁴ Through this purchase Will was able to consolidate his Everglades holdings into one of roughly two sections which he laid out in small plots to be resold to settlers. The new townsite selected by Will was a mile south of the old Okeelanta townsite on the North New River (Ft. Lauderdale) Canal.¹⁰⁵

On October 24, 1913, Will launched the first planned settlement in the Upper Everglades of Florida. His son, Lawrence, now of Belle Glade, was one of the first five settlers.¹⁰⁶ "Other settlers followed the first five, many of them bachelors, but there were some families, one couple having a babe in arms."¹⁰⁷ John Newhouse (Jan Van Nijhuis), an emigrant from the Netherlands, came to Okeelanta in the fall of 1914 in a party with several other men and settled in "an old trapper's shack until a new house could be built." Newhouse wrote that many trades and professional people, not experienced farmers

. . . were easily talked into buying a tract of Everglades land on monthly payments. They could hardly wait until the land was paid for before moving to Florida, to live a life of ease, plenty, and independence.

Usually they had a little money laid by and part of that went for traveling expenses. Another part was spent by their families living in East Coast hotels and rooming houses, while locating their land—if they could find it.

Then the hard work and sweating began. Clearing a place to build, hauling the material, often by privately hired boat or barge, doing the construction work themselves, they soon were disgusted. The women seldom liked it. The real estate company payments, and the high cost of living soon syphoned the last money out of their pockets, and before long they left, disgruntled and broke; and looking for a scapegoat. They never blamed themselves.¹⁰⁸

The difficulties which beset these pioneers were common to any frontier settlement of the nineteenth century with the differences caused by the peat soils of the overflowed lands, but this was the modern year of 1914. Problems of boating supplies sixty miles from Ft. Lauderdale, belaboring the saw grass roots from the soil by hand, fighting mosquitos and snakes, and seeding the soil beset these frontiersmen. Setbacks from frost, soil troubles and plant diseases dulled the optimism of many of the settlers and they left, but others came in to take their places. The hardier ones stuck it out and by varying their crops of beans, potatoes, cabbage and lettuce managed to live. Lawrence E. Will described the vitality of his father during a typical day

at Okeelanta after the elder Will joined the group in December, 1914, as follows:

Here he and I lived in a small shack, 12' x 16', in a rather primitive style, kerosene stove and lights, no refrigeration, and very little in the way of comforts of living.

He arose in the morning in time to get to work at 7 o'clock. Dressed in overalls, boots and big straw hat, he worked in the field as hard or harder than anyone else, planting, tractoring or surveying, often walking a mile or two to get to work, as the ground was too soft for a car. At noon he would relax a few minutes after eating. In the afternoon he would work like a steam engine till six or later, take the essential bath to remove the muck and muck itch. After supper he would sleep one hour, then he would repair to his desk and write letters or a story for publication or possibly read some accumulated newspapers. If the mail boat was due the following morning, he often wrote till one or two in the morning. However, he was always up at the regular time.

On Sundays he attended religious services, and if there was a Sunday school at the time, he taught the adult class. The remainder of the day was devoted to studying, writing and tramping around the fields to plan work for the following week.¹⁰⁹

Attempts to eliminate the manual labor necessary to prepare the Everglades soils for agriculture were made in a number of instances with the use of walking, crawling, and rolling types of tractors. S. R. Cooper tried a walking tractor at Okeelanta in the early winter of 1914 and another in the fall but both were returned to the factory for further modification.¹¹⁰ During the Christmas season of 1914 many of the Okeelanta settlers went to Ft. Lauderdale for the holidays. A number of the group, led by T. E. Will, spent December 24 in a trip to Davie to observe a wide-wheel type tractor which had been developed there. This machine, fitted with cutting knives which pulverized the soil, was later shipped to Okeelanta and employed in breaking up the raw land.¹¹¹ The interest in such machinery persisted and in 1916 Will persuaded S. W. Bollinger, a Pittsburgh manufacturer and Everglades land owner, to construct a five ton tractor equipped with a revolving cylinder armed with long teeth to comminute the soil.¹¹²

As the developer and one of the pioneer settlers at Okeelanta, Will's work was primarily that of finding crops which would thrive on the peat soils and return a profit to the farmers. He experimented continuously to determine the plants that were adaptable to the area and to determine correct methods of cultivation. ¹¹³ In the course of the search for implements for

clearing and cultivating the soft and loose earth he developed many useful machines. "One of his accomplishments was the invention of the type of turning plow and large rolling coulter, now in almost universal use in the Everglades."¹¹⁴

Located fifty-seven miles from Ft. Lauderdale, the residents of Okeelanta evidenced the news hunger common to all pioneers. Felix A. Forbes ran a regular boat to Lauderdale on Monday and Friday, returning on Tuesday and Saturday in the afternoon. On those latter days the settlers would move toward the Okeelanta landing at Bolles and North New River Canals to meet the boat for supplies and mail amid rain, cold or mosquitos. The settlers would return on Monday and Friday morning with mail and cash for their store orders.¹¹⁵ Early in 1915, V. M. Baker considered building a store at Okeelanta and Will encouraged him with the offer of a lot free of charge. Whereupon Baker accepted and started the first store in the upper Everglades.¹¹⁶ As this was the only store available settlers came from far and wide to trade, and soon a fourth class post office was established in the store.

New settlers arrived during 1915, some of the families with children of school age. A teacher was secured in the fall and a classroom with school furniture was fitted out in a building furnished by the community. In 1916 the Palm Beach County School Board built a one room school house on a lot donated by T. E. Will. The county board hired a school boat to transport the children from the lake shore and along the canals to the school site. Will was a member of the Okeelanta school board and served as school supervisor by appointment. He served as a school trustee for many years during which time other schools were begun at South Bay, Toirey Island, Kreamer Island, Rilta and several other locations.¹¹⁷

The agitation for highways and roads was one of the vital issues of the Everglades pioneers in their efforts to improve their way of life. Beginning in 1914 a canal was excavated between two townships, 44 and 45 South, across two ranges, 35 and 36 East, for the purpose of building a road bed. The canal, popularly called the Bolles Canal, extended from a point a little more than a mile east of Okeelanta to the Palm Beach County line, three miles west of the Miami Canal. The expense of the work was divided between the county and the Okeechobee Fruit Lands Company.¹¹⁸ This road bed was completed in 1916 and the Okeelanta settlers expected that the project would be continued to the east coast.

The movement for road construction as an essential factor in Everglades settlement was strongly supported by R. J. Bolles in January, 1915, when he spoke before the Palm Beach County Commissioners on the subject.¹¹⁹ When

road construction was stopped on completion of the Bolles Canal, Will organized a meeting of representatives from the Everglades. A meeting was held in Okeelanta in the winter of 1916. The group voted to renew its efforts for the construction of a highway across the state from West Palm Beach to Ft. Myers via the Bolles Canal and Okeelanta.¹²⁰ Shortly thereafter a delegation of Okeelanta residents, under the leadership of Dr. Will, journeyed to the county seat at West Palm Beach where they called upon the Chamber of Commerce and the County Commissioners. One of the results of this road promotion came in the creation of Special Road District Number Six in Palm Beach County. A bond election held in the new district in August, 1916, to issue \$150,000 in bonds was successful and the new road seemed assured.¹²¹ Differences arose as to the route of the proposed road and when the survey was made the route lay along the south shore of the lake four miles north of Okeelanta.

Will and other settlers at Okeelanta were dismayed at this turn of events. However, again under Will's leadership they were successful in securing the passage of a special act in the 1917 Florida Legislature providing for the issuance of \$50,000 in county warrants. Proceeds from these warrants were used to excavate a canal from Gladescrest, on the Hillsboro Canal, to the eastern end of the Bolles Canal. The spoil bank of this canal was used as a road to connect the Okeelanta section with the cross state highway at Six Mile Bridge, southeast of Belle Glade.¹²² As a means of expediting this road the Trustees of the Internal Improvement Fund, on January 25, 1918, donated land to the value of \$100,000 to the Roads and Improvement Society and Commissioners of Palm Beach County to aid in the digging of a canal from the West Palm Beach canal to the Bolles Canal, thus assisting in the construction of the highway.¹²³ The Okeelanta connecting dirt road was completed in the summer of 1919, but it was never hard surfaced.

As a result of a surprise party given one of the Okeelanta families in 1915, J. F. Waters remarked that such events should happen oftener. Newhouse wrote that the settlers made good company for each other out in the wilderness. The Okeelanta Growers Association grew out of the idea, prospering for ten years as a division of the Federal Farm Bureau Federation, and was one of the prime movers in the establishment of the Everglades Experiment Station near Belle Glade in 1923.¹²⁴ Dr. Will served as Chairman of the Growers Association for many years. As an outgrowth of this Association was formed after the passage of the Federal Farm Loan Act of 1916. An Okeelanta Federal Farm Loan Association was established in 1917 at a mass meeting held in 1917 at Will's initiative. "Capital being a crying need in those

days in the 'Glades, and none available—even groceries had to be paid for in cash . . ."¹²⁵ Will was selected as one of the three appraisers, and spent a considerable number of days in looking over landholdings of persons joining the loan group. Unfortunately nothing came of the movement as the regional bank could not be interested in making loans to the Everglades Association.

After moving to Okeelanta in 1914, Will sought to make his livelihood from the sale of farm products. He owned a goodly amount of land, some of which he was able to sell from time to time. During these years he also was engaged in encouraging the original land buyers to hold on to their land and to develop their acreage for profit. Among the many papers of the massive collection which Dr. Will saved are dozens of pamphlets and brochures which he had written and published for circulation to his many correspondents. Of these years, he wrote:

Between 1913 and 1922, Okeelanta acquired a live farming population, prosperous store, school, town hall, Sunday School, church services, post office, daily mail, cooperative association, leading all forward 'Glades movements; a voting precinct, telephone to the coast, and constant cross-state traffic via Okeelanta, between Miami and Ft. Myers.¹²⁶

Will's primary object was always to make the land available to the thousands of original buyers of small plots who, like Will himself, had purchased on the promise of the land companies and the state to reclaim the area and make it fit for agriculture. He viewed the problems of the Everglades in a large way and championed the cause of those who bought lands, paid taxes for benefits never received and who finally relinquished their holdings. To further this goal he was ever in the van to secure any improvements for the benefit of the Florida Everglades.

We must organize, find an accessible, livable spot, move there, improve conditions far and near, and help each other live civilized lives. . . . Old buyers have been hit, hard, but few as hard as I. Most waited for George to do it, and I was George.¹²⁷

A visitor to Okeelanta in 1919 reported that there was evidence of activity in the Everglades soils on all sides of the settlement. He was particularly interested in the "good tomato, bean, and potato crops" that were being produced in "soil that looks like an old manure pile."¹²⁸ This tourist spent a night at the Okeelanta hotel which was crowded with guests at the time. He remarked that boat traffic was moving in the canal all night and that the next morning the Okeelanta store was serving thirty to forty customers. Such prosperity, however, was relatively shortlived, for in 1920 the upper Ever-

glades were flooded with excess water beyond the drainage capacity of the long diagonal canals to the lower east coast.

As a result of the inundation of the land, agricultural operations were halted. Thomas E. Will left Okeelanta to stay with his wife and daughters in Ft. Lauderdale, temporarily, so he then believed.¹²⁹ The upper Everglades area was, however, destined for a series of alternately very wet and very dry years between 1920 and 1930. Residents of the Everglades slowly realized that the State drainage program would have to be supplemented through the establishment of sub-drainage districts. In the decade of the 20's over ten sub-districts were created and began local ditching and dyking for gravity drainage. This drainage was supplemented by the installation of pumping stations to draw off excess water from the land.¹³⁰ In the spring of both 1921 and 1922 the water table sank to very low levels, only to rise and flood the land with the advance of the rainy season. In 1922 the water sank so low that transportation on the Lauderdale Canal was brought to a stop. The boatman wanted high water; the farmers wanted low water. Thus settlers, like Will, were unable to farm with high water and unable to transport their produce under conditions of low water.

For ten years, 1921-1931, Will resided in Ft. Lauderdale. Here, during the period of the hectic Florida boom he spent a large part of his time selling real estate, specializing on large acreage projects.

. . . most of his efforts were devoted to selling land on or near the coast, since the real estate boom by-passed the Everglades, yet he continued to preach the gospel of developing the back country. He would even, on Saturday nights, mount a soap box at one of the busy corners in Ft. Lauderdale, and harangue the crowds with arguments of the possibilities of benefit to the coast, which would result from the development of the 'Glades, and of the folly of believing that Florida could prosper as a tourist resort.¹³¹

Though he was living on the east coast, his heart remained in the Everglades and until boat traffic on the canal was discontinued he conducted prospective buyers to the "Okeechobee Country."¹³² The newspapers of Ft. Lauderdale bear evidence of Will's many stories on the possibilities of the Everglades. His writing talent was expressed in numerous letters to people over the nation and to the editors and publishers of papers and magazines, and also in the preparation and publication of folders on Everglades problems.¹³³

Meanwhile conditions at Okeelanta continued to deteriorate. An observer, visiting the settlement in 1925, found that the land on the north side of the

Bolles Canal was reverting to saw grass and that water stood on the land from an inch to a foot in depth.

Okeelanta is just about deserted. There are still a few families in the community, but there principally because they do not have sufficient funds to get out, as their all is tied up in the property. Water conditions are worse than I have ever seen them. At the old hotel the ground was boggy and one sinks up to the shoe top in walking. At the bench mark at the rear of the old Tilton property the ground has settled about 5 inches in the last 4 years—three of which have been so wet that there has been practically no cultivation.¹³⁴

In 1926 and 1928 hurricanes passing across the peninsula of Florida inflicted untold damage to property along the east coast. But their real damage was felt in the loss of life on the shores of Lake Okeechobee at Moore Haven in 1926 and at South Bay and Belle Glade in 1928. These catastrophies horrified the nation and were responsible for federal participation in the construction of lake shore dikes to protect the area against another such disaster. On October 27, 1928, Will wrote that "despite hurricanes, fires, floods, and busted booms and banks, I am still fighting the Everglades battle. . . ."¹³⁵

In this year Will had organized the South Florida Development League, with a membership of 400, to push the restoration of the Everglades. As the leader of this group Will sought to influence local, state and national government officials toward adopting a rational plan for the reclamation of the Everglades. Meetings were held at Ft. Lauderdale to stimulate interest in the twenty-year-old project.¹³⁶ E. H. Andrae and Will formulated revised plans for flood control in the Okeechobee area and published them for public approval. In "The Okeechobee Question" Will urged that the drainage officials work "with nature and gravity" from the lake south through the Everglades to the tidewater at Shark River, letting the water spread over the southern part of the area until it reached the Gulf.¹³⁷ Andrae proposed an extension of the Bolles Canal, widened to one hundred feet and deepened, east to the tidewater of the Atlantic Ocean.

As president of the league Will wrote Governor Doyle Carlton on May 17, 1929, soliciting his support of a home-rule bill for the Everglades then before the Florida Legislature.

Without self-government, the *Everglades* are *Doomed*. Twenty years close-up experience ought to have taught me something. . . . Once lower East Coast ruled, robbed and ruined us. Then the Lake Shore came into action. Nature gave that little strip reclamation, the War Department

compelled maintenance of navigable conditions—that give it transportation—the two *absolute essentials* of Glades success. . . .¹³⁸

Opposition to the Everglades drainage program, alive and active since the beginning, was strong enough at this period to achieve notoriety. “Some Floridians outside the ’Glades will privately admit regarding it that it is a millstone hung around the neck of Florida by nature and misplaced zeal. . . .”¹³⁹ Another writer found that the problem of the Everglades was relegated entirely to the southern end of the state as the northern section took little interest in the Everglades.¹⁴⁰ During the flood control hearings on Florida before a committee of the House of Representatives in Washington on January 11, 1929, Frederick H. Davis, Attorney General of Florida, and a member of three Everglades state boards testified that “a vast number of people that come down into” the Everglades “from other states, and it is mighty hard to get people in other parts of the State interested in whether they perish or not. . . .”¹⁴¹ According to Will, Davis lifted the lid and exposed the “common enemy” when Davis said he had heard it advocated in certain districts of Florida that “what the people ought to do is build a wall down there and keep the military there to keep the people from coming in. . . .”¹⁴²

Will’s belief that the State of Florida and many of its citizens had treated the Everglades like an unwanted step-child was now vindicated. Such an admission from a state official was the evidence he needed to convince others that “wreckers have wrecked the ’Glades region.” He began agitating and publishing his views with renewed vigor. In 1930, he stated:

My writings here would fill volumes. From necessity they are largely didactic and polemical. They hold that South Florida is the coming world-center, with a future baffling the imagination. . . . To realize this noble destiny it must make fit and accessible its waste places, draw upon its vast resources, convert them into consumption-goods, and make them available for use.¹⁴³

In addition to “writing and agitating” for the Everglades, Dr. Will traveled to Washington and Tallahassee in order to appear in person in his efforts to promote aid for the improvement of flood control, navigation, and road building in the region.¹⁴⁴ On these trips to the state and national capitals Dr. Will would call upon the officials of the various committees, boards and commissions and present materials pertaining to the needs of the area.

An example of his labor may be found in the Minutes of the Board of Commissioners of the Everglades Drainage District for August 11, 1931. He had been working for the reconditioning of the North New River Canal to be made a part of an inland waterway from Port Everglades at Ft. Lauderdale.

dale to the headwaters of the Caloosahatchee River. Will appeared before the board on the above date in the hope that he could enlist the assistance of that body in an appeal to the army engineers to reexamine the canal with a view to improving it for navigation and flood control. He presented a two page resolution on the history and importance of the waterway, pointing out that due to soil subsidence, destruction of locks, and growth of hyacinths the inefficiency of the canal had stopped settlement which in turn had brought an end to tax payments.¹⁴⁵ As a result of Will's plea the Commissioners, by resolution, offered the Lauderdale Canal to the United States for improvement in the interest of navigation and for joint operation in the interest of drainage in the district.

When Will was in Washington in 1932 he received a letter from G. P. Allison relative to the great drought in the Everglades and the muck fires raging over the saw grass. Will answered that he had been to the Forest Service in search of aid and to Congresswoman Owen's office, but to no avail. "In Sen. Fletcher's office, talked with his Secretary, Mr. Hill. He's willing and anxious to help; but could not see how to jump the hurdles." Will concluded: "Remember, I'm on the job all the time, seeking our Glades salvation."¹⁴⁶

The work that Will did toward the furtherance of drainage, flood control and navigation in South Florida was prodigious, but an evaluation of his influence is difficult to make. Without doubt his crusades were effective in the overall improvement of the reclamation of the Everglades. In the construction of the highway from South Bay to Ft. Lauderdale and Miami, however, there is a monument that will perpetuate his name as the father of the idea behind it and the tireless worker who brought the road into being. When, in 1918, the survey of the West Palm Beach-Ft. Myers highway skirted the lake shore and by-passed Okeelanta Dr. Will launched his campaign in the upper 'Glades for a "Lauderdale-to-Lake Road."¹⁴⁷

In 1920 Dr. Will was able to interest Broward County citizens in the Okeelanta region of the upper 'Glades, especially with reference to a paved road from the lake into Ft. Lauderdale. A mass meeting on the subject was held at South Bay, but the idea did not secure any other concrete support.¹⁴⁸ For years Will continued to advocate the plan, mentioning it time and again in his articles and letters. In February, 1925, the Broward County Commissioners were granted authority to build a road on the north side of the South New River Canal and the south side of the North New River Canal from the Davie Bridge to the west boundary of Section 28 of Township 50, Range 30.¹⁴⁹ While living in Ft. Lauderdale, Will began serious efforts to enlist the

cooperation of various civic organizations and commercial companies in the road project.

With the development of the Dahlberg-Celotex and Southern sugar interests around the shore of Lake Okeechobee from Canal Point to Clewiston, beginning in 1927-1928, Miami and Dade County leaders looked toward the upper Everglades as a potential purchasing-shipping market. In March, 1927, Vance W. Helm, of the Helm real estate holding corporation, wrote the Miami Chamber of Commerce to ask if that body had taken any official action on a proposed road along the Miami Canal to the Lake.¹⁵⁰ Helm suggested that the Miami Chamber write Governor John W. Martin and Road Department Chairman Fons W. Hathaway relative to the highway department's officially adopting the project as a state road and include it in its plans for earliest consideration.

Dr. Will, however, was working on the same project for the Lauderdale Canal. On May 24, 1929, he was present at a meeting of the Trustees of the Internal Improvement Fund at Tallahassee during which he requested that 1,500 acres of land set aside for Palm Beach County "be converted into cash and the amount realized . . . be applied on the construction of a road along the North Canal and on necessary work in the canal."¹⁵¹

In 1933, when Will was attempting to secure construction of the road along North Canal by State and Federal agencies he felt that it was essential to have additional information on the condition of the route of the proposed highway.¹⁵²

He could not find what he wanted in existing records. His solution of the problem was typical. . . . With two glades hunters, Dr. Will set out from South Bay [in an old Ford car] and followed the canal to Ft. Lauderdale. The canal had been impassable to boats for years, and there had never been even a trail along the canal. . . . As they proceeded he took notes on the depth of the muck, and of the canal, the nature of the old spoil bank, whether of muck or rock, the location of dams and locks and such other features as he considered advisable to know.¹⁵³

The three men cooked their meals on a small gasoline stove and slept on the saw grass at night. They arrived in Ft. Lauderdale on the second day and apparently suffered no ill effects from the journey.

While in Washington, in 1933, Will was assured that the proposed road would be adopted as a part of the federal public roads program.¹⁵⁴ The following year he wrote that surveys of the route and dredging of the canal would be the next step.¹⁵⁵ In July 3, 1935, Will jubilantly noted that the Florida State Road Department had allotted \$450,000 to be spent on the high-

way to Miami. "I understand the bridge will cross the Bolles Canal . . . right by my door in Okeelanta, where I'm staying much of the time, staging a comeback."¹⁵⁶ In the fall of 1935 the Everglades Drainage District deeded a right of way of one hundred feet along the canal bank to the State Road Department and a year later the Improvement Fund Trustees granted a right of way through their lands for the same purpose.¹⁵⁷

On February 12, 1937, Will wrote a long letter to the *Everglades News* on the progress of the highway being built to Miami.¹⁵⁸ Less than a month later, March 5, 1937, death brought a close to the career of Thomas Elmer Will, of whom it was written:

A man of outstanding personality, inflexible honesty, deeply religious, and with a philosophy that would admit no defeat and knew no discouragement, his death will be a distinct loss . . . to the Everglades for which he devoted his untiring efforts."¹⁵⁹

The work of Will, covering the years from 1910 to 1937, is perhaps the best illustration of the almost futile efforts of the individual of moderate means to bring order out of chaos in the confused Everglades reclamation project. Will no doubt expressed this feeling of futility, mixed with a little satisfaction, when, in October, 1936, he wrote:

This country has a tremendous future once the cloud lifts. I figured it all out in 1909, with maps before me. I saw the Panama Canal—Theodore Roosevelt was fighting for it then—the Gulf and our position in the Western World. . . . Since then Miami has become a big aeroplane headquarters; and South America is just at our door. I watch with deep interest such things as the coming Buenos Aires round-up; initiated I think by President Roosevelt. Out of it may come a sure-enough combination for the Western World. Then when poor Europe and Asia have had their last round with killing machinery, maybe they can pattern after us. I'm all the time after a *better world*, a decent place in which to raise children.

As to my holding on. Well, a man usually has to die to get understood. I'm a sentimental sort of creature; and my parents always taught me to be square with people and I've tried to be just that. With everything down here SHOT, I've never felt that I would be justified in running off and leaving everybody in the lurch. This has cost me a professional career, and every cent of such money I had; and has meant 27 years of hard work and fierce fighting; but *IF ONLY* we can get out, and I can say with a clear conscience, "The Glades area is at last ready to occupy and use," I'll feel amply repaid.¹⁶⁰

The Thomas E. Will Memorial Highway along the west bank of the North New River Canal was opened to traffic on April 11, 1941.¹⁶¹ The 1937 Florida Legislature had resolved, by virtue of House Concurrent Resolution Number 17, that state road number 26 from South Bay to Ft. Lauderdale and Miami be designated and known under that name in recognition of Will's efforts in promoting its construction.¹⁶²

In the Everglades settlements and cities of Canal Point, Pahokee, Belle Glade, Clewiston, Moore Haven and others, life to-day is much the same as elsewhere in the United States. Throughout the area an atmosphere of optimism prevails. No one wants to remember the tragedies of 1926 and 1928, and few can recall the trials and hardships of the pioneers of forty years ago, for as usual the second and third generations reap the benefits of the pioneer effort.

NOTES

- ¹ J. E. Dovell, "A Brief History of the Florida Everglades," *The Soil Science Society of Florida, Proceedings*, IV-A (1942), 132-161; and "The Everglades—Florida's Frontier," University of Florida, *Economic Leaflets*, VII, 6 and 7, (April-May, 1947). For fuller treatments see also Marjory Stoneman Douglas, *The Everglades—River of Grass* (New York: Rhinehart and Company, 1947) and Alfred Jackson Hanna and Kathryn Abbey Hannah, *Lake Okeechobee: Wellspring of the Everglades* (Indianapolis: Bobbs-Merrill Company, 1948).
- ² J. E. Dovell, "The Everglades Before Reclamation," *Florida Historical Quarterly*, XXVI (July, 1947), 1-43.
- ³ *Minutes of the Proceedings of the Board of Trustees of the Internal Improvement Fund of the State of Florida*, VI, 96 *et. passim*. Hereinafter cited as *I. I. F. Minutes*.
- ⁴ *Ibid.*, VII, 261-265, 447-448, 485-498, 502-512, 553.
- ⁵ Winthrop Packard, "The Rush for Florida," *Technical World*, XVI (March, 1910), 20-23.
- ⁶ George T. Odell, "Paradise on the Installment Plan," *Technical World*, XVII (September, 1912), 21. "Millions of dollars have gone into the pockets of land sharks for land that is eight, ten and twenty-one feet under water, land that ought to have been sold by the quart instead of the acre. . . ." Odell wrote that most of the Everglades had been parcelled out in ten acre slices and sold to "thousands of clerks and stenographers and school teachers all over the United States."
- ⁷ *I. I. F. Minutes*, VIII, 557, 587.
- ⁸ D. A. Simmons, "The Florida Everglades; How They Happened; What They Are; What They Will Be," *The World To-Day*, XIV (May, 1909), 536. "Enormous crops can be grown without any fertilizer whatsoever," he said, "and the Everglades could supply vegetables through the Winter for all the cities and towns east of the Rocky Mountains." See also Napoleon Bonaparte Broward's "Draining the Everglades," *Independent*, LXVI (June 25, 1908), 1448-1449 and "Homes for Millions: Draining the Everglades," *Collier's* XVIV (January 22, 1910), 19; S. M. Ball, "Reclaiming the Everglades," *Putnam's*, XII (April, 1910), 796-802; Day Alley Willey, "Draining the Everglades," *Scientific American*, CIV (January 21, 1911), 67-69; and A. W. Dupuy, "Air-line Across the Everglades," *World's Work*, XV (February, 1908), 9893-9897.
- ⁹ Winthrop Packard, "The Rush for Florida," *loc. cit.*, 21. See also H. Parker Willis, "Secretary Wilson's Record: 2. The Everglades," *Collier's*, XLIV (March 23, 1912), 15-16. Hereinafter cited as "Wilson's Record."

- 10 Unaddressed and unsigned promotion letter of Everglades Land Sales Company, Kansas City, Missouri. Thomas Elmer Will Collection, P. K. Yonge Library of Florida History, University of Florida, Gainesville, Florida. Hereinafter referred to as Will Collection.
- 11 *Ibid.*
- 12 John Clayton Gifford, *The Everglades and Other Essays Relating to Southern Florida*, Kansas City: Everglades Land Sales Company, 1911), 1-2.
- 13 *Ibid.*, 10-11. See also John Clayton Gifford, "The Everglades and the Landes of France," *Conservation*, XV (August, 1909), 453-460.
- 14 "Will's Work: Sketch of Everglades and other South Florida Activities of Thomas Elmer Will since July, 1909." Typed manuscript written by Will in 1934 outlining his Everglades endeavors. Will Collection. Hereinafter cited as "Will's Work."
- 15 *Ibid.*
- 16 "Where Nature Smiles," Advertising leaflet announcing stereopticon lectures on Florida by Dr. Thomas Elmer Will, published by the Everglades Land Sales Company. Will Collection.
- 17 *Everglades News* (Canal Point, Florida), March 12, 1937.
- 18 Letter of John Newhouse, South Bay, Florida, to the writer. May 21, 1948.
- 19 Transcript from "Lawrence University Souvenir," furnished by Lawrence E. Will, Belle Glade, Florida, son of T. E. Will.
- 20 *Miami* (Florida) *Herald*, March 16, 1937.
- 21 Typescript on "Thomas Elmer Will" from *Fortieth Anniversary Report*, Class of 1890, Harvard College. This report is in the possession of Lawrence E. Will. Hereinafter cited as "Anniversary Report."
- 22 L. D. Walters, *History of Kansas State Agricultural College*, (Manhattan: Kansas State Agricultural College, 1909), 125.
- 23 *Ibid.*, 125-126. The Will children included: Lawrence Elmer, born January 31, 1893; Marian Van Velsor, born January 27, 1894; and Gertrude Rogers, born April 28, 1903. "Anniversary Report."
- 24 *Ibid.* A check through the standard indexes to periodical literature reveals the information that beginning in 1894 and continuing through 1912, Will published at least twenty-eight articles in journals and magazines of national circulation. Through the medium of the *Arena*, published in Boston, nineteen articles were printed, four appeared in the *Review of Reviews*, two in the *Independent*, and one each in the *Journal of Political Economy*, *World's Work* and *Popular Science Monthly*. By years, eight articles were published in 1894, four in 1895, one in 1896, one in 1898, three in 1901, one in 1902, one in 1904, two in 1906, three in 1907, three in 1908 and one in 1912. The earlier articles deal with social and political problems of money, war, child labor, municipal reform, and representative government. Later articles were on the subject of conservation of natural resources, particularly forest reserves. The 1912 article was on the Everglades of Florida.
- 25 *Ibid.*
- 26 *Miami Herald*, March 16, 1937. See also printed brochure, "Press and Other Notices of Lectures by Thomas Elmer Will." Will Collection. Ruskin College honored Will with an honorary Doctor of Philosophy degree. Lawrence E. Will to J. E. Dovell, April 29, 1948.
- 27 Walters, *op. cit.*, 126. "In connection with this forestry work he has written widely for the magazines and has lectured in twenty different states, sixty-four illustrated Chautauqua lectures having been given in 1908 in Wisconsin, Minnesota, Iowa and Missouri." See also *Forestry and Irrigation*, XIV (August, 1908), 450-452.
- 28 Thomas E. Will, "A Personal Word," *American Forestry*, XVI (February, 1910), 111-112.
- 29 The original title of the journal had been *Forestry and Irrigation*. It was changed to *Conservation* in 1908 and to *American Forestry* in 1909.
- 30 T. E. Will, "A Personal Word," *loc cit.*, 112. Will pointed out that he had written many articles on conservation of resources, especially forests, and that these had appeared in *World's Work*, *Review of Reviews*, *Independent*, *Popular Science Monthly*,

McClure's, Journal of the Franklin Institute, Vick's Magazine, Journal of American Merchants and Manufacturer's Association, and American Industries.

- 31 Lawrence E. Will, letter of April 29, 1948, to J. E. Dovell.
- 32 "Where Nature Smiles." Will Collection.
- 33 *Ibid.*
- 34 "Will's Work." Will Collection.
- 35 "Florida Everglades Homebuilders Association, Constitution and By-Laws." Will Collection.
- 36 *Florida Everglades Homebuilders Association*, Printed Prospectus, Will Collection. Thos. E. Will was chosen as President of the Association.
- 37 W. S. Blatchley, *In Days Agone: Notes on Fauna and Flora of Sub-Tropical Florida in the Days When Most of Its Area Was a Primeval Wilderness*, (Indianapolis: Nature Publishing Company, 1932), 99-100. "When we remember that the lake is only a great saucer 20.5 feet above tide, and that the Kissimmee drains into it, practically in four months of the year, 48 inches of rainfall from 8,000 square miles of territory, we can understand how visionary is the scheme proposed. Thousands of dollars have been spent in advertising and millions gotten back in profit by selling to widows, orphans, and poor devils in the North, this land, in five or ten acre tracts at \$50 to \$100 an acre," wrote Blatchley in 1911.
- 38 *Everglades of Florida, Acts, Reports, and Other Papers, State and National, Relating to the Everglades of the State of Florida and their Reclamation, Senate Documents*, Number 89, 62 Congress, 1 Session, (Washington: Government Printing Office, 1911), 16, 130, 140. Hereinafter cited as *Senate Document 89*. See also Committee on Expenditures in the Department of Agriculture, House of Representatives, *Everglades of Florida, Hearings before the Committee on Expenditures in the Department of Agriculture, February 3-August 9, 1912, Ralph W. Moss, Chairman*, (Washington: Government Printing Office, 1912), Number 5, 212 *et passim*. Hereinafter cited as *1912 Everglades Hearings*.
- 39 *Journal of the State Senate of Florida of the Session of 1909*, (Tallahassee, state printer, 1909), 1605-1623. James O. Wright, a supervising engineer of the Drainage Investigations Office, prepared the report on the basis of 1907 and 1908 surveys made in the Everglades and on information he had secured at Tallahassee and elsewhere. Wright's conclusions had been questioned by his associates in Washington, and as a consequence the publication of the findings of the examinations had been held up pending further investigation and revision. *1912 Everglades Hearings*, Number 9, 337-387, Number 10, 409-410, Number 21, 1039-1040; letter of Dr. Arthur E. Morgan, Yellow Springs, Ohio, to the author, March 9, 1946.
- 40 Ralph W. Moss, *Report of the Committee of the House of Representatives on Expenditures in the Department of Agriculture, House Reports*, Number 1207, 62 Congress, 2 Session, (Washington: Government Printing Office, 1912), 2.
- 41 *1912 Everglades Hearings*, Number 12, 560.
- 42 *Ibid.*, Number 10, 409.
- 43 A copy of the circular letter appears in *1912 Everglades Hearings*, Number 5, 215-216. It was later determined that "The same interests which made . . . objection to the circular had been guilty of circulating highly extravagant statements in praise of Everglade lands, and falsely attributing the authorship to Secretary Wilson." *House of Representatives Documents*, Report Number 1207, 62 Congress, 2 Session, 3.
- 44 *House of Representatives Documents*, Report Number 1207, 62 Congress, 2 Session, 3.
- 45 *Ibid.*
- 46 *1912 Everglades Hearings*, Number 19, 929. Fletcher stated that M. L. Bowen, an agent of the Everglades Land Sales Company in Washington, gave him the copy of the letter in question. *Ibid.*, Number 16, 757-758.
- 47 *Ibid.*, Number 13, 597, 624-625; Number 21, 1042-1043.
- 48 *House Resolution 694*, 61 Congress, 2 Session; *Congressional Record*, XLV (May 10, 1910), (Washington: Government Printing Office, 1910), 6317.
- 49 *Ibid.*

- 50 1912 *Everglades Hearings*, Number 13, 625. Will claimed Clark had criticized the Everglades project at the door of the House of Representatives in front of a crowd on February 7, 1910, and had promised to bring the matter up on the floor of the House in a speech. *Ibid.*, Number 16, 748-749.
- 51 *Ibid.*, 627. Wilson was referring to the differences of opinion in the Florida Congressional delegation, especially between Senator Fletcher and Representative Clerk.
- 52 *Ibid.*, Number 21, 1041. The controversy in the Department of Agriculture over the Everglades report reached a climax in February, 1910, when the original author, James O. Wright, accepted the position of chief engineer for the Board of Commissioners of the Everglades Drainage District. *Ibid.*, Number 5, 190, Number 21, 1042.
- 53 *Ibid.*, Number 21, 1041. Wilson later stated that the Wright Report had not been published because "We had not done enough; we had not done what the people of Florida had a right to expect. . . . It was not what it should have been." *Ibid.*
- 54 "Will's Work." Will Collection.
- 55 *Ibid.* See also "Light on a Dark Subject," one of a series of articles by Will, *Ft. Lauderdale Daily News*, April 1, 1931, and John Newhouse manuscripts on the experiences of a pioneer who entered the Everglades in 1914. The Newhouse Collection consists of a number of notebooks, photographs and miscellaneous papers located in the P. K. Yonge Library of Florida History, University of Florida, Gainesville. Hereinafter cited as Newhouse Collection.
- 56 D. G. Fairchild, *The World Was My Garden*, (New York: Charles Scribner's Sons, 1938), 388.
- 57 Newhouse Collection, Book I, 2.
- 58 "Will's Work." Will Collection.
- 59 *Ibid.*
- 60 *Senate Document 89*, 17-18.
- 61 Judson C. Welliver article in the *Washington Times*, October 15, 1911, quoted in full in 1912 *Everglades Hearings*, Number 18, 882.
- 62 1912 *Everglades Hearings*, Number 7, 282. See also Fletcher's defense of Senate Document 89 on the floor of the Senate, *Congressional Record*, XLVIII (February 15, 1912), 2084-2086.
- 63 *Ft. Lauderdale (Florida) Call*, June 12, 1926.
- 64 1912 *Everglades Hearings*, Number 19, 943-956, 958, 964-965, Number 21, 1029. When Will was on the witness stand in March, 1912, before the House Committee investigating the Everglades he was asked if he had had any connection with Senate Document 89. William H. Ellis, representing the Florida Internal Improvement Fund Trusttes at the hearings (later a Justice of the Florida Supreme Court), objected to the question and the objection was sustained. *Ibid.*, Number 16, 760. The Committee did not press Will to ascertain where he procured the page proof of the suppressed Wright report and Will's memory failed him as to the name of the man in the government printing office who supplied the material. *Ibid.*, Number 13, 634-635.
- 65 *Ibid.*, Number 1, 10, Number 5, 221, Number 18, 841.
- 66 *Ibid.*, Number 7, 261.
- 67 *Ibid.*, 300. Fletcher rebutted the evidence by stating that the document was not prepared "at the instance of any one board of trade or individual. . . . I thought the public interest would be subserved by a collection, compilation, and publication of public records. . . ." *Ibid.*, Number 8, 334-335.
- 68 *Ibid.*, Number 7, 299.
- 69 *Ibid.*, Number 16, 766.
- 70 *Congressional Record*, XLVIII (February 1, 1912), 1615. "The promoters and the boomers have thus been furnished with a fresh supply of information, which they can use at will for the purpose of misleading investors." H. P. Willis, "Wilson's Record," *loc. cit.*, 16.

- 71 *Ibid.*, (February 15, 1912), 2084. The resolution authorizing the printing of the first edition had received the consent of the Senate on August 7. *Ibid.*, XLVII, (August 7, 1911), 3669.
- 72 V. W. Helm to T. E. Will, August 16, 1911. Will Collection.
- 73 *Ibid.*
- 74 V. W. Helm to T. E. Will, August 22, 1911. Will Collection. In the same letter Helm agreed to reduce the subscription price of the company's *Everglades Magazine* to 50c for members of Will's Everglades Homebuilder's Association.
- 75 V. W. Helm to T. E. Will, August 26, 1911, Will Collection. Helm added: "Before making the big shipment to us, please advise if it is possible for us to furnish individual addresses for all our salesman so that the bulletin can be mailed out under Senator's Franking Privilege direct from Washington." *Ibid.*
- 76 V. W. Helm to T. E. Will, December 11, 1911. Will Collection.
- 77 T. E. Will to V. W. Helm, December 15, 1911. Will Collection.
- 78 1912 *Everglades Hearings*, Number 7, 298.
- 79 Isidor Cohen, *Historical Sketches and Sidelights of Miami, Florida*, (Miami: privately printed, 1925), 170.
- 80 Joe Reese, "Agricultural Possibilities in the Everglades," *Florida Grower* (Tampa), XXXIII (April 10, 1926), 2-3.
- 81 R. E. Rose, *The Swamp and Overflowed Lands of Florida: The Disston Drainage Company and the Disston Purchase*, (Tallahassee, T. I. Appleyard, 1916), 129.
- 82 J. C. Gifford, *op. cit.*, 99.
- 83 *Harper's Weekly*, LIV (November 12, 1910), 6.
- 84 George T. Odell, "Paradise on the Installment Plan," *Technical World*, XVII (September, 1912), 21.
- 85 Statement of Will, 1912 *Everglades Hearings*, Number 13, 596-597.
- 86 V. W. Helm to T. E. Will, December 16, 1911. Will Collection.
- 87 *Ibid.* Will stated on February 29, 1912, that beginning with the new year he had been engaged in literary work, part of which was devoted to Everglades publicity. 1912 *Everglades Hearings*, Number 13, 596.
- 88 T. E. Will, "The Everglades of Florida," *Review of Reviews*, XLVI (October, 1912), 451-456.
- 89 *Washington Times*, October 8, 1911, quoted in 1912 *Everglades Hearings*, Number 18, 880, 903. *Washington Times*, December 8, 1911, quoted in *Ibid.*, Number 19, 953.
- 90 *House Documents*, Report Number 1207, 62 Congress, 2 Session, 1.
- 91 *Ibid.*, 3. See also H. P. Willis, "Wilson's Record," *loc. cit.*, 16. For a full discussion of the back ground of the hearings, see J. E. Dovell, "A History of the Everglades of Florida," (Unpublished doctoral dissertation, University of North Carolina, Chapel Hill, 1947), 269-317.
- 92 J. H. Reese, "Agricultural Opportunities in the Everglades," *loc. cit.*, 4.
- 93 Fritzie P. Manuel, "Land Development in the Everglades," *Hearings Before the Select Committee Investigating National Defense Migration*, House of Representatives, 77 Congress, 2 Session, 12868.
- 94 "Light on a Dark Subject," *Ft. Lauderdale Daily News*, April 1, 1931. One commentator wrote that Congressman Clark had shattered at least 40,000 dreams of paradise on the installment plan and "made it plain to 40,000 people that all their savings had been thrown away." G. T. Odell, "Paradise on the Installment Plan," *loc. cit.*, 16.
- 95 *I. I. F. Minutes*, IX, 395; *Jacksonville* (Florida) *Evening Metropolis*, April 22, 1912.
- 96 "Will's Work." Will Collection.
- 97 Newhouse Collection, Book I, 3.
- 98 *Ibid.*, 16, 18. The assembly resolved to ask the State of Florida to establish an agricultural experiment station on the muck soils of the Everglades. *Ibid.*, 11.
- 99 *Ibid.*, 10.

- 100 *Ibid.*, 10-11.
- 101 F. P. Manuel, "Land Development in the Everglades," *loc. cit.*, 12884.
- 102 Memorandum in Will Collection.
- 103 "Light on a Dark Subject," *Ft. Lauderdale Daily News*, April 1, 1931.
- 104 *Ibid.*; *I. I. F. Minutes*, X, 36-37. Will stated: "I had paid in full for ten Bryant and Greenwood contracts: 120 acres to occupy and cultivate. Much Glades land was sold on the scatteration plan; each for himself. This defied settlement and success." "Light on a Dark Subject."
- 105 Newhouse Collection, Book I, 11-12. The Will townsite was plotted in Section 35 of Township 44 South, Range 36 East.
- 106 Memorandum in Will Collection. Samuel R. Copper, formerly of South Bay, was another of the original five settlers. *Miami Herald*, March 16, 1937.
- 107 Newhouse Collection, Book I, 9. During the fall of 1913 the Everglades were drier than ever observed before, probably as a result of the combination of dry weather and the canal excavations. The muck soils were dry from six to eight miles back on each side of the canals near Lake Okeechobee with the water table up to three feet below the surface of the soil. "Minutes of the Board of Commissioners of the Everglades Drainage District," I, 232-233. Typed and bound manuscript located in the office of the secretary of the board, Miami, Florida. Hereinafter cited as "E. D. D. Minutes."
- 108 John Newhouse to J. E. Dovell, May 21, 1948. See also the manuscript recollections in the Newhouse Collection. According to Newhouse, the "joker" of the sales contract could be found on the reverse side of the instrument where the contract stated "that in case of failure to pay the installments, the company has the right to cancel the contract upon 30 days notice and keep the land, and the money paid on it." Newhouse to Dovell, May 18, 1947. A "Purchaser's Receipt" of the Okeechobee Fruit Lands Company, issued for five acres in Sec. 36, Tnp. 44, S. R. 36 E. in Palm Beach County is in the Newhouse Collection and substantiates the above statement.
- 109 L. E. Will to J. E. Dovell, April 29, 1948.
- 110 Newhouse Collection, Book I, 25, 27, 43.
- 111 *Ibid.*, 25.
- 112 *Ibid.*, 43; *Tropical Sun* (Lake Worth), May 18, 1916. The machine was too heavy for the soft earth although it did succeed in breaking up a considerable amount of land.
- 113 Memoranda in Will Collection.
- 114 *Miami Herald*, March 16, 1937.
- 115 Newhouse Collection, Book I, 30-31.
- 116 John Newhouse to J. L. Dovell, May 21, 1948; Gertrude M. Winne, "Early Days on Lake Okeechobee," *Everglades News*, March 7, 1930.
- 117 See Will Collection for correspondence and other memoranda on teacher appointments, elections, hiring of school boat pilots and so forth.
- 118 *Ibid.* See also Newhouse Collection, Book II, 45-49 and John Newhouse letter of May 18, 1947.
- 119 *Ft. Lauderdale Sentinel*, January 15, 1915. Bolles stated that he paid an annual tax bill of \$100,000 in Palm Beach County alone. On the subject of roads see also *Palm Beach Post*, October 23, 1915; *Miami Metropolis*, November 31, 1915; and *Ft. Lauderdale Tropical Sun*, January 1, 1916.
- 120 L. E. Will to J. E. Dovell, April 29, 1948. See also Will and Newhouse Collections.
- 121 Newhouse Collection, Book II, 45-46.
- 122 *Ibid.*, 49.
- 123 *I. I. F. Minutes*, XII, 163-164. One of the troubles of the pioneers "was that localities along the east coast were not adverse to using the Glades territory as a milk cow. . . . In early 1915 Palm Beach County decided to improve the Dixie Highway, an \$800,000 bond issue was voted on the whole county." But special road district No. 6 consisted of Everglades lands on both sides of the Okeelanta road and the city of West Palm Beach only. "Other towns along the east coast stayed out." Newhouse letter of May 21, 1948. "At the same time that the establishing of an Everglades road district and bond issue was voted—and approved—in August, 1916, an east coast inlet district was voted, and laid out somewhat on top of the road district." *Ibid.*
- 124 Newhouse Collection, Books I, 28-29; IV, 154-155.

- 125 Newhouse letter of May 21, 1948.
- 126 Memorandum in Will Collection. The pamphlets of this period include: An appeal Purchasers of Florida Everglades Land to their Fellow Purchasers, Everglades Owners of Idle Lands, Listen! Eureka! We Have Found the Saw Grass Crop—Dasheens, A Home and Independence, Okeelanta Poultry Farms, The Sugar Famine: Help End It, Insure Your Living, and To the Lost Tribes of Israel—the Buyers of Scattered Everglades Land.
- 127 T. E. Will, "Light on a Dark Subject," *Ft. Lauderdale Daily News*, April 1, 1931.
- 128 Edward Howe, "Looking About in the Everglades," *Country Gentleman*, XXXIV (August 23, 1919), 10-11. Howe had reached Okeelanta as a member of a weekly excursion from Miami, conducted by H. H. Hart, now of Belle Glade, Florida. The trip was made at a cost of \$9.50 for three days, which included "bed and board."
- 129 Lawrence E. Will letter of April 29, 1948. Dr. Will wrote in 1927 that he was driven from the Everglades by the high water, but that he continued to fight for water control and roads to be followed by settlement and development. "Confessions of a Conservationist." Will Collection.
- 130 *Everglades News*, May 1, 1925; July 16, 30, 1926. Newhouse Collection, Book 4, 166 *et passim*.
- 131 Lawrence E. Will letter of April 29, 1948.
- 132 Advertisements and memoranda. Will Collection.
- 133 Correspondence between Will and Gifford Pinchot, Governor of Pennsylvania in 1925, relating to conservation and between Will and Senator D. U. Fletcher, in 1922-1923, relating to flood control are but two examples of the interests he followed. The folders include "South Florida, Land of Destiny" and "Settle or Sell: A Statement, Appeal, and Opportunity for Old Everglades Buyers." Will Collection.
- 134 O. A. Kay, "Conditions at Fellsmere, Dave and Okeelanta," 7. Manuscript in the Arthur E. Morgan Collection of Everglades materials, P. K. Yonge Library of Florida History, University of Florida, Gainesville.
- 135 T. E. Will to Addison F. South. Will Collection. A grass fire had consumed a house belonging to Will at Okeelanta. *Everglades News*, February 26, 1926.
- 136 Printed announcement in Will Collection; see also *Miami Herald*, July 6, 1928.
- 137 "The Okeechobee Question;" E. H. Andrae, "Plan For Flood Control in the Everglades." See also T. E. Will to Governor David Sholtz, July 12, 1934. Will Collection.
- 138 T. E. Will to Doyle E. Carlton, May 17, 1929. Will Collection.
- 139 E. H. Taylor, "Florida's Question Marks," *Country Gentleman*, XC (October, 1927), 20.
- 140 Edward Howe, "Looking About in the Everglades," *loc. cit.*, 11.
- 141 *Hearings before the Committee on Flood Control in Florida and Elsewhere*, House of Representatives, 70 Congress, 1 Session, (Washington: Government Printing Office, 1929), 145-146.
- 142 *Ibid.*
- 143 "Anniversary Report." Dozens of published and unpublished manuscripts are found in the Will Collection. Titles include: "Killing Everglades Settlement," "The Paramount Issues of the Florida Everglades," "Federal Aid for the Everglades," and "Fred H. Davis Exposed the Glades Foes." See also letters to Will from Congresswoman Ruth Bryan Owen of September 15, 21, 1931; Will to Senator Fletcher, January 10, 1929; and Will to Captain S. E. Lawrence, U. S. Army Engineers, December 8, 1930. Will Collection.
- 144 In 1929 and 1931 Will visited Tallahassee and in 1931 and 1932 he spent several months in Washington. "Will's Work." Will Collection.
- 145 "E. D. D. Minutes," August 11, 1931. On his visits to the state and national capitals Will received support from such organizations as the Fort Lauderdale Chamber of Commerce and the Port Everglades Authority. ". . . the funds furnished him by the sponsoring organizations would have been sufficient to enable the usual lobbyist to have remained only a few days. He had no funds of his own, save the small dues he collected from friends and interested persons in the South Florida Development League." L. E. Will letter of April 29, 1948. On one trip to Washington he remained for three months on a little more than \$200, part of the time subsisting on 46c per day. *Ibid.*
- 146 G. P. Allison to T. E. Will, February 23, 1932. T. E. Will to G. P. Allison, February 25, 1932. Will Collection.

- 147 "Will's Work," Will Collection.
- 148 John Newhouse letter of May 21, 1948.
- 149 "E. D. D. Minutes," V, 34.
- 150 Vance W. Helm to Miami Chamber of Commerce, March 11, 1927. Morgan Collection.
See also *Miami News*, June 10, 1928.
- 151 *I. I. F. Minutes*, XVIII, 111.
- 152 "Will's Work." Will Collection.
- 153 L. E. Will to J. E. Dovell, April 29, 1948. Dr. Will was 72 years old when the 60 mile trip was made through the dense weeds and sawgrass of the Everglades.
- 154 "Will's Work." Will Collection.
- 155 *Everglades News*, July 27, 1934. It was finally agreed that the lake to coast roads desired by Miami and Ft. Lauderdale should be combined, with a road to Miami continuing from the Lauderdale road at a point west of the Broward County city.
- 156 *Ibid.*, July 3, 1935. See also *Miami Herald*, July 2, 1935. The first construction on the road was in 1935, a strip of about two miles from Okeelanta south.
- 157 *Ibid.*, September 27, 1935; *I. I. F. Minutes*, XXI, 16-19.
- 158 *Everglades News*, February 12, 1937.
- 159 *Miami Herald*, March 16, 1937.
- 160 T. E. Will to W. L. Alexander, September 24, 1936. Will Collection.
- 161 *Palm Beach Post*, April 12, 1941.
- 162 House Concurrent Resolution Number 17, *Laws of Florida*, 1937.

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The Lower East Coast, 1870-1890

By W. T. CASH

The lower east coast of Florida, as discussed in this paper, in 1870 included the counties of Brevard, Dade and Monroe, including all of Lake Okeechobee. As all students of Florida know, there are more than twice that many counties in this area now but the additional ones have been created by various Florida legislatures in 1887 and since.

The total area of this section in 1870 was 14,130 square miles of which Brevard had 3,940, Dade 4,424 and Monroe, 5,766¹ The population of the three counties by the Federal census of 1870 was 6,958, including Monroe, 5,657; Brevard 1,216; and Dade 85. These figures evidently did not include such Indians as lived in the area.

The total assessed valuation of the property in the three counties was \$1,916,713, of which Monroe's was \$1,651,728; Brevard's \$240,000; and Dade's \$14,935.²

The United States census of 1870 reported Brevard as producing 38,650 bushels of corn, 38,700 of sweet potatoes, 4,000 of peas and beans, 6,450 pounds of rice and one hogshead of sugar; Monroe, 685 bushels of corn but no other crop; and Dade, no agricultural productions. The same census gave Brevard 69,390 head of cattle, 4,550 of hogs and 340 horses and mules. Monroe was given 14,706 head of cattle, but no other livestock; and from Dade nothing was reported.

Monroe County, the only one listed in the census of manufacturers, reported 29 manufacturing establishments with an invested capital of \$273,050. These paid their 300 hands \$215,700 and their total product was valued at \$612,050. Cigars were the principal product, but prior to the Civil War much salt was made. The salt-making industry was revived in 1871, but was put out of business by a hurricane in 1876, after which there was no attempt to revive it.

The lower east coast in 1870 presented a sorry educational picture. There were no schools in Brevard County and 305 of its 357 children of legal school age could neither read nor write. Three of Dade's 13 children of legal age attended school—doubtless outside the county—but only one could read or write. Of Monroe's 1,025 children of school age only 459 attended school and there were 802 who could neither read nor write.³

At this time both Brevard and Dade were without churches, though the citizens may have occasionally heard traveling preachers. Monroe had one

Baptist church with a seating capacity of 150; one Episcopal, seating 400; one Roman Catholic, seating 300; and three Methodist, seating 1,000. Valuation placed upon all church property was \$38,500.⁴

At the beginning of 1870 Key West had one newspaper—the *Dispatch*, founded by W. C. Maloney, Jr., in 1867. During 1870 Mr. R. E. Neeld founded the *Guardian*, a very short-lived paper.⁵

Why did this section, now so well known throughout the English-speaking world, and to quite an extent in other areas, go unnoticed so long? As a matter of fact a few persons, who might be regarded as visionaries today, had dreamed of its possibilities and a few had attempted to put foundations under the air castles they had built.

Dr. Andrew Turnbull may have been the first one. While his large land grant of 1767 was mainly within the present Volusia County, it did include a small part of what is now Brevard. Some very recent maps still list "Turnbull," a community about nine miles northeast of Titusville, and this neighborhood is doubtless near the southern end of the Turnbull holdings. Had the Turnbull colony not been broken up by disturbances related in most Florida histories, northern Brevard might have been a prosperous section when the United States took possession of Florida in 1821.

Although the writer has no proof to substantiate it, one is led to infer that Captain Pedro Marrot, Spanish surveyor general of East Florida, 1791-1800, had examined if not surveyed what we now know as Merritt's Island some time before the end of the eighteenth century. This island still bore his name when the United States land commissioners in 1823 were examining claims to land in East Florida.⁶ One man who early became interested in Merritt's Island was John H. McIntosh, a Georgian who had a number of run-ins with the Spanish authorities between 1790 and 1821. McIntosh supported his claim before the land commissioners on occupancy about 1804 to 1806. The evidence offered was that two of his slaves lived on the island for two years, but it was brought out that as soon as some white squatters there at the same time left, the blacks got out.⁷

But in 1830, Douglas Dummitt, a true developer, not merely a dreamer, settled on the northern end of the island and planted a 13½ acre orange grove, a few of whose trees were still bearing in 1926. It is asserted by some that the old Indian River oranges were descended from stock obtained from the Dummitt grove.⁸

In 1808 one John Egan of St. Augustine received a grant of 100 acres of land on the north side of the Sweetwater (now the Miami) River. He soon had it surveyed and, moving his family down, cultivated it for a time. In 1821 James Egan, his son, acquired 640 acres adjoining his father's tract, and

the same year Rebecca Eagan, a widow,⁹ took up 640 acres on the south side of the river. About this time Jonathan Lewis and Polly Lewis each acquired 640-acre tracts still farther south. In 1827 Richard Fitzpatrick of South Carolina purchased the Egan and Lewis lands and, it is claimed, raised cotton and sugar cane on them from 1830 to 1837.¹⁰

Years before Richard Fitzpatrick began agricultural operations on his Miami River estate there were persons up Philadelphia way who dreamed of even bigger achievements than the South Carolinian. On June 7, 1821, The East Florida Coffee Land Association, with some ninety stockholders, was organized in Philadelphia, with the stated purpose of growing coffee, cocoa and such tropical fruits as were adapted to the climate and soil of lower southern Florida. First, needing to obtain the land the stockholders petitioned Congress to sell them 24,000 acres for \$1.25 per acre. The location of the land asked for was described as "Cape Florida, or Key Largo named Monroe's Presque Isle. This peninsula is connected to the mainland by a narrow isthmus or neck of land; (and) is situated between latitude 24 degrees, 56 minutes and 25 degrees, 12 minutes".

Notwithstanding the glowing hopes held out by the petitioners as to the benefits the United States would get from coffee growing, Congress turned them down.¹¹

The next attempt to secure a grant of land, although it took years of knocking at Congressional doors, was more successful than that of the Coffee Land Association. As early as 1832, Dr. Henry Perrine, a native of New Jersey, but from 1821 to 1827 a resident of Natchez, Mississippi, became interested in securing a grant of land within the limits of the present Dade County to use as a tropical plant introducing station. Dr. Perrine's interest was first aroused as early as 1827, soon after he was appointed United States consul to Campeche in Mexico. Noting many plants in that area that he believed could be grown with benefit to his country within the limits of the present Dade County, he early sought a grant of land where he could prove his faith. Perrine's activities were noted in Tallahassee, where the acting governor, James D. Westcott in his message to the legislative council, meeting January 2, 1832, recommended that a charter be granted to a community composed of Dr. Perrine and his associates, authorizing them to cultivate tropical exotics.

Notwithstanding Perrine's failure at first to influence Congress he began as early as 1833 to send to Indian Key selected specimens of useful tropical plants and by 1838 had a nursery there of not less than 200 different varieties.

The legislative council of 1838 passed an act, approved by the governor February 8, incorporating the Tropical Plant Company of Florida, with Dr. Perrine, James Webb, District Judge at Key West, and Charles Howe, postmaster at Indian Key, as directors. Congress later the same year made a tentative grant of a township of land within Dade County to Dr. Perrine and the above named associates.¹²

Dr. Perrine lost his life during the Indian massacre at Indian Key, August 7, 1840,¹³ and this was the sad end of his tropical plant experiment in Dade County.

"The earliest recorded data about Key West" says Judge Jefferson B. Browne in his "Key West, the Old and the New," "is to be found in a grant of the island of Cayo Hueso on August 26, 1815, by Don Juan Estrada, the then Spanish governor of Florida (East Florida is correct), to Juan Pablo Salas."

Judge Brown further tells us that on January 19, 1822, Salas sold the island to John W. Simonton of Mobile for \$2,000. Later Simonton sold most of his purchase to John Warner, United States consul at Havana, John Mountain, United States commercial agent at Havana, John Whitehead and John W. C. Fleeming.¹⁴

Many persons, probably more from South Carolina than any other state, soon made purchases from the original buyers of Cayo Hueso, or Key West, and by 1829, it had sufficient population to secure legislative incorporation. By 1850 it had become the largest town in Florida.

Between 1870 and 1880 Monroe County's population grew from 5,657 to 10,940, nearly doubling, but in Dade and Brevard the increase was less striking. It is true that the increase in Dade County from 85 persons to 257 was nearly 300 per cent, but this was no great growth, considering its small number to begin with. Brevard's was not greatly above what might have been expected from the natural increase.

What makes this the more surprising is the big expectations some people had. An act of Congress, approved July 2, 1862, provided that an agricultural college should be established in every state, each to receive land scrip sufficient to put its college in operation. To secure a college for Florida under the Federal act, the legislature of 1870 passed an act, approved February 18, that year, establishing the Florida Agricultural College, and another, approved February 19, authorizing the governor to receive from the Federal government the state's share of the land scrip. The college was incorporated two years later, but no location for it was chosen.

A failure of certain Alachua County persons to raise the money promised to get the college located in their county gave William H. Gleason, first lieutenant governor of Florida under the constitution of 1868, his change to advance the value of the large acreage of land he had acquired in Brevard County. In a letter to the trustees, dated April 10, 1875, Gleason offered to give them 2,320 acres of land if they would locate the college in the village of Eau Gallie. The trustees accepted the Gleason offer and on May 18, 1875, employed John Varnum, former state treasurer and now treasurer of the college,¹⁵ "to proceed to Eau Gallie and begin at once the work of clearing and laying out the land necessary for the erection of buildings that will serve for the educational uses of the college . . . , and he is granted plenary authority to use such measures as in his discretion may seem best in the shortest possible time and in the most economical manner will give shelter and accommodation to such scholars and teachers as may resort to the college, and in the exercise of such discretion, it is recommended to him that, if it is not deemed good to begin the erection of the main college, then he erect somewhere upon the college lands wherever it can be most economically done, a substantial temporary building that will suffice for the necessary uses of the college at first . . ."¹⁶

On December 31, 1876, Varnum made a report to Honorable W. W. Hicks, state Superintendent of Public Instruction and ex-officio President of the Board of College Trustees, which stated in part:

"I began work at Eau Gallie in May, 1875, and after infinite discouragement finished the work proposed.

"The college building was completed about December 1st. It is built of cut coquina stone, thirty-five by sixty-five feet, two stories high, and contains ten rooms and a hall. It is made fire proof by stone partitions between all the rooms. The roof is covered with tin. The walls are plastered and the woodwork painted and grained. A dormitory of two rooms, a tool-house and other out-buildings have been provided, and the town lot on which the building stands is surrounded by a picket fence. The building is, in my opinion, well adapted to the use for which it is designed, a temporary college edifice; and it will be of use for other purposes when the permanent buildings shall have been erected.

"An avenue nearly two miles long, and various cross streets about the buildings have been opened and are in good condition for travel. An avenue has also been opened from Indian (probably "river" should have been added) to Lake Washington, a distance of six miles. It passes through the college lands, greatly improving their market value.

"The college is provided with a fine pair of mules, double and single harnesses, a wagon, cart, light and heavy plows, wheel-barrows, a harrow, a great variety of farming and carpenters' tools; a kitchen stove and utensils, beds and bedding, tables, chairs and forms, a set of Fairbanks scales, a handsome sloop-rigged yacht boat and a skiff."

Varnum stated further that "Professor Hill is now at work clearing and fencing the park, which he will plant with vines and fruit trees. It lies upon an eastern slope touching the river, and is covered with stately groves of palmettoes, oaks and pines. College Place is opposite the park and is destined as the site of the permanent college buildings."¹⁷

One would have thought that Gleason's big dream was about to be realized.

Unfortunately for the former Republican lieutenant governor, the Democrats won the election of 1876 and the Democratic Assembly of 1877 took a step to beat Gleason's game if that is the right word for it.

A legislative act approved March 7, 1877, in section 4 read as follows: "It is hereby further enacted, That the said Board of Trustees (a new board had been created by the act) provided for and established by this act *shall have power to remove said agricultural college on Indian River in Brevard county,*¹⁸ to any point that in their judgment will be for the best interest of the State of Florida; Provided, That the point which may be selected for its location shall be easily accessible, and as near the center of the State as possible."

It seems very likely that the legislative act of 1877 authorizing the newly named trustees for the Agricultural College to move it from Eau Gallie put an end to the operation of the institution there. On page 88 of *Florida of Today*, J. Wood Davidson (N. Y., Appleton, 1889), speaking of Eau Gallie mentions "its State Agricultural College building as a monument of reconstruction sham and of Gleason."

In 1876 a company of which E. Hopkins was president, W. H. Churchill, superintendent, and S. J. Fox, treasurer, opened a railroad from Titusville to Salt Lake, connecting with the St. Johns River. Its length was 8.25 miles but no report of its operations was ever made to the publisher of *Poor's Railroad Manual*, from whence this writer has obtained his information. Apparently this road was about 1882 merged with the Atlantic Coast, St. Johns and Indian River Railway and extended to Enterprise on the St. Johns River. By 1886 it had been leased to the Jacksonville, Tampa and Key West Railway, whose principal office was in Jacksonville.

Many travelers visited the three counties herein discussed during the 1870-1880 decade. One of these was Sidney Lanier, the famous Georgia poet, who after visiting Dade County in 1874 wrote:

"There are settlements in Dade County at the mouth of the Miami River, along Biscayne Bay and at Key Biscayne, the latter being the county-site . . . A railway ('the Great Southern') has already been projected to run from Jessup, Georgia (the intersection of the Atlantic and Gulf Railroad with the Macon and Brunswick) to Jacksonville, and thence down the center of the Biscayne Bay and Barnes Sound."¹⁹

F. Trench Townshend, a British captain, who took a hunting trip to Florida in 1874, was not too favorably impressed with the lower east coast, or, in fact, with any other part of the state he visited. Of Key West he said, "The principal occupation of the inhabitants is sponging, turtling and wrecking. The Cubans settled in Key West are largely employed in the manufacture of cigars of which there are about fifteen factories in the island. The leaf, which is grown in Cuba, or supposed to be so, is rolled at these factories into cigars, which are very good, though inferior to the genuine Havana in everything except the price. The other industries of the island consist in ("of" is better) a factory for canning pine-apples, which are grown on some of the keys, and extensive salt works where 3,000 bushels are annually made by solar evaporation."

In later paragraphs Captain Townshend discusses the lazy negroes, the general monotony of the town and the high prices. He evidently was not charmed much by what he saw.

Nor was he impressed by Miami, of which he said in part:

"Throughout Florida, the settlement of Miami, on Biscayne Bay, is represented as a sort of terrestrial paradise, cultivated like the garden of Eden, where fruit of the tropics grows luxuriantly, where magnificent scenery delights the eye, and fever and death are unknown. . . . A great objection to settling in Miami is its location, the only communication with the outside world being by a little mail-cutter which sails twice a month to and from Key West, but a greater objection still, in my opinion, are the winged insects. . . . A great deal is said by Florida land agents about Biscayne being made the terminus of a railway to be constructed from Jacksonville via the town of Enterprise and St. John's River to Miami, and thence along from key to key on tressel work as far as Key West, so as to convey the trade of the West Indies and South America through Florida to the North. Beyond the fact that the track is marked in the maps of Florida, published at Jacksonville, there is no reason to suppose that such a line is ever likely to be built as long as Florida remains in her present bankrupt and impoverished condition."²⁰

Ralph Middleton Munroe, lovingly called "the commodore" by his friends, who first visited Biscayne Bay in 1877—three years after Captain Townshend—fell in love with the beauties of the region round about, making intermittent stays till 1885 when he became a permanent resident.²¹

One of the most interesting characters coming to the Indian River section in the early 70's (he was certainly there by 1874) was Colonel H. T. Titus, who was soon after sufficiently prominent to get his own name applied to the little Sand Point settlement, which has ever since been called "Titusville". Captain Townshend said Titus had made everybody his enemy, but admitted that tourists who stayed at the Titus Hotel claimed it was the only house worthy of the name in the settlement.²²

It is possible that in spite of the hope of getting the state agricultural college for Eau Gallie and the building in 1876 of a railroad from Titusville to the St. Johns River, settling of the Indian River section was long held up by tales of the ferocity of the mosquitoes. A correspondent of the *Rural Carolinian* in 1873, as quoted in Sixth Annual Report of the Commissioner of Lands and Immigration, paid his respects to those tales saying:

"The many fabulous stories, which have been told of the insects of the Indian River Country are mainly the results of the wonderful growth which such hearsay tales are wont to make in the fertile minds of imaginative narrators as they pass from lip to lip. I was so dismayed by these exaggerations as I first passed up the St. John River, on my way to the Indian River, that had I not been ashamed to turn back, I should probably have never seen what I consider the most beautiful, fertile and healthy country of which I have any knowledge. I remained there during the winter of 1868 and the summer following, clearing and planting in a hammock. Some orange trees which I then planted have ripe fruit on them now. I have revisited the country since and am now about to make it my home, satisfied that the insects will not seriously interfere with the comfort of myself or family. . . . It is being demonstrated that not only the wild beast, the Indian and the pioneer can stand the insects, but the delicate women and children are happy and contented in their new homes, and hopeful in prospect of the golden harvest of the future."

The *Carolinian* writer did not deny that mosquitoes existed along the Indian River but said they "are smaller and more frail and clumsy than those found in Georgia. The gallinippers and blind mosquitoes of the St. Johns River are never found here."²³

The counties of Brevard and Monroe played their parts in the political life of the times. Judge Jefferson B. Browne told the writer that it was owing to the activities of Jephtha V. Harris of Monroe County that the first primary

election of Florida was held. This was in 1876 and prior to that time, according to Judge Browne, a clique or group of political leaders, in Monroe County, "the best people," got together in election years and nominated the most suitable candidates for representatives and state senator (the only state and county officials they were allowed to vote for except constables).²⁴

Dr. Harris²⁵ wanted to represent Monroe County and as he knew the old crowd of "best people" didn't want him, kept agitating the matter of leaving nominations to all the people so much that a primary was the final outcome. Dr. Harris won both nominations and election, though many were opposed to him. This Dr. Harris was a Mississippian recently moved to Florida, first settling in Dade County, where he acquired an interest in the old Fort Dallas properties.²⁶

The Board of State Canvassers of the election of 1876, two of whom were Republicans, subtracted 401 votes from what the returns showed the Democratic candidates for presidential electors received in Monroe County, charging that their majority of 57 had been won by fraud and violence.²⁷ Apparently the votes of Broward and Dade, together amounting to only 173,²⁸ went uncontested.

After the 1878 Congressional election in the Second District, Brevard County, notwithstanding its small vote, got plenty of notice. It is apparent to the writer that there was nothing less than an attempt to "doctor" the returns in behalf of the Democratic candidate—none other than Noble A. Hull, then serving as lieutenant-governor of Florida, to which position he had been elected in 1876 when George F. Drew was chosen governor. The State Canvassing Board gave the election to Hull by a majority of 13 votes,²⁹ but Brevard's vote was not counted.

Presumably Brevard's vote was left out because the election had been conducted without any attention to law, John M. Lee, clerk of the circuit court of the county, admitted under oath the county commissioners failed to provide any registration books, he himself did not provide them and if either of his deputies prepared any he did not know it. He also said if any such books were furnished election managers it was unknown to him, and that the election managers furnished the ballot boxes themselves. It may be stated here that when Lee gave this testimony he was an inmate of the Federal penitentiary in Albany, N. Y., to which he had been sent for participating in election frauds,³⁰ but the State Canvassing Board doubtless already had the information.

The most interesting person connected with the Brevard election frauds was E. S. Gaulden, a bright young man, whom Florida historians have so far neglected. Born in South Georgia about 1854 or 1855 and receiving a

better than average education at the Bradwell Institute near Savannah, Gaulden apparently moved to Orange County not long after his schooling was completed to seek out such opportunities as might present themselves.

Because of his superior knowledge Gaulden was soon employed as a teacher. But being an ardent Democrat and not too squeamish as to means used to promote his party's success he was soon given political offices in Orange County, where he claimed citizenship, and in neighboring Brevard. His first was special registration clerk of Orange and following this he served as deputy tax assessor, deputy tax collector, deputy sheriff and deputy clerk of the circuit court in Brevard.³¹

Gaulden admitted under oath during the United States court investigation of the 1878 election that he had been an ardent worker for Hull in the campaign and that Hull had promised him a good office and \$1,000.00 for his services. Gaulden also testified that Hull had told him the Republicans were going to perpetrate frauds in some of the counties in order to have a majority on the face of the returns and for the Democrats to win they must fight fraud with fraud. Gaulden further stated that Hull asked him if he (Gaulden) thought Brevard County could be so managed as to give a sufficient Democratic majority to offset any majority the Republicans might get outside, and that he replied with money the county canvassing board could be controlled.

Gaulden swore that he had seen a letter Hull sent Nat Poyntz of Orlando three days after the election which read:

"I inclose a telegram from John A. McRae, dated November 7, 7 P. M., which says Bisbee's majority is 940; Orange, Volusia, Brevard, and Dade to hear from and since Orange and Volusia only give me 738 (I think), it leaves me a few over 200 to come from Brevard and Dade. Do you think those 202 could be had? Would it do any good for you to go to Brevard? I would give anything if this could be accomplished. Expenses of the trip are no consideration to me. Think of it.

Your friend,

N. A. HULL."

"I am very much mortified at the conduct of Orange and Volusia. If they had only done their duty I would have been all O. K."

We get from all this court investigation that Gaulden was sent to Brevard with one Major J. H. Allen, who carried money to pay for raising its vote and by this means succeeded in having it changed from 118 to 310. In this vote alteration, J. M. Lee, clerk of the court, would take no part, but he did give his deputy, E. S. Gaulden, the key to his office and let him make

out a "corrected" set of returns. Following this Gaulden and Major Allen took the new returns to Orlando from which they were sent to Tallahassee.

Gaulden testified that soon after Bisbee gave Hull notice that he would contest the election, he received an unsigned letter from Hull stating, "You are going to be summoned before the United States court as a witness against the Brevard canvassing board; you must keep out of the way; they will not be able to prove anything; I will remember my promise." A second letter was in substance, Gaulden swore, "I want you by all means to keep out of the way; if you have money don't call on me, but if you have not I will honor your draft for \$250."³²

In spite of the fact that he had received only a small part of the money he had been promised, Gaulden seems to have done his best to keep hidden and U. S. Marshal Albertus Vogt, who finally arrested him, swore that although he received the necessary warrant on January 21, 1879, it took him till February 28 to find Gaulden.

If Gaulden told the truth in the United States court trial he followed the safest course for himself in hiding out. "I did not find out," he swore, "until I was arrested that they (some Orange County Democrats who wanted to clear Hull) were seeking to take time by the forelock, by trumping up some charges made before a justice of the peace, in Orange County, on which they had issued warrants for my arrest, in order that they might hold me until the sitting of the court in Brevard, and the impression forced itself upon me that they would sacrifice me to save Governor Hull."

After the United States court-session in which Gaulden gave so much damaging testimony against Hull's campaign methods and the Brevard County Canvassing Board we lose sight of him for a while. It seems, however, that he went back to Orange County and there somebody shot him, the wound so affecting him that he ever afterward was drawn over as from a rheumatic attack.

We next find Mr. Gaulden living in the Old Town neighborhood of Lafayette County. In his new home he soon became so popular that he was elected tax assessor, a position he seems to have held at least six years.³³ In the late 1890's Gaulden is said to have operated a Suwannee River steamboat line and gave the general impression that he was something of a capitalist. Early in the twentieth century he left Lafayette County for parts unknown and when he returned about 1915 he said he had been living in Mexico.³⁴ The post-office of Eugene, a few miles south of Cross City on the Atlantic Coast Line Railroad, was established after Gaulden's return and he received the double honor of being made postmaster and having the office given his first name "Eugene".

In 1921 after the creation of Dixie County, Gaulden was appointed tax assessor by Governor Cary A. Hardee and held this office until his death a few years later when his wife was appointed to succeed him.

An aged and truthful citizen of Alachua County, who knew Gaulden from the time he moved to Lafayette County, told the writer he doubted if Gaulden ever had the money he pretended to have and this citizen thought Gaulden operated "on a shoestring," trying to impress people with his capability. He further stated that he was by no means certain that Gaulden ever went to Mexico.³⁵

Key West, which then as now contained most of the population of Monroe County, made great strides during the 1880-1890 decade, and at the latter date was the largest city of Florida with a population of 18,080 against 17,201 for Jacksonville. In 1887 over 4,300 square miles of the mainland portion of Monroe was cut off to form Lee County. Had this not occurred the population of Monroe County in 1890 would have been 20,200, an increase of almost 85 per cent for the decade. The two industries most responsible for Monroe's growth were cigar manufacturing and the taking of sponges.

There were some labor troubles about 1886, which caused V. Martinez Ybor, a leading cigar manufacturer of the island city, to look elsewhere for a location and led to his purchasing land on which to locate his factories just outside the city limits of Tampa. This was the beginning of Ybor City and the first step toward making Tampa rather than Key West Florida's leading cigar city. However Key West was still ahead for years to come.

In 1885 a franchise to operate a street car line in Key West was granted by the Florida legislature to Eduardo H. Gato and others, but this was merely a mule-car affair. The line was not electrified until 1900.

In 1880 Charles T. Merrill started a banking business, but this did not last long. In 1884 George Lewis of Tallahassee and George W. Allen of Key West founded the Bank of Key West. It was still in operation at the end of the decade, but failed in 1891.

In 1889 John Jay Philbrick established an electric light plant, which superseded the old gas plant.³⁶

According to the state census of 1885 Dade County had a population of only 333, but settlers were even then coming in, most of them, locating around Lake Worth. A Florida State Gazeteer issued in 1887 gave Lake Worth a population of 400 and listed 42 pineapple growers. The business of the town was quite limited, however, as it reported only one store, two hotels and a machine shop. Miami with an estimated population of 150 reported two stores, a steam starch factory and seven run by horse power. Unimproved

land around Miami sold for \$1.25 per acre, but at Lake Worth it was reported as selling at from \$100 to \$200 per acre.

But Miami was going down. At an election held February 19, 1889, the county seat was removed from there to Juno at the extreme north end of Lake Worth, over sixty miles away, where it remained for ten years. It was moved back to Miami, as a result of the East Coast Railroad's extension to Biscayne Bay.

Brevard County grew rapidly between 1880, considerably more than doubling its population. Many citizens moved in, induced to come there not only by the fine climate, but by the opportunities the section offered for growing pineapples and oranges, thought to be unequalled. It also grew in fame as a stockraising region and in 1886 was said to have more cattle on its ranges than any other county in Florida, however something like one third of its area was taken away in 1887 when Osceola County was created.³⁷

Many persons from the northern part of Florida and from various states of the union were visiting the Indian River country, often becoming so enraptured with it as to move there. The writer remembers reading with interest about 1889, a letter to our local paper from a Madison County Primitive Baptist preacher, who gave a delightful account of the section and visits with friends of his in south Florida who had already gone down there.³⁸

The *Titusville Star*, established in 1880 by Ellis B. Wager, has continued its existence to this day³⁹ and has been one of the chief promoters of the development of Brevard County. A second Brevard County newspaper, the *Cocoa Public Spirit* was founded in 1888 by R. N. Andrews.

Three years before the present Lee County was cut off from Monroe a Mr. A. L. Cleveland began the publication of the *Fort Myers Press*. Many years later it was combined with the *Fort Myers Tropical News* as the *Fort Myers News-Press*.

Newspapers published at Key West during the 1880-90 period were the *Key of the Gulf* started by H. A. Crane who continued to publish it until ill health forced him to quit in 1887, the *Democrat* founded by William Curry, Asa Taft and others in 1880 and combined in 1888 with the *Equator-El-Ecuador*, the two taking the name of *Equator-Democrat*, which had its beginning in 1887, and the *New Era* founded about 1888 by George Eugene Bryson. It was seldom that any of these papers remained in the hands of their founders long. Some of the editors during these years were among the very ablest in Florida.

This section during the 1880-1890 decade was beginning to furnish leaders in several lines. In politics were emerging such young men as Jefferson

B. Browne of Key West, and J. Wood Davidson of Lake Worth; in literature, Kirk Monroe and J. Wood Davidson, both of Dade County;⁴⁰ in horticulture, T. E. Richards of Brevard; in industry F. A. Hendry and William B. Curry of Monroe. By 1890 this area had an influence in the state far out of proportion to its population.

It was quite an honor to the section to have Dr. Joseph Yates Porter, of Key West, made the first state health officer, after the state board of health was created by a legislative Act of 1889.

This section could show great improvement in educational conditions between 1870 and 1890. Instead of having 462 children in school at the first date, there were 2,222 reported in public schools for the year ending December 31, 1890. At this time Key West had some of the best public schools in Florida. Among these were the Sears School operated in a three-story building erected in 1874, Russell Hall, opened in 1887 and the Douglas Negro School, which had its beginning in 1870.

Key West also had in 1890 two convent schools and St. Joseph's College, a Catholic institution established for white boys in 1881. The attendance at these private schools would add considerably to the public school enrollment given in the preceding paragraph.

A booster for the lower East Coast section in 1890 could truthfully say, "We make more cigars than all the rest of Florida; we grow more pineapples than the remainder of the United States. Our climate is discussed over the English-speaking world. In Kirk Monroe we have the best-known writer of Florida. In Joseph Y. Porter, we have perhaps the best authority on yellow fever in the country. Henry M. Flagler, the oil magnate, has already got his hand on the railroad to Titusville and will soon build it farther down our way. Our population has increased over 400 per cent in twenty years' time, and we have only just begun to grow. Just watch us!"

NOTES

- 1 See page 14 of state census report of 1905. This does not include Lake Okeechobee, all of which was in Dade.
- 2 The figures for Brevard and Dade are from 1871 tax rolls, as those for 1870 have apparently disappeared. It is not believed that one year made any great change.
- 3 These educational statistics are from the U. S. Census of 1870 and probably refer to the previous year.
- 4 From U. S. Census statistics of 1870.
- 5 Page 145 of "Key West, the Old and the New," by Judge Jefferson B. Browne, 1913.
- 6 While Merritt's Island doubtless originally took its name from the Spanish surveyor-general, Pedro Marrot, it could have been named for the Mr. Merritt whom John Lee Williams in his *Territory of Florida* (New York, 1837) says once cultivated a part of

- it. See page 42, next to final paragraph. See also American State Papers, Public Lands, vol. III, pp. 633-647.
- 7 See American State Papers, Public Lands, pp. 633-647.
 - 8 See Florida Horticultural Society Proceedings for 1926, pp. 234-235.
 - 9 She may have been the widow of James Egan.
 - 10 See special edition of Florida Times-Union and Citizen, December, 1897. There are reasons for believing there are errors in the Times-Union and Citizen article. See pp. 27-29, Senator F. M. Hudson's article, "The Beginnings of Dade County," in Tequesta for July, 1943.
 - 11 House Executive Document 114, 17th Congress, 2nd session.
 - 12 The information above given is from the following sources: (a) Journal of the Fla. legislative council, 1832; Dictionary of American Biography, v. 14, pp. 480-481, Fla. Hist. Quarterly, v. 5, pp. 38-39, and article in vol. 1, no. 8, of Tequesta, pp. 9-10.
 - 13 Pages 18-38, v. 5, of Fla. Historical Quarterly.
 - 14 p. 7, Chapter 1, "Key West, the Old and the New," 1913.
 - 15 Varnum had by this time acquired considerable acreage in Brevard County. See tax roll for 1871.
 - 16 P. 116, appendix to Senate Journal, legislature of 1877.
 - 17 Pp. 105-106, appendix to Senate Journal of 1879.
 - 18 Italics mine.
 - 19 Page 155, Florida, Its Scenery, Climate and History, Philadelphia, 1875.
 - 20 Extracts from chapters XII and XVIII, "Wild Life in Florida," by F. Trench Townshend, London, 1875.
 - 21 Munroe's adventures in Florida are related in "The Commodore's Story," by Ralph Middleton Munroe and Vincent Gilpin, N.P. 1930.
 - 22 Pp. 279-280, Wild Life in Florida, by F. Trench Townshend, London, 1875.
 - 23 Page 186 of the 6th annual report of the Commissioner of Lands and Immigration. Tallahassee, 1874.
 - 24 See article V., Constitution of 1868, which gave the governor the right to appoint all state and county officials, except constables and members of the legislature.
 - 25 See page 85, part 1 of Miscellaneous Documents, House of Representatives, 44th Congress, 2nd session. Dr. Harris testified at a Congressional investigation of the 1876 election in Florida that he was an allopathic physician.
 - 26 I believe this statement correct. See paragraph 2, page 238, Wild Life in Florida, by Trench Townshend, London, 1875.
 - 27 Page 722, Civil War and Reconstruction in Florida, by W. W. Davis, N. Y., 1913.
 - 28 See page 79 of Miscellaneous Document 35, part 3, U. S. House of Representatives, 44th Congress, 2nd session.
 - 29 Florida Mirror, issue of Dec. 28, 1878.
 - 30 Information about Gaulden's activities in Orange and Brevard Counties is found in pages 188-208 House Document No. 26, 46th Congress, 1st Session.
 - 31 *Ibid.*
 - 32 See Bisbee vs. Hull, pp. 198-208, Miscellaneous House Doc. 26, 46th Cong., 1st Sess.
 - 33 It may have been ten. The Secretary of State's report shows him as holding the place for at least six. Prior to 1893-94, the Secretary of State did not report county officials.
 - 34 All these are not guaranteed, but, in general, they are based on statements the writer has heard from persons who knew Gaulden.
 - 35 Recollections of a conversation in 1935 and memory may have played me a trick.
 - 36 Paragraphs about Key West are based on statements in Chapter xvii, Key West, the Old and the New, by J. B. Browne, 1913.
 - 37 Osceola County was created from territory taken from both Orange and Brevard.
 - 38 As I read article about 59 years ago and have no copy of it now I can only speak of it from memory.
 - 39 Many years later it was combined with Advocate, a paper established in 1890 by C. H. Watts.
 - 40 Davidson, just mentioned as a political leader, had already written two or more books before moving from South Carolina to Florida.

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MIAMI: A Study in Urban Geography

By MILLICENT TODD BINGHAM

This type study of the location and growth of a city as influenced by its location is a spectacular example in urban geography. Written in French in 1931, it was prepared for a volume of researches by the students of Professor Raoul Blanchard of the University of Grenoble to celebrate the twenty-fifth anniversary of his founding of the Institute of Alpine Geography. It was published in full by that institution. In abbreviated form the paper was presented, with slides, before the International Congress of Geography in Paris, September, 1931.† To the European audience it was a startling thought that a small settlement could have grown into a metropolis in the brief space of thirty-five years. The study is here made available in English for the first time.*

Last February when I was in southern Florida, I had just returned one morning from a very early trip out into the Everglades to see the birds—clouds of herons, ducks, and ibises—darkening the sky with their flight, filling the air with the rustle of their myriad wings. We had followed the road fifty miles or more straight across the swamp without a turn, without the sight of a single house or a single human face. Yet here I was once more back in the midst of a city—a great noisy modern city, its silhouette of incongruous sky-scrapers rising through the tropical haze above the bay.

Miami, this city beside the Everglades, has grown up like the cities of the fairy tales, almost over night. Twenty years ago it was a sleepy little tropical town, with gentle Southerners in hammocks of rattan dozing at noonday beneath the palms. And now, during the winter season it is a bustling metropolis of over 200,000 inhabitants. It has been groomed until all the old landmarks have been swept away. The ibises and roseate spoonbills that used to wade in the quiet lagoons know it no more, and the wildcats that prowled out of the Everglades at night to prey upon the chicken

* Millicent Todd Bingham, "La Floride du sud-est et la ville de Miami," *Mélanges géographiques offerts par ses élèves à Raoul Blanchard, à l'occasion du vingt-cinquième anniversaire de l'Institut de Géographie Alpine de Grenoble*, 1932. Pp. 89-133.

† M. T. Bingham, "Miami," *Comptes rendus du Congrès International de Géographie*, Vol. III, 1934. Pp. 423-431.

yards now follow their trails through the tall sedges to the rookeries of herons within the swamp, but not beyond. Only a short time ago this was a pioneer belt, where brawny men in wide-brimmed hats rode on horseback into the wilderness along narrow trails and alligators lounged in stagnant pools in antediluvian languor.

Miami, the incarnation of the restless American spirit, juxtaposed against a wilderness, undisturbed, drenched in the quiet of prehistoric calm. What could explain this startling contrast? Why did this city grow here rather than elsewhere? What do the people who live here do?

While I was meditating, the postman handed me an invitation to contribute to this volume. The present paper exists by virtue of this coincidence. My meditation changed with amazing rapidity to questioning whether, among the reasons for the growth of this modern city on the edge of a remote uninhabited area, might not be found problems which could be explained by a geographer? The locality is comparatively unknown, and unique, with unique resources. It is the only tropical, humid part of the United States of America, the only area of growing coral reefs, and it is all less than twenty feet above sea-level. A curious region to include in a volume of studies published by the *Institut de Géographie Alpine!* However, the very novelty of its problems, I thought, might be of interest to students of mountain geography.

And so I began to see what I could discover. I present herewith the result—an outline of a study of Miami and its hinterland, a study complicated by the fact, I may say, that no surveys of Southern Florida as a whole have been made, and no detailed maps of it exist.¹

INTRODUCTION

The Florida peninsula is a finger of land stretching more than 400 miles in a southerly direction from the southeast corner, so to speak, of the United States of America. Its average width is 120 miles. On the east it is bounded by the Atlantic Ocean, on the west by the Gulf of Mexico. Its southern tip is farther south than any other part of the country, and is swept by the tepid waters of the Gulf Stream as it is forced through the narrow Straits of Florida between Key West and Cuba. On the north, the peninsula is continuous with the coastal plain of southern Georgia and the east-west extension of the state of Florida along the Gulf Coast, but assumes, the farther south one goes, a totally different character.

The southern half of the peninsula is largely covered by the Everglades, a vast swamp about 40 miles wide and 150 miles long, from the head of Lake Okeechobee to the Bay of Florida—a region of more than 3,000,000

acres, level as the surface of the ocean on a quiet day, stretching off to the misty horizon. But Southern Florida includes something more: the southeastern shore with the long stretch of fringing islands or keys habitable for white men.

Except for the keys, the area of our study is roughly co-terminous with Dade County, its focal point the city of Miami, located on the east coast near the tip of the peninsula, on Biscayne Bay.

After summarizing the structure and relief of southeastern Florida and briefly discussing the climate, I shall describe the natural regions of the mainland, differentiated one from another by soil and vegetation, the keys and shoreline features being treated separately. The denizens of the wilderness, birds, animals and wandering Seminole Indians, will be contrasted with the city of Miami, creature of its environment and a spectacular example for students of urban geography. Its history and evolution are so brief that its *éléments de fixation* still characterize the city today, though a brand-new factor hitherto unknown, which is a function of geographical location, may be about to start a new era of growth and of prosperity.

PART I

SOUTHEASTERN FLORIDA

A. STRUCTURE AND RELIEF

From the point of view of structure and relief it would be hard to imagine a region more uniform and simple than southeastern Florida. The strata are almost horizontal. The elevation above sea-level is so slight and the surface so flat that no altitude exceeds 20 feet. The uniformity is further accentuated by the fact that the rock is all limestone, though of varying formations, and though in great part overlaid by surface marl, muck or sand. There is nothing older than Pleistocene, and fossils revealed by excavations are identical with forms now living in the sea. In places the land forms are so fresh, so unmodified by wind and rain, that they look as if they had but yesterday been raised from the sea-bottom. An uplift of twenty feet would add hundreds of square miles to our area, while a depression of a like amount would obliterate all traces of it. Why such delicate adjustments?

I. STRUCTURE

Peninsular Florida cannot be considered apart from its under-sea extension. The name "Floridian Plateau" is applied to the great projection of the continent of North America which separates the deep water of the Gulf of Mexico from the deep water of the Atlantic Ocean. The plateau includes

not only the visible peninsula, but a larger area that lies submerged beneath water less than 50 fathoms deep, mostly very much less. (See U. S. Coast and Geodetic Survey relief-model of the Bay of North America reproduced in bibliographical reference No. 6.)

Though the Floridian Plateau has been in existence since very ancient times, it has undergone repeated changes of elevation and consequent changes of form and area. Not to go further back than Pleistocene times, there was an elevation of a few feet early in that epoch, followed by subsidence of a similar amount in middle Pleistocene, when the coral-reefs along the Floridian border of the Gulf Stream (Upper Keys) were built up, and most of the limestone laid down in shallow water. Then came a period of slight elevation in late Pleistocene when the southern tip of Florida assumed its present form.

There are many proofs of this last elevation: an old coastal-reef in the Everglades (Everglades Keys); elevated sand dunes north of Miami, half a mile inland from the present shore-line; sub-aqueous caverns (near Cape Sable) with immense stalactites which must have been formed above the water-table.

That the coast is at present subsiding, however, is abundantly shown, not only by stumps of live oaks and other trees in the localities where they undoubtedly grew and now below high-tide level, but by drowned shoreline topography. That both emergence and subsequent submergence have taken place in Recent times will not be questioned. The only point in doubt is the magnitude of these movements.

During these fluctuations, deposits have accumulated both on land and under the sea: marine formations such as shell marl, sandy limestone, oölitic limestone, coral-reef rock and sand; terrestrial, wind-blown sand, muck, peat, cavity-fillings in limestone, and residual sand and clay.

The contorted mica-schists, quartzites and other rocks that make up the foundation of the plateau have been reached by only one deep well considerably north of our area (29° North), but as has been said, the sedimentary deposits that overlie the basement rocks have suffered very little deformation. They appear to retain very nearly the attitude in which they were originally laid down.

Throughout the Miami area the surface rock is an oölitic limestone (Miami oölite) of Pleistocene origin. It extends from a point forty-three or forty-four miles north of Miami southward and southwestward along the coast almost to Cape Sable. Where it is not exposed at the surface in bare ridges or outcrops, it is covered by loose sand or by peat, muck or fresh-

water marl. Typical Miami oölite is pure soft white limestone which includes occasional layers of calcite and usually more or less sand, particularly toward its northern boundary. It shows cross-bedding, hardens on exposure and makes good road material and building stone. Oölite is distinguishable from other calcareous deposits by its content of small spherules of carbonate of lime which resemble the roe of a fish. Its surface is a nearly level plain that ranges in altitude from less than 15 feet above sea-level on the mainland to less than 15 feet below in the lagoons.

The Lower Keys are composed of oölitic limestone like that of the mainland, the chief difference being that it shows fewer signs of surface roughening. But the Upper Keys are different. The rock of which they are composed (Key Largo limestone, the name taken from the largest key), has a coral-reef facies. This elevated coral-reef appears to have been built up in large part by corals, calcareous algae and other organisms on the edge of the deep water of the Straits of Florida at the same time that Miami oölite was accumulating in shallow water on the submerged part of the Floridian Plateau. It is found nowhere else.

The mention of these two formations is sufficient for our purpose, which is to emphasize the simplicity of structure of the Floridian Plateau.

II. RELIEF

The topography of southeastern Florida reflects the simplicity of structure: a former shallow sea-bottom, recently lifted to its present level. As previously stated, most of the area is a flat plain that slopes imperceptibly southward from an altitude of 18 feet near Lake Okeechobee. (See section on Everglades.) On a floor of shell-marl or limestone, this plain is generally covered by 6 or 8 feet of peaty muck, thicker toward the north. There is but little difference in elevation between the Everglades and the Miami oölite area.

The topography has all the aspects of infancy: defective drainage—defective to such an extent that most of the Everglades is under water from June to October; consequently, no well-defined river systems or stream valleys, the streams being mere drainage lines. In the Miami oölite area, where the limestone reaches the surface, there is subterranean drainage and the soil is dry. Minor topographic forms and surface-features are an integral part of the rock of which they are formed. This oölite is so soft and porous that it is easily eroded. The effects are everywhere visible: potholes, large and small, caverns, sinks and natural wells which communicate with underground solution channels and subterranean springs, sometimes gushing with

clear, sweet water below tide-level, as in Coconut Grove. Nearly everywhere water is near enough to the surface to be brought up by suction pumps, larger supplies obtainable from wells, the water of which contains lime, sulphur or salt, though not sufficient in quantity to make the water undrinkable, except on the keys. But erosion has resulted in a surface so rough and ragged, with such angular shapes and knife-edges, that it is dangerous to walk upon it. In places the honeycombed rock becomes so undermined that it breaks under the foot and a fall may result in an ugly wound.

In an area where topographic contrasts are lacking, vegetation, which reflects the composition of the soil, serves to differentiate natural regions, the more so since it is still largely native, in spite of the fact that "developers" are destroying it as fast as they can, to make way for problematical farms and towns.

Before considering vegetation, however, we must briefly sum up the climatic characteristics of the region.

B. CLIMATE

After all, it is not so much the topography and soil which constitute the difference between southern Florida and the rest of the country, as the climate. At the extreme end of the Atlantic coast temperature-ladder, lying between the warm waters of the Atlantic Ocean and those of the Gulf, in sub-tropical latitudes, the region enjoys an almost tropical climate. The winters are extraordinarily mild and equable, interrupted now and then by moderate cold spells which, on relatively infrequent occasions, are sufficiently severe to bring frost.

The climate of the city of Miami, where there is a station of the U. S. Weather Bureau, may be considered typical of the region as a whole. Records cover the last 34 years with scattering records for the past 50 years. That city has a modified tropical climate. During the summer months it is only slightly, if at all, affected by continental influences; but in winter the areas of high and low pressure which control the weather of the rest of the country, move far enough south to reach our area.*

I. TEMPERATURE

Average seasonal temperatures are as follows: winter, 68°,² spring, 74°, summer, 82°, and autumn, 77°, with a mean annual of 75.1°. The winter mean is about twenty degrees warmer than that of Nice. Freezing tempera-

* At this point in the original text charts were introduced depicting extremes of temperature (1895-1930), and average annual and monthly rainfall, as given in the *Annual Meteorological Summary*, Miami, Florida, 1930.

tures have been recorded on only seven days in a period of thirty-four years, and then only for a few hours, the absolute minimum for the same period being 27° . There is on the average only one day in the year when Miami does not have a temperature of 60° or more. The sea-water at Miami Beach is always 70° or warmer.

Though continuously warm in summer, excessively high temperatures do not occur. The average number of days in the year with temperature of 90° or above at Miami Beach is four, while Boston has nine such. The absolute maximum at Miami in a period of thirty-four years was 96° .

The temperature of the Gulf Stream is 80° in mid-summer and the air above is about the same during both day and night. Diurnal sea-breezes reinforce the prevailing onshore wind during the warmer hours of the day. When the air reaches Miami Beach it is about as warm as when above the Gulf Stream, with a maximum of 86° or 87° at midday. It grows progressively warmer as it proceeds, reaching perhaps 89° above Miami, while a mile or two inland it may reach 96° or 97° , a difference of seven degrees. Mean annual ranges of temperature are less than anywhere else in the country except in Key West. Miami's average daily range is 11.8° and its average yearly range of mean monthly temperatures is 14.4° .

II. INSOLATION

Miami averages only six days a year without sunshine. The cloudy days usually occur in the summer and fall. Because of the low latitude the variation of sun-angle is less than for any other city in the United States. These several conditions combine to provide a large amount of sunshine of quite constant quantity, particularly valuable at the time of year when the rest of the country has very little. An observatory for investigating the qualities of the sun's rays has been established, but as the records began only in November, 1929, it is too early as yet to predict their value, though important discoveries as to therapeutic effects of the sun's rays are confidently expected.

III. WINDS AND RAINFALL

Most of the United States lies in the belt of the storm-bearing prevailing westerly winds, but the southern tip of Florida reaches into the belt of the northeast trades. By reason of latitude, therefore, Miami should enjoy the trade-winds. But though the summer winds have the constancy of the trades, they are persistently from the southeast and east, not northeast. This is because a branch of the trades is under the control of the Atlantic high-pressure area, as a result of which they shift to southeasterlies. These prevailing winds blow in summer across the warm Gulf Stream and consequently be-

come a source of plentiful water-vapor-supply near at hand, which explains the high relative humidity, 75 to 80 per cent throughout the year. Few fogs occur, and those that do, always lift with the rising of the sun. Day-time fog is almost unknown.

The rainfall is of a distinctly tropical type, with a total for the year of about 60 inches. From June to September or October there is a true rainy season, the maximum tending to occur in September-October. Maximum precipitation may be as much as 8 inches in 24 hours, the result of local convectional thunderstorms or tropical hurricanes with their flooding downpours. This is the only district in the United States with over 35 per cent of its annual rainfall in autumn. The average winter rainfall is as follows: December, 1.89 inches; January, 2.9; February, 2.05; March, 2.52. No severe storm has ever been recorded during the winter months. The average wind velocity for the year is 9 miles per hour, the highest recorded wind-velocity, December to April inclusive, being 38 miles per hour. Much higher velocities during the summer and fall are due to West Indian hurricanes, the one adverse element in the climate of southeastern Florida.

Hurricanes are tropical cyclones which occur during the months of June to October inclusive, with 35 per cent in September and 32 per cent in October. During fifty years there has been a total of 316, or an average of 6.3 per annum. (The number varies greatly from year to year, the least number, one, the greatest, sixteen in a single year.) But of all the storms so classified, only a few were of hurricane intensity, by which is meant a central pressure of 29.00 inches or lower, and winds near the center of more than 60 miles an hour. (The highest recorded velocity at Miami was 138 miles on September 16, 1926, after which the anemometer blew away.) Eighty-four of the 316 have been of hurricane intensity along the east coast of the United States, sixteen of which could be classed as "great," both as to intensity and diameter of storm-area.

Great hurricanes deface the landscape to such an extent that even if trees are not uprooted, it takes several weeks or months for them to grow a new set of leaves. These storms cause tides which make it dangerous for persons to remain in houses located on the beach. But they do not seriously damage any properly constructed building, and there is no reason for anyone to be injured in a hurricane if he will remain in a substantial house until the storm is over. Fortunately, no one need be taken unawares as their appearance can be predicted several days in advance.

Though southern Florida is included in the Gulf Province among the climates of the United States, its climate is very different from that of north-

ern Florida, which, in turn, differs from that of the rest of the eastern seaboard. Southern Florida has in general higher temperatures, milder winters, weaker cyclonic control—summer cyclonic control being hardly perceptible—the wind, temperature and weather changes are fewer, less sudden and less emphatic, and rainfall is heavier, with a marked late-summer or early-autumn maximum. In other words, conditions are more settled, except for an occasional hurricane.

Since the climate of Miami is typical of southeastern Florida as a whole, and since its topography is uniform, the natural regions must be differentiated by soil and vegetation, of which the latter is the more convenient measure.

C. VEGETATION AND NATURAL REGIONS OF THE MAINLAND

In the broadest sense there are but two natural regions in southeastern Florida, that in which Miami oölite reaches the surface, and the far larger area of swamp land surrounding it. But it is not so simple as this. For both of these regions have an important characteristic in common, one with more or less uniform traits, yet utterly unlike either matrix in which it is found, namely, islands of vegetation, large and small, different from either pineland or swamp, but superficially resembling one another. These islands are called "hammocks," the latter a word of presumably Indian origin meaning dense tropical vegetation. Their importance from a human point of view is out of all proportion to their area. In addition to the hammocks, salt marshes along the coast, irrespective of soil or hinterland, become mangrove-swamps. If a natural region were defined as an area geographically distinct from those surrounding it, each mangrove-swamp, each hammock, should be entitled to separate consideration, which is manifestly impossible.

So, our method is indicated: after describing the pineland and asking the reader to bear in mind its boundaries and extent as well as those of the swamp area, both of which, though topographically equally flat, are distinct from the point of view of soil—limestone in the pinelands, and peat, muck or marl in the swamps—we shall proceed to describe hammocks and mangrove-swamps irrespective of location, belonging as they do to pineland, Everglades and coast prairie alike. In describing the Biscayne pineland it should not be forgotten, however, that the first thing to strike the eye is the two types of vegetation—plant-associations, to use the ecological term—pine woods and hammock, of which the pine woods occupy by far the larger area.

I. BISCAYNE OR MIAMI PINELAND

This region coinciding with the outcrop of Miami oölite, begins on the coast about forty-five miles north of Miami, where it averages 20 miles in

width. Its eastern edge follows the shore until, in the vicinity of Miami, it turns, and in crescentic form the outcrop extends south and southwest for about fifty-five miles, gradually dwindling to less than two miles in width. West of Homestead it tapers off in a series of rocky "islands" known as "Everglades Keys," surrounded by swamp. The trend indicates that formerly these inland islands were part of the Antilles. Though their average elevation is but a few feet, it is sufficient to enable them to support a flora different from that of the surrounding country.

This essentially flat area has a surface of exposed, honeycombed limestone, the innumerable cavities of which are mostly filled with sand north of Coconut Grove, and with residual clay in the Redlands district near Homestead. It is intersected by numerous transverse glades averaging a few hundred feet in width, to be described in connection with the Everglades, of which, although not identical in all respects, they may nevertheless be considered a part.

The pine woods are composed of *Pinus caribaea*, a long-leaf pine peculiar to the locality. It is handsome when young, with luxuriant masses of long rich-green needles, stately in its prime and picturesque in old age, the gnarled branches spreading flat at the top of the tall trunk. The undergrowth is sawpalmetto, scrub-oak and coontie, with a few annual and perennial herbs. The surface of the soil is almost always dry, as the rain that falls quickly disappears in the porous rock. The woods are so often fire-swept that the soil, sand or rock, is nearly if not quite, devoid of humus. As a result there is no tall growth aside from the pines, which do not require humus as do broad-leafed trees. In fact, it is said that they die when cultivated. If the pines survive fire in their youth, they become immune to it, unless the bark is broken so that the flames can get through to the resinous heart of the tree.

Fire is constantly modifying Florida ecology. As one passes through on the train it seems as if the entire state were burning. The crackle of the flames close at hand blends with the smouldering blue distance. It is incredible to the observer how any vegetation can remain. Yet these fires are not casual. They are part of the policy of the Florida "cracker," as the native is called, who is greedy to make his state attractive to winter visitors, yet thinks the way to do so is to denude it of all plant growth! Nor can he be made to see that to the northern tourist native vegetation is one of the chief attractions. The pine woods in particular are the object of the cracker's attack, and fire is his weapon. But the study of fire in Florida belongs perhaps in the field not so much of geography as in that of psychology.

Two other fire-resistant plants are abundant in the pine woods. The coontie (*Zamia*) of four endemic species, a cycad, has a subterranean stem and is thus protected. It has been so much modified from its original form that the healthier and more robust plants are now found in areas that are periodically fire-swept. Its root is a storage-organ for starch. The other low plant particularly prominent in the landscape is the saw-palmetto (*Serenoa repens*), which, like the coontie, thrives on fire. Tannic acid is stored in the stem. The trunks are typically prostrate. After being exposed to fire, the plants show only blackened trunks resembling large reptilian monsters, with the charred stubs of petioles where the crown once stood. After a short period of rest, however, the bud breaks forth with renewed vigor, develops a fresh crown of leaves and is soon in readiness for the next fire.

What are the uses to which these resources can be put? For lumber, *Pinus caribaea* is inferior to the larger and straighter pines farther north, but for most purposes it is more economical to use it than to pay freight on better material. Though the pines are used extensively for lumber, the turpentine industry has not yet reached as far south as Miami, fortunately. The coontie has been drawn on recklessly for many decades for the manufacture of starch in commercial quantities. Wire-grass (*Aristida*) would furnish good grazing for cattle were it not for the honeycombed surface of the limestone. Less than 5 per cent of the Biscayne pineland has so far been cultivated. Possibly ten per cent of it is occupied by settlements, with their groves of citrus and other tropical fruit-trees. (See Part II, C, II, Role of Present City.)

The Biscayne Pineland is surrounded by swamplands of different types which include Everglades on the west and south, salt meadows and mangrove-swamps along the coast. Scattered over both pineland and swamp are hammocks of various sizes, from a few square miles to a few square yards in area.

II. THE HAMMOCK

As previously stated, hammocks are covered with dense tropical jungle of broad-leafed trees, palms and shrubs characteristic of the Antillean flora, all wreathed in an epiphytal covering of orchids, bromeliads, resurrection ferns, Spanish moss and climbing lianas of giant proportions. The ground is covered with rich, loose black mold. The hammock cannot be correlated with altitude or with subsoil, for beneath the humus resulting from the decaying vegetable matter, may be found sand, clay, marl or rock. Problems as to whether hammocks are increasing or diminishing in number, their relation to fire and how they originated, are of absorbing interest to the botanist.³

Tropical hammocks are most common southwest of Miami. They are usually encircled by live oaks (*Quercus virginiana*). In a typical hammock

most of the trees have crooked trunks, hard heavy wood, and stiff evergreen leaves. They make so dense a shade that few herbs grow on the ground, but a profusion of air-plants cling to limbs and leaning trunks of live oak, and other rough barked trees: massive gumbo limbo (*Bursera*), mastic (*Sideroxylon*), buttonwood (*Conocarpus*), red bay (*Persea*), ironwood (*Eugenia*), satin-leaf (*Chrysophyllum*), pigeon plum (*Coccolobis*), various figs including *Ficus aurea* which strangles its host, papaw, (*Carica papaya*), Spanish bayonet, (*Yucca aloifolia*), palmettoes and an occasional majestic royal palm (*Roystonea*) sometimes as much as one hundred feet tall. Small trees, vines, climbers and creepers, briars, shrubs and air-plants, ferns and tillandsias fill every inch of space. This profusion of vegetable life contrasts with the dry monotony of the pineland. The hammock is a striking and welcome feature of the landscape. Different hammocks, though alike in general appearance, have rare plants peculiar to themselves. Even the beautifully colored tree-snails (*Liguus*) are different in neighboring hammocks, a fact which fires the imagination of the zoologist. Thirteen species of palm are said to grow wild in Dade County, including the non-indigenous coconut palm which is found everywhere, from the saltiest marsh to pineland and hammock. There are in addition over one hundred and fifty other exotic species, now so common as to appear native.

Very little use has as yet been made of hammock trees, for the wood is hard to work. Roads have now been cut through some of the finest hammocks and a few others have been "improved"—shocking misnomer—for valuable building sites.

III. MANGROVE-SWAMPS

Wherever hammocks reach to the water's edge they blend with those strangest of all plant-associations, mangrove-swamps. Dr. David Fairchild, distinguished botanist, having visited the mangrove-swamps of the eastern hemisphere says, "Nowhere have I seen such magnificent mangrove vegetation as that which characterizes the southern Everglades of Florida." It flourishes wherever there is shallow or brackish water not too much exposed to wave-action. The nature of the soil seems to make but little difference. The width of the strip occupied along the shore is extremely narrow since mangroves cannot live on dry land, nor can they thrive if the water is too deep.

In addition to the red mangrove (*Rhizophora*) which forms the bulk of such swamps, are black mangrove (*Avicennia*), white mangrove (*Laguncularia*), buttonwood (*Conocarpus*), sea-grape (*Coccolobis*) and a few other plants. Little use has been made of the wood of these trees, though the red

mangrove has served for tan-bark and the buttonwood is the favorite source of charcoal for the kitchens of Key West. Though mangrove soil is never cultivated, in recent years a good deal of the swamp has been converted into building sites by pumping sand into it, a dismal process which slowly kills the trees.

IV. EVERGLADES

As previously said, most of southern Florida is occupied by the Everglades, a great swamp owing its existence to low altitude, flatness and abundant rainfall. It is hard for one who has not seen it to imagine the endless expanse of sedges, stretches of shallow water, scattered clumps of bushes and small islands (hammocks) which constitute the region. Photographs cannot convey an idea of the distance and remoteness, the aloofness of this virgin wilderness.

This area, south of Lake Okeechobee, five to six thousand square miles in extent, is one in which a difference of two feet in water-table, the normal range between high and low water in the Everglades, makes the difference between shallow lake and dry land. These relationships, moreover, are constantly changing, drastically so with the seasons. Okeechobee, though shown on the map as a lake thirty-five miles across, a body of water apparently second in area to any in the United States, is in reality merely a part of the Everglades in which the water is a little too deep for sedges to grow. Its average depth is under ten feet. Moreover, the borders are impossible to define, particularly on the south where, in seasons of high water, the overflow takes place. The movement of the water, though almost imperceptible, is in general toward the south-southwest, the average elevation of the lake-surface being 18 feet.

At the extreme south, the Everglades merge with mangrove-swamp, where the shoreline is disguised by impenetrable jungle, or with sandy beaches strewn with coconut palms. On the west, the Everglades blend with the Big Cypress Swamp, a vast lonely region of undetermined area. The cypress stands in water, a deciduous tree with an abruptly enlarged base, the buttresses reaching to high-water mark. Its wood, being very durable, is much in demand for poles and shingles. On the east the swamp land reaches to the pineland.

The Seminoles' name for the Everglades is "grassy-water," for the vegetation is mostly saw-grass (*Mariscus jamaicensis*, a variety of *Cladium*). It is, in fact, the largest saw-grass marsh in the world. This plant is a sedge with grasslike, folded leaves seven feet long. They "spring in a great tuft from the root and the slender leaves are armed on their edges with sharp

teeth like those of a rip-saw." There are other reed-like plants, phragmites, foxtails and bulrushes as much as fifteen feet tall, *Sagittaria*, boneset, gama grass, floating-leaved aquatics in the open spaces where water is deepest, water-hemp, pickerel weed (*Pontederia*), water-hyacinth, water-lettuce (*Pistia*), water-lilies and many other species derived from Middle America. All these plants by their partial decay under water have formed the peat or muck deposits which are gradually building up the soil. If it were not for this accumulation, most of the area would be a shallow lake.

But the character of the Everglades is by no means uniform. In addition to small areas of cypress there are myriads of hammocks, standing out on the plains of saw-grass like oases on a green Sahara, with their wealth of low trees covered with air-plants. Dr. Fairchild says, "In no other tropical region of the world have I seen anything like these hammocks. The nearest approach to them I encountered on the so-called Winneba Plains of the African Gold Coast."

The greater part of the Everglades is covered with peat or muck before mentioned, in layers ranging in thickness from a feather-edge to several feet, which has to be drained before it can be cultivated. This they have been trying to do for twenty-five years, but though many canals have been cut, not more than two per cent of the area was under cultivation in 1927 and since then it has doubtless diminished. The most marked effect of the preliminary work is that along the banks of the canals and on all slightly elevated spots trees and shrubs are springing up, so that where formerly the eye swept over an unbroken, monotonous expanse of saw-grass, there are now patches of incipient forest. When drained the soil is rich in nitrogen and in nearly every other necessary constituent except potash, which must be artificially added at great expense. The supply of peat is practically unlimited, and it could be used for fuel or fertilizer-filler were it not for the cost of labor. But in southern Florida little fuel is needed and there is an easily obtainable supply of wood. Moreover, in wet seasons it is hard to get rid of the water, and in dry seasons the drained peat sometimes catches fire. If that happens the soil merely goes up in smoke. This is on the whole a discouraging country for the farmer, imperilled as he is by both fire and water.

The soil of the southern end of the Everglades, with the numerous narrow glades intersecting the pineland before mentioned, and the coast prairie is different. It is not muck or peat but a soft gray marl lying beneath the muck toward the northwest, but exposed over more than one hundred square miles at the south. The glades are elongated depressions at most a few feet deep

and from fifty yards to a half mile in width. Inundated in the wet season, they are grass-covered and edged by water-worn pillars of limestone a foot or two in height. Some of them extend through from the Everglades on the west to the salt coast prairie and mangrove-swamps on the east, while others open only into the latter. For our purposes they may be considered part of the Everglades although both soil and vegetation are slightly different.

The salt coast prairie, southeast and east of the Biscayne pineland, reaching from the shores of Biscayne Bay to the Bay of Florida, is another perfectly flat area, nearly all of which is subject to inundation either by high tides or by fresh water during the rainy season. Although continuous with the Everglades it is quite distinct, for they are never touched by salt water. There is very little farming in the coast prairie (about one per cent of the total) except at its inner edge, where vegetables, especially early spring tomatoes, are raised. To the eye, the expanse of sedges in both narrow glades and prairie is indistinguishable from the Everglades with which they blend. All are equally negligible from a utilitarian point of view.

D. KEYS

The structure and climate of the keys have already been touched upon during the course of our study of the mainland. This long fringe of islands curving southwestward along the edge of the Straits of Florida from Bay Biscayne to Key West, includes outlying islands as far west as the Dry Tortugas. They are of all sizes, from Key Largo, 30 miles long by 3 miles wide, to a single struggling mangrove on a submerged bank. All stages of island growth are visible. Shorelines are ephemeral, often being impossible to define, on account both of shallow water and dense vegetation. The keys are famous as a fisherman's paradise.

A glance at the map shows two different types of key, the Upper and the Lower. East of Bahia Honda Channel, the Upper Keys lie along a sweeping arc curving toward the east and gradually more and more toward the north. West of the channel the Lower Keys form a triangular archipelago, its axis perpendicular to the arc, reflecting a difference in rock structure and in the forces which have shaped the islands. As I have said, the Upper Keys are remnants of an old coral reef while the Lower Keys are composed of the same rock as the mainland, of which they are the partly submerged extension.

I. UPPER KEYS

From Soldier Key, eleven miles south of Miami, to Bahia Honda Channel, a distance of about one hundred miles, the Upper Keys are of different lengths, but average less than a mile in width with a maximum of three

miles, the long axis distributed along the curve determined by the direction of the Gulf Stream. The rock surface looks new and fresh, its major inequalities not the result of sub-aerial decay. The highest elevation is 18 feet above sea-level on Key Largo. All are of Key Largo limestone, an uplifted, unchanged fossil coral much in demand for building material because of its beauty. After exposure this rock is harder than oölite.

The vegetation is sparse tropical hammock: buttonwood, ironwood and madeira, with mangroves below the level of high tide. The forests which were luxuriant before the building of the Florida East Coast Railroad (1908-1909) have been nearly exterminated and the soil along with them. As it is impossible to use either plough or hoe, citrus-groves, principally limes, are grown in holes blasted out of the rock. On account of scarcity of soil and water the population is sparse, but the Upper Keys shared nevertheless in the boom of 1925-1926 when much land was sold at fancy prices.

II. LOWER KEYS

The Lower Keys extending from Bahia Honda Channel for about 40 miles to Key West are not part of the coral-reef, but are composed of oölitic limestone. Although irregular in shape, the long axis of each key is nearly north and south, as previously stated, while that of the adjacent Upper Keys is east and west. The rock, Key West oölite, though of the same age as Miami oölite, is more solid, less sandy, and with a smoother surface. The highest elevation in the Lower Keys is 13 feet. Wells yield water too salt to drink, so the city of Key West depends on rain, or on water hauled by rail from Homestead more than one hundred and twenty miles away. Though the vegetation is more diversified than that of the Upper Keys, with some forests of pine, they were probably never as tall and dense as those on the mainland, as this is not only the driest part of Florida, it is also subject to severe hurricanes every few years. Many varieties of fish and sponges marketed at Key West are the chief resources of the region. It used to be the center of the sponge industry, now shifted to the west coast.

The water-areas enclosed behind the keys are, from the north to south, Biscayne Bay, Card Sound, Barnes Sound and south of about 25°, the great horn-shaped Florida Bay, the water in which is so shallow, seldom as much as 10 feet deep, that the bottom can everywhere be seen. What are some of the characteristics of this coast, this ill-defined meeting place of land and sea?

E. SHORELINE FEATURES

On the ocean side of southern Florida there is shoal water for a mile or so, but as the distance increases, the water deepens up to the point where a barrier reef is forming, 4 to 7 miles off shore. The seaward face of this reef

lies along an arc roughly concentric with the outer edge of the old coral-reef, or present Upper Keys. Seaward from the barrier reef, the bottom falls away and the hundred-fathom line is within 4 to 10 miles of the line of outer coral patches. This, however, should not be mistaken for an abrupt descent to abyssal depths. A glance at the relief model of the Bay of North America already referred to, shows that the sudden deepening indicates the channel of the Gulf Stream across the continental shelf, a furrow gouged out as that great river flows north from the Straits of Florida. The eastern boundary of the Floridian Plateau is, in fact, more than one hundred miles to the east. The Gulf Stream is nearer the coast here than ever again throughout its course, being but three miles distant opposite Bay Biscayne. The proximity of this mass of warm water helps to make the climate of Miami unique.

Sandy beaches follow the outer shore. On the keys they are composed not of grains of quartz, but of limestone, shell fragments and powdered coral. Such calcareous sand, once packed, does not blow. From Key Biscayne north, on the other hand, where beaches are composed of silicious sand, the great seas accompanying hurricanes pile it up into dunes. Contrary to what might be expected, however, there are no active dunes higher than 5 or 6 feet. But beginning a few miles north of Miami, dunes run parallel to the shoreline about half a mile inland. Though aeolian in origin, they are not growing at present, but are quiescent. Instead of burying forests in their advance, they are themselves covered with large pine trees, where not denuded by man.

Shoreline topography shows such adolescent forms as cusped forelands, bay bars and long beaches with gentle curves. As dominant currents move toward the south between the Gulf Stream and the coast, sand bars lengthen toward the south. The water thus surrounded becomes a lagoon, which in turn gradually fills with silt until transformed into marsh or mangrove-swamp, a network of channels and islands, nearly impenetrable.

On beaches and low dunes there is a rather sparse vegetation, resembling that of northern sea-beaches except for having more woody plants, and except for the coconut palm, now common everywhere though not native. Most species are tropical, having overflowed from adjacent hammocks or mangrove-swamps. The more noticeable shore plants are sea-grape (*Coccolobis*) and Spanish bayonet (*Yucca*). Beautiful vines with shining leaves, *Ipomoea* in particular, grow to immense lengths, trailing across the sand.

F. ANIMALS

There are still about forty species of land mammals in swamp and pine-land. Unlike plants, however, their relationships are with the north instead

of with the tropics: opossum, wild cat, panther, now nearly extinct, otter, raccoon, and the small Florida white-tailed deer. The manatee or sea-cow, one of the strangest beasts alive, can still be found in remote swampy districts. The trapping of fur-bearing animals, principally raccoon and otter, is still an important industry in such districts.

The Everglades teem with bird-life, water-birds in particular. The greed of man has led to the shooting of these beautiful creatures in their rookeries until several species including the most beautiful of all—great white heron and roseate spoonbill*—are nearly, if not quite exterminated. But myriads belonging to other species still remain.

Mammals and birds, however, are not the only creatures of interest, for reptiles and amphibia include crocodiles, alligators, lizards, snakes, turtles, frogs, toads and salamanders of rare species. Skins and tortoise-shell constitute the basis of a small industry.

The variety of salt-water fish is almost endless. There are 83 species of commercial importance, in addition to those noted for their grotesque or beautiful appearance which are shipped to aquaria in the north. One of the chief attractions to the winter visitor is fishing in the Gulf Stream, especially for tarpon and sail-fish.

There are literally thousands of species of insects. Mosquitoes are most abundant on the keys, Cape Sable and Ten Thousand Islands, and least so in the Everglades and on the pineland. Though *Anopheles* has been reported from a few places malaria has never been prevalent.

Crustaceans include the salt-water crawfish (*Palinurus*), an article of commerce, and the fresh-water crawfish (*Cambarus*) of the Everglades. Another delicacy is the stone-crab (*Menippe mercenaria*) which sometimes weighs as much as a pound. The land-crab (*Gecarcinus*), on the other hand, is not only inedible, it is a pest which ravages plants and gardens.

Mollusks are more abundant in southern Florida than in any equal area in the United States. Shells are everywhere, on the ground and beneath its surface, on the beach, in the water, even on the trees. Clam digging is an important industry. Nor was it different in previous ages, so archaeologists tell us. The Stone Age of America was almost the Shell Age in this region, for prehistoric Indians had hoes and axes of shell, shell cups and ornaments, as well as war-clubs made of shell.

* These birds, thanks to the efforts of the National Audubon Society, are now (1948) increasing in numbers.

G. INDIANS

I. PREHISTORIC INDIANS

When Ponce de Leon and his companions reached Florida in 1512-1513 they found the peninsula peopled by sedentary Indians. These were divided into tribes of which the most powerful were the Caloosas. The Tequestas occupied the southeastern shore. These Indians had grouped villages along both coasts, around the inland lakes and beside the streams. A man named Fontaneda, who lived as a captive among them a little later, reports that they were cruel, naked savages, living on mollusks, fish, game, roots, wild fruit, acorns of the live oak and vegetables raised in small patches. The men were fighters, equipped with bows, arrows, knives and spears. They traded in fish, skins and ambergris and went about in canoes. Living predominantly on low, insect-plagued coasts and keys liable to inundation, they built extensive shell-heaps that would serve as dry platforms on which to live.

French Huguenots attempted to settle on the east coast (1562-65), but their villages were destroyed by the Spanish and their Indian allies. During the eighteenth century invasions by the English from the Carolinas and their savage Indian allies, Creek, Catawba, Seminole and others, were attended by great destruction and bloodshed. The native Indians, who were loyal to the Spaniards, rapidly dwindled with the decline of Spanish power until, on the transfer of the territory to the United States in 1821, only a handful remained. After seeking refuge on the keys they finally disappeared, not a living trace of them having been seen since 1821. The only material proof that they ever existed is in their mounds and shell-heaps. These are not simple kitchen-middens, but structures built with a purpose from all available shell.

Matthew W. Stirling, of the Bureau of American Ethnology, has recently (May, 1931) returned from several months of archaeological exploration in Florida. On the edge of the Everglades, near Lake Okeechobee, he found great earthworks, elaborately laid out, covering an area a mile square. The most prominent feature is a flat-topped rectangle of earth, 30 feet high and 250 feet long. He says, "The whole plan is laid out with remarkable precision. The parallel lines are straight as a string, and the semi-circles are so perfect that we can imagine some Indian walking around a fixed point with a string held taut, to mark the outline." Excavations on this important site will be made next season.

The peopling of Florida was a relatively late event in the peopling of the continent, which may have been due to several causes: its meagre fitness

for agriculture, plagues of mosquitoes and other insects, and chiefly to the fact of under- rather than over-population on the adjacent mainland. The prehistoric population never reached numerical, cultural or political importance. The same can be said of their successors, the Seminoles.

II. SEMINOLES

These Indians of the Everglades seem to be a part of the environment, a product of it, inseparable from it. Of Muskogee stock, related to Choctaws, Chickasaws and Creeks of the Mississippi Valley, they migrated eastward before the discovery of America by Columbus, settling north and west of the Florida peninsula. Gradually reduced by war and disease, in 1740 their warriors numbered only about 1500. Hrdlicka says they united with Negroes in the English and Spanish colonies, a blend which formed the nucleus of the nation called *ishti semoli* (wild men), corrupted to Seminole. They subsequently possessed the whole peninsula. Driven by persecution from one place to another, however, they have finally reached the most undesirable part, the Everglades, where their adaptation to life in the great swamp, with the name of which they are indissolubly associated, is a spectacular instance of geographical adjustment.

Ever since their first settlement in Florida late in the eighteenth century, the Seminoles have been engaged in strife with the whites. The so-called Seminole Wars (1817 and 1836-1843), their last stand against superior arms and numbers, resulted in complete defeat for the Indians. The remnant of the once fierce tribe, now mild and docile, roams about in the wildest regions of the swamp. In 1930 there were, according to Lucien Spencer, Seminole Agent, but 578 left.

The Seminoles live in a primitive state, a few families together in widely scattered camps on hammocks in the swamp. The dwellings are the merest shelters, a platform of small logs seven or eight feet square built on posts a foot or two above the ground. A low roof of palmetto-thatch shelters the platform which is open to wind and weather on all sides. They live mostly by hunting and trapping. It is estimated that for their furs they receive a total annual income of perhaps \$25,000, most of which is spent on bad whisky. The illegal sale of venison further augments the income. In the fall of 1930, for the first time, they shipped their furs direct to Sears, Roebuck and Company. But their life as hunters is doomed, for the Seminole is now being beaten at his own game. In a dugout canoe, with a torch and by great prowess, he can kill eleven alligators in one night, while the white man in a gasoline launch, with a powerful reflector, can kill over a hundred in the same length of time.

The Indian sometimes has a garden patch, never more than an acre in extent, on which he raises, with axe and hoe, corn, sweet potatoes, squash, melons and a small, sweet pumpkin. Though hogs are still bred to some extent he has been obliged to give up cattle, because the lawless class of white men who roam the swamps kill them as if they had no owners. Such men have been known to shoot a hog, cut off a ham and leave the rest for the buzzards. Fortunately the food supplied by nature is still abundant: meat, coontie flour, berries, saw-palmetto buds, cocoplums, sea-grapes, prickly pears, sour oranges—all of which are to be had for the picking. The Indians weave no rugs and fashion no pottery, but the women make dolls, bead-work and trinkets which they sell to tourists.

Driven by force into this dreary morass, the Seminole has made himself gay in appearance as a parrot. The women wear skirts which trail on the ground, made of horizontal strips of the most brilliant colors, and a short cape bordered with a highly-colored fringe. Countless strings of glass beads are wound about the neck and over the shoulders, the set sometimes weighing twenty-five pounds. The men wear a shirt of the same bright colors reaching to the knees and belted around the waist. The majority go bare as to head, legs and feet. They are quiet and dignified in manner, their chief vice being fondness for liquor. They prefer not to work for the white man though they occasionally do so, at a very low wage. They are seldom seen in the city, except the few who live in camps to exhibit themselves to tourists and to sell Indian souvenirs. They prefer to live freely in the wilderness and thus far have asked only to be let alone.

In 1880 Clay MacCauley was sent by the U. S. Bureau of Ethnology to report upon the condition of the Seminoles. He found them keeping up their customs and traditions independently of the world beyond the Everglades. With the settlement of southern Florida, however, the building of roads and railroads and partial drainage of the Everglades—though this last is less important—the question of rights of the Seminoles has again come up, ostensibly wards of the government as they are. Just as I am about to send off this article, an exhaustive study of every phase of the life of the Seminole in his environment has appeared; an authoritative, contemporaneous account of this remnant of Indian life, destined so soon to be absorbed by the industrial civilization closing in upon it.

All natural forces having thus conspired to produce an area geographically unique in the United States—the only humid, tropical part of the country, situated at the end of a peninsula reaching far into a tropical sea, with a predominantly tropical flora and fauna, much of both peculiar to the

locality—its protection hitherto has been that it has been undiscovered. But now, with its myriads of birds, its strange animals and its isolated little groups of Seminoles, if it is to survive all the plans for its improvement, an enlightened public opinion must intervene. And it is trying to do so. The Federal Government has at present under consideration a project for the reservation of a part of the southern tip of Florida as a National Park before it is too late. If it should become law, this strange beautiful region with its wealth of natural wonders will remain to intrigue the minds and rejoice the hearts of Americans of the future, when the age of the machine shall have passed away.

PART II

THE CITY OF MIAMI

Our study culminates in an extraordinary town—Miami, “The Magic City,” focal point for southeastern Florida. The geographical factors of its location will be briefly summarized before examining the evolution of the city itself.

A. GEOGRAPHICAL FACTORS

These factors are of two kinds, general and local: the general, called the situation; the local, called the site.

I. SITUATION

The Miami region is flat and less than twenty feet above sea-level. The underlying limestone either crops out at the surface, or is covered, as north of the city, by a thin layer of sand, or in places south of it, by marl. The total area of the Miami or Biscayne pineland region, in which the soil is dominated by rock too near the surface and too compact to plough, is perhaps 500 square miles.

The chief asset is the climate, of modified tropical-marine type: average winter minimum of 62°; average summer maximum of 86°; mean annual temperature of 75.1°. Days without sunshine are so rare as to cause comment. The mean annual rainfall is about 60 inches, most of which falls in late summer and early autumn. The prevailing wind is off the ocean and is agreeable except when, in early autumn, it sometimes reaches hurricane intensity.

The native vegetation is slash pine with undergrowth of saw-palmetto, sprinkled with tropical hammocks. About five per cent of the limestone area is under cultivation.

In so low an area water-courses are hardly more than drainage ditches from the Everglades on the west to the bay on the east. Travel by water is

in small boats, except in artificially deepened channels. Transportation is preferably by land, or by air—a topic taken up in a later connection.

The raw materials are mostly those peculiar to a tropical and sub-tropical country. The waters teem with edible fish and crustaceans. Fibre-yielding plants are a source of paper-pulp and other substances; the bark of the mangrove of dyeing and tanning material; the root of the coontie of starch; pines, of timber for lumber-mills and mill-works. Tropical fruits abound. (See Present City, Agriculture.) Mineral resources are largely limestone derivatives, cement and lime. Though oil-production is being curtailed throughout the country as a whole, they are at present drilling near Miami. I visited a well about forty miles west of the city on the Tamiami Trail which had reached a depth of 4565 feet in February, 1931. No oil has as yet been reached but expectation runs high.

The region has industrial possibilities, for, in addition to many raw materials, it has excellent transportation facilities and a labor-supply which could be indefinitely augmented as necessity arises, since it requires little inducement for a working-man from the north to go to Miami to live. Its advantages include elimination of fuel bills and reduced expenses for clothing, as only the lightest materials are worn. At present labor is not plentiful, though more than twenty per cent of the population are Negroes, mostly unskilled laborers. Water-power is lacking, but public utility development during the past few years is one of the marvels of the region. The power-system is supplied by new and modern generating stations. Another source of power as yet but little utilized is the heat of the sun. Now, it is much used for water-heating in private houses; after initial installation of equipment the cost of upkeep is negligible.

Within this area, what were the reasons underlying a choice of the city site?

II. SITE

The sand-bars which parallel the east coast of Florida are separated from the mainland as we have seen by salt-water bays or lagoons, usually too shallow for navigation. Biscayne Bay is one of these, separated from the Atlantic Ocean by Virginia Key, Biscayne Key and the Miami Beach peninsula, joined to the mainland at its northern end. The bay is about 38 miles long and from three to nine miles wide. The city of Miami is located on the west shore of the bay at 25° 48' N. and 80° 12' W., midway between its head and its principal entrance at Cape Florida.

Advantages of the site of Miami exist only by virtue of its relation to bodies of water. But for this relation it might have been located anywhere

else on the oölite shore. The city originated on the north bank of the Miami River where it empties into Biscayne Bay. The name, Miami River, gives a false impression, however, for this so-called "river" is only 4.5 miles long. It rises in the Everglades and flows southeast and east, emptying into the bay opposite the tip of the Miami Beach peninsula. Canals join it at its upper end, thereby prolonging its drainage area. The river proper is entirely within the city-limits. It is about 200 feet wide at the mouth and tidal at its lower end. The normal fresh-water discharge is about 200 cubic feet per second, which, during floods, can approach 1500 cubic feet. The limiting depth in the lower river is seven feet at mean low water in the bay, and about five feet at the junction with the drainage canal 3.7 miles above the mouth. The lower reaches have been improved by dredging and the construction of small docks and yacht piers, now forming part of Miami harbor.

The city has been connected with deep water by a 25-foot channel, 200 feet wide at mean low water, the work of government engineers. The harbor includes the artificial turning-basins as well as channels dredged along the water-front and through shoal water to the ocean. The greatest natural depth averages 6 to 10 feet, with a mean tidal variation of 1.5 feet to 2.2 feet at the entrance, varying a foot or more according to the wind. The terminal facilities, not including the municipal piers, consist of eight wharves with a total frontage of 3500 feet. Two of these have railway connections. The municipal piers, with 25 feet of water, provide berthing space of about 5775 feet, with warehouses and storage yards.

Lines of coastwise vessels are now making Miami their southern terminal, the most important of which are the Clyde Line, Merchants and Miners Transportation Company, Munson Steamship Line and the Baltimore and Carolina Steamship Company.⁴

The land on which Miami is built is geologically so recent that in places it looks as if it had risen from the sea but yesterday. The evolution of the land has taken place during the last chapter of geological history. So, likewise, the development of the city is confined to the very last chapter of human history, contained in its entirety within the memory of a not yet very old man. Though there has been a sprinkling of white settlements in southeastern Florida for one hundred years, as late as 1885 there were but two families living in what is now a metropolis. The founding of Miami has possibilities to attract a writer of romance.

B. CITY GROWTH

Henry M. Flagler was a builder of railroads who began in the 1880's to extend a line south along the Florida coast from St. Augustine, thereby

making a wilderness accessible. The immediate cause of the founding of Miami is a geographical one—devastating frosts in the winter of 1894-95. The citrus crop was the principal source of revenue for Florida. On the 29th of December, 1894, the temperature dropped so low that the fruit, still ungathered, was frozen on the trees. Most of the young groves were killed. And then, just as the survivors had begun to put out new growth, on February 7th, 1895, a still more severe freeze occurred, and most of the trees which had escaped the first, were killed by the second frost. The state was financially ruined. Mr. Flagler was at Palm Beach at the time, the railroad finished to that point. When he heard that in Miami and in the regions to the south of it the orchards had not suffered he is said to have remarked, "If there is a place in Florida where the freeze did not reach, there we will build a city." And so the railroad was straightway extended 50 miles farther south, as far as Miami, and the city founded in 1895.⁵ It was incorporated July 28, 1896, with barely the three hundred registered voters required for incorporation. In thirty-five years it has changed from a sleepy little settlement of 480 inhabitants to a city with a permanent population of 110,637.

For the first fifteen years or so the growth of the city was slow. In 1910 it covered but two square miles. In 1931 it covers 46 square miles, including made land, dredged from the bottom of the lagoon.

The Federal Census gives the growth of permanent population as follows:⁶

YEAR	POPULATION
1896_____	480
1900_____	1,681
1910_____	5,471
1915_____	15,592
1920_____	29,571
1925_____	69,754
1926_____	131,286
1927_____	147,000
1930_____	110,637

The tremendous jump in 1926 was due to the following cause. As population grew, real-estate values increased correspondingly, culminating during the winter of 1925-26 in one of those wild orgies of speculation impossible, perhaps, elsewhere than in the United States where mob-psychology sweeps the country with the rapidity of a spark along a train of gunpowder. A count of the entire population that winter would have shown close to a quarter

of a million people in Greater Miami. Not only was the entire section overrun by real-estate operators from the North, but every small shop-keeper, every local truck-man was caught in the frenzy. They gave up their business to speculate in real-estate. New cities were laid out at an expense of millions of dollars, paved streets built for miles and miles out into the pine barrens—tangible highways for ghost inhabitants. Now, as you explore them, the asphalt street with its sidewalks and elaborate lamp-posts suddenly stops, leaving you in a desert of gaunt pines and palmetto-scrub—a dream of expansion abruptly ended. For the bubble burst.

In that extravaganza of speculation land values soared to fantastic heights. Such a boom reflected in the statistics not only of population, but of commerce and of business as a whole, can with difficulty be imagined by one who has not himself experienced the hysterical excitement. Although it may not be within the province of geography to do so, a thorough study of that phenomenon should certainly be made.

C. THE PRESENT CITY

The period of city evolution has been so short that the reasons for the founding of Miami, its *éléments de fixation*, so-called, are those which still cause it to prosper. One of the factors explanatory of its growth has been so incorporated that it serves to characterize the present city. Climate was the decisive reason for its founding thirty-six years ago, and it remains today the chief asset. The word "Miami" is synonymous with soft breezes of a tepid ocean, dazzling sunshine and tropical verdure.

I. DESCRIPTION

The physical aspect of the city has undergone a miraculous change. During the past ten years frame-shacks have given way to towering structures of brick and cement—modern stores and office buildings, great hotels and apartment-houses—a towering sky-line beside the tropical bay; white roads to concrete thoroughfares; mangrove-swamps to parks, of which there are 37, totaling 173.31 acres in area. Bay Front Park, half a mile in length, skirts the bay, its water-front gay with yachts. It is planted with palms of many species, poinciana, almond, rubber, mango, hibiscus, oleander and poinsettia.⁷ (There are said to be over one hundred and fifty species of exotic plants in the vicinity of Miami, some now so common as to seem indigenous.)

The city area extends two miles west, south and east of its original boundary lines, with outlying towns reaching many miles beyond. To the west is Hialeah, with the Jockey Club, the racetrack, municipal water-supply pumping station, and air-ports. To the south are Coconut Grove, South Miami

and Coral Gables, to reach which the Miami River is crossed on four modern bridges. The over-expansion due to the boom of 1925-26 is chiefly visible in Coral Gables, a residential city planned on a grandiose scale. With a hundred miles or more of paved streets and twice that amount of sidewalks, for instance, it has a present population of 5,697. (U. S. Census, 1930.) To the north are Buena Vista, Lemon City, Little River, Arch Creek, Fulford and Hollywood. The intervening areas are filled with subdivisions in process of development.

East of the city the bay is crossed to the Miami Beach peninsula by three causeways. The first is a solid-fill causeway, paralleling the channel to the ocean already described, and complementary to it. North of it and connected with it by bridges, are several artificial islands with palatial homes. Less than a mile north of this solid causeway is a concrete viaduct spanning several artificial islands between Miami Beach and the mainland. The third causeway is at northeast 79th street, while another still farther north is now building.

With regard to the area of artificial land in Biscayne Bay, a letter dated April 6, 1931, from Ernest Cotton, Director of Public Service in the City of Miami, says that "approximately 6,000 acres have been filled, which area is about equally divided between island fill, *i. e.*, where wholly new land has been made, and low-lying areas that have been raised and made tenantable."

II. ROLE

Cities are usually classified as industrial, commercial, agricultural, administrative, military or intellectual. Does Miami belong in any of these groups?

a. INDUSTRY AND COMMERCE

The number of manufacturing plants in Greater Miami today is 210 (U.S. Census 1930), from the smallest, employing but a few workers, to those with several hundred employees. In order of capital invested these industries are rated as follows: newspapers, \$4,250,000; ice manufacture, \$2,090,000; cement products, \$1,515,000; ice cream manufacture, \$1,275,000. Those involving a capital of less than \$1,000,000 include mill-works, bakeries, bottling-works, sheet metal works, boat building slips, printing establishments, nurseries, canning factories, and chemical manufacture. The list is not impressive and Miami cannot be called an industrial city. How is it with commerce and other business?

Of the total volume of wholesale business, 53.3 per cent, or 89 of the 175 wholesalers, are engaged in the food- and tobacco-products business. Next in

order are petroleum-products, iron and steel, chemicals, lumber and building materials. In retail trade the two leading groups are the automotive, with 469 establishments, doing an annual business of \$16,097,198, or 22 per cent of the total, and food-stores with sales amounting to \$14,957,888, or 21 per cent of the total retail business.

The elements of import by sea are mostly materials for building construction and food for local consumption. For 1929 the list included asphalt, automobiles, beverages, building supplies, canned foods, cement, crushed stone, feed, flour, fruits, grain, lumber, paper, petroleum products, sand, sugar, vegetables and general merchandise. The tonnage for the year was 961,570 short tons, of which 408,845 was local traffic, 403,847 was coastwise commerce, and the remainder, cargoes in transit. Though this was a total increase of over 16 per cent as compared with the preceding year, the tonnage during the boom year, 1925, amounted to 2,401,472 short tons. For export, ships carry out little for either foreign or coastwise trade other than fruits and vegetables. Up to the present time commerce has not bulked large in the city's activity.

If Miami is neither an industrial nor a commercial city, then, can it be classified as agricultural?

b. AGRICULTURE

The estimated area of Dade County, of which Miami is the county seat, is 1,292,160 acres, of which 50,620 are at present in farms mostly on the pineland. There were, in 1930, 1167 farms, mostly of less than 100 acres each. In the county there is every variety of soil, from sandy loam to Everglades muck. These soils combined with the climate will, with proper fertilization, produce almost all useful tropical and sub-tropical plants, as well as every garden vegetable grown in the United States. The climate, moreover, permits from two to four crops annually, making it possible to market them at a time of year when they cannot be produced elsewhere. The tomato industry of the Redlands district, south of Miami, already referred to, is an illustration. Tropical fruits include avocados, pineapples, papayas, mangoes, sapodillas, coconuts, guavas, grape fruit, oranges, limes, and other citrus fruits. Small-scale intensive farming is also being carried on, with approximately 30,000 acres in truck gardens. This sometimes results in the value of property per farm and of crops per acre being inversely proportional to fertility, some of the highest yields being on white sand near the eastern coast. While the number of chickens has doubled during the past ten years, the number of milk cows has almost tripled, 1557 in 1920, 4004 in 1930.

Over sixty dairies are now producing an average of 300,000 gallons of milk per month.

The annual value of agricultural products in Dade County is estimated at \$15,000,000. But the industry is still in its infancy. One of the projects which is geographically sound is to make Miami a center of perfume manufacture comparable to that of the Côte d'Azur. Nothing to realize this project, however, has as yet been done.

Agriculture in Dade County must face many adverse conditions. As it is impossible to use plows in the limestone, when a fruit-tree or any other not native to the pineland is to be planted it is first necessary to blast a hole several feet across, which, when filled with suitable soil, receives the young tree. Clearing the land is a difficult and expensive task—dynamiting, burning and removing the trees, carrying off the blasted rock and destroying the three or four species of palmetto as well as other scrub. When it is done there is an uninviting waste of dry, sandy soil. During the last five years, moreover, three severe windstorms in succession have destroyed a large part of the citrus crop, while disastrous speculation in land has upset the normal development of agriculture as of other undertakings.

No reliable statistics are available, but number of car-load shipments, an index of production, are as follows:

SEASON	NO. OF CAR-LOADS
1925-26	1900
1926-27	4400
1927-28	4275
1928-29	3685
1929-30	3325

Estimates indicate that car-load shipments for the present season, 1930-31, however, have been between six and eight thousand. But agriculture is obviously not a major source of revenue to the city.

If Miami is not an industrial, commercial or agricultural city, neither is it administrative (though it is the county-seat of Dade County, three-quarters of whose population live within the city-limits). And it is certainly neither military nor intellectual in type. How, then, can it be classified?

c. TOURIST TRADE

A function of its greatest asset, climate, the chief *raison d'être* of Miami is the tourist. The number of those who wish to escape the rigors of a northern winter is growing by leaps and bounds. The estimated number of winter visitors to Miami, Miami Beach and Coral Gables, compiled for

1929-30 from a survey of automobile, railroad and steamship travel, gives an idea of what happens during the height of the season.

AVERAGE NUMBER OF VISITORS PER DAY

December.....	18,000
January	35,000
February	52,000
March.....	30,000

Supposedly the population is at least doubled during the winter. To provide accommodations for this constantly increasing throng it has become necessary to build hotels, apartments and houses. Miami is now the fourth city in the United States in hotel accommodations. According to a statement published by the city in October, 1930, there are 140 hotels with number of rooms in excess of 20,000; 1606 apartment structures, number of units, 16,589; number of housing units of all types other than hotels, over 51,000. A capacity tourist crowd means, in one season, a gross revenue to the city of about \$100,000,000.

Thus, the tourist trade is by far the greatest source of revenue, and one which is growing because of Miami's accessibility from the population-centers of the country. The largest conventions have chosen it as their place of meeting. The throng of visitors comes from every state in the union as well as from foreign countries. Each year some of them remain at the end of the season, thus adding to the permanent population. This is truly cosmopolitan, giving Miami the characteristics of a wide-awake northern city, to which its latitude would hardly entitle it.

An orgy of expenditure is taking place at Miami Beach. Twenty years ago it was a mangrove-swamp. Now it is one of the most luxurious beach resorts in America with a developed ocean frontage of seven miles or more. With a permanent population of 6,494, it has a winter population of more than 35,000 and an assessed valuation of \$50,000,000. Palatial residences, 196 apartment houses of from four to fifty units each, 65 hotels ranging from one of 25 rooms to a \$2,000,000 hostelry, 500 store and office buildings with branches of the most expensive New York establishments, casinos and bathing pools, polo fields, golf courses, tennis courts, ocean-front parks—these supply the demands of a pleasure-seeking horde. The outstanding feature of Miami Beach during this past year of business depression is the construction of an elaborate Surf Club on the strand, and a Golf Club on Indian Creek, the 125 acres of land for the golf course of which have been dredged from the bottom of the lagoon. The cost of these shockingly extravagant structures mounts into eight figures.

Abundant sunshine; a dry soil; relatively few stormy days; a soft, balmy air; the beauties of tropical vegetation; every inducement to an outdoor life which natural conditions and the ingenuity of man can devise; luxurious hotels and sea-bathing even in mid-winter—these are sufficient to insure the popularity of Miami as a winter resort (*ville hivernale*). And Miami is today a tourist city most of whose permanent population remains but to supply the needs of the winter visitor. But we have not yet reached the end of the story.

III. TRANSPORTATION FACILITIES

Flagler's Florida East Coast Railroad enabled travelers to reach Miami in the beginning, but once there, cause and effect were reversed. More and more was demanded of transportation facilities, construction of which has been feverishly trying to keep pace with demand. Miami is now served by two main trunk-lines, the East Coast and the Seaboard Air Line. Traction companies operate both tramways and busses to outlying districts. There are now approximately 700 miles of oiled macadam and paved streets which connect with hard-surfaced roads, enabling the automobilist to go from one end of the state to the other. This makes it possible for many to visit Miami who could not otherwise afford to do so, and the city furnishes free camping-space for such tourists. The Dixie Highway runs from Jacksonville to Miami and on to Key West, with the help of two ferries. Within the last two years the first road has been built across the Everglades, connecting Miami with Tampa, on the Gulf Coast. It is called the Tamiami Trail. It has an excellent surface and is skirted by a canal, the remnant of excavation for road-material. Both of these are Federal highways and connect with centers of population farther north.

Yet another factor, and one of central importance, has come to the front during the past three years: I refer to aviation. This new method of transportation insures the prosperity of Miami not only as a city of the future, but, in a peculiar sense, as a geographical city of the future, and for this reason.

As we have seen, the growth of the city hitherto has been due largely to a geographical cause, climate. Future growth will tighten dependence on geography. For not only will the climate continue to draw winter visitors, geographical location will become a greater and greater asset as the system of airways connecting the United States with the countries to the south of it develops. For, except for northern Mexico, Miami is the nearest city in the United States to Latin America.

One of the crucial problems of today is our Latin-American relations. Due to air transportation connections are becoming closer. Trade and travel follow these lines.

Fully to appreciate the significance of aerial transportation for South America, one must realize that it serves a region still largely in the pioneer stage of development. Until the advent of the air-plane the greater part of Latin America depended on the pack-train, the river boat, the coastwise steamer and a few short railway lines. Air-transportation thus enables it to hurdle the most costly stages of transportation development, particularly expensive in mountainous countries where the modern demand for rapid transportation can be satisfied only by aircraft. The air-plane has found in Latin America a realm prepared by nature for its enthusiastic reception. Air-mail service is revolutionizing past methods of conducting Latin-American trade, due to the great saving in time.

The entire area of Central and South America is served by a single, privately-owned company, Pan American Airways, Inc., with headquarters in Miami. The growth of this company during the past three years is spectacular. On October 19, 1927, it obtained the first United States Government foreign air-mail contract. Since then its planes have flown more than 19,000,000 passenger-miles, carried 77,797 passengers and transported more than 4,600,000 pounds of mail, express and baggage. It now has (May, 1931) 18,500 miles under contract and in operation, serving thirty-two countries and colonies, 87 airports, and a fleet consisting of 101 air-liners and 14 sea-going flying boats which carry from twenty to thirty-two passengers. Passenger-traffic, measured in passenger-miles flown, has increased from 5,400,000 in 1929 to 9,100,000 in 1930. Air-mail ton-miles during the year were more than quadrupled over 1929.

The northern terminal of this company is called the Pan American Airways International Airport and is situated in Hialeah. On February 22, 1931, the company began work on construction of a large sea-plane base at Dinner Key, which, during the World War, was the United States Naval Air Corps sea-plane base. It will eventually become the point of entry for Central and South America.

Connecting with the Pan American passenger and mail service from Miami through the West Indies, Canal Zone and Central America to the north, east and west coasts of South America, the Eastern Air Transport, Inc., operates from New York to Miami serving in all 19 cities. It has flown the air-mail for the U. S. Government for the past three years and began its air-passenger

system in August, 1930, with an increase in passengers carried since that date of 500 per cent.

Not only is Miami the indicated point of departure for the south, from the point of view of meteorological conditions it is also well-placed as a port of entry from Europe. Columbus followed the trade-winds and landed in the Antilles. The Graf Zeppelin on its flight from Germany last year took the same favorable course. Future lighter-than-air craft, if following favorable winds from Europe, would conveniently land in Miami, whence they could continue up the coast, thereby avoiding encounters with the prevailing westerlies of the North Atlantic.

The climate still further favors Miami as an air-terminal, for it is the only part of the Atlantic seaboard practically free from fog. It has an average of eight hours' fog for a twelve-month period, less than two fogs a year. This, together with the fact that there is so little manufacture that the atmosphere is free from dust and smoke, makes for good visibility. With a low average wind velocity it seems an ideal aviation center. Hurricanes are not a serious menace since their paths can be predicted several days in advance, and consequently avoided. Thus, though its strategic geographical location is the chief reason for its development as an international airport, climate, the presiding genius of its prosperity from the start, helps to make it so.

The city has a Greater Miami Airport Association which has organized the Aviation Department, an integral part of the city government. It sponsors expansion of all companies operating in the region. Miami Municipal Airport is a field of 120 acres, also located at Hialeah. There are four sea-plane bases on the artificial islands in the bay, one of which is operated by the city.

CONCLUSION

And so, the questions raised at the beginning of this paper, why Miami with its phenomenal growth is located where it is, and what its inhabitants do, have in part been answered. The city is where it is primarily because of its climate which is in turn explained by the location. Few profited by the climate, however, before the era of modern transportation. Miami is the creature of both elements and would not exist without either. Child of climate and child of transportation by land and sea, such it is and such it will remain.

But still another advantage of its location has recently developed, because of which Miami is emerging in a new role: to preside over the destinies of those who travel by air. The city of the future will have a double part to

play—as winter resort and as gateway of air-transportation to the continent of South America. And both of these roles, being sponsored by geography, have presumably come to stay.

N O T E S

- ¹ The following maps have been used:
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 State of Florida. 1:500,000. Partially revised 1925.
 U. S. Coast and Geodetic Survey
 Miami Harbor and Approaches, No. 583. 1:40,000. 1931. Florida Inside Route,
 Jupiter Inlet to Key West, Nos. 3260-3261. 1:80,000. 1929.
 Florida State Geological Survey
 Generalized Soil Map of Florida. 1:1,000,000. 1925. Geological Map of Florida.
 1:1,000,000. 1929.
 Squires, Karl. Miami, Florida.
 Street Map of Greater Miami. 1929.
- ² Temperature measurements in this article are in degrees Fahrenheit.
- ³ This problem, together with most others relating to the flora of southern Florida, have been studied for the past thirty years by Dr. John K. Small, Director of the New York Botanical Garden. The titles of his publications on this subject are more than fifty, largely contained in the *Journal* of the N. Y. Botanical Garden.
- ⁴ The intracoastal waterway, known as the East Coast Canal, extends from Miami to Jacksonville, a distance of 335 miles, between the fringing islands and the coast. It enters Biscayne Bay at its northern end and traverses the bay to the city, its southern terminus. In the artificial sections the width is 50 feet, the depth, now from 3 to 5 feet, will be 8 feet at local mean low water throughout, when the existing Federal project is completed. At present this waterway is used by small commercial boats carrying freight and passengers to and from the towns along its route, and by yachts and other pleasure craft. It enables such boats to ply up and down the coast without risking the dangers of the open ocean.
- ⁵ Flagler did not stop at Miami. After building the Royal Palm Hotel at the mouth of the Miami River—until 1930 when it was torn down the most famous hostelry on the southeastern coast—he pushed on toward the south. From one wind-swept and often wave-swept key to another, across intervening shoals, the road was built, until on January 22, 1912, the first through train arrived at Key West. The once isolated island city was united to the continent. Meanwhile, all along the east coast towns had sprung up, harbors and ports had been improved and the whole territory was started on a career of such sensational development as to be almost incredible to one who has not watched it from the start.
- ⁶ The population of Greater Miami, including Coral Gables, Miami Beach, Hialeah, Miami Shores and other smaller communities, is now about 162,000. It has had an increase of 274.1 per cent since 1920. Of the total population (1930) native whites form 69.8 per cent or 77,243 persons; foreign-born whites, 7.4 per cent or 8,218 persons; and Negro, 22.7 per cent or 25,116, while other races contribute .1 per cent, or 60 inhabitants.
- ⁷ This property was acquired in 1922 and, with a forty-acre fill, now includes 62.5 acres of park as well as wharves and harbor-construction. The 1,014,510 cubic yards of material dredged to make it provided a yacht anchorage half a mile long, 800 feet wide and twelve to twenty feet deep.

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- 3 Brevard, Caroline M. *A History of Florida*. Florida State Historical Society, De-land: 1925.
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- 16 Simpson, Charles T. *In Lower Florida Wilds*. New York: Putnam, 1920.
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Discovery of the Bahama Channel

By ROBERT S. CHAMBERLAIN

Although Juan Ponce de León found the Bahama Channel during his voyage of exploration to Florida in 1513,¹ it was not until 1519 that this passage was revealed as the most advantageous route for the return to Castile from the Spanish Indies for all shipping, finally concentrated in the fabulous yearly treasure fleets with their heavy burden of silver and gold. The revelation of the Bahama Channel as such an important sea-lane was made by a pilot who had served under Ponce de León in his voyage to Florida, Antón de Alaminos, in company with Francisco de Montejo and Alonso Hernández de Puerto Carrero, the two first *alcaldes* of Hernán Cortés' new Villa Rica de la Vera Cruz, which that great conqueror founded on the coast of Mexico as he prepared for his momentous and almost incredible subjugation of the Aztec Empire.

Ponce de León had perhaps sailed into and across the Bahama Channel at or near its northern end on his voyage from the Island of San Juan, or Puerto Rico, to northeastern Florida or beyond, and then had passed it in sailing southward and exploring the coast of the peninsula. Nevertheless, it was not until Alaminos sailed through the Bahama Channel from south to north and on across the wide Ocean Sea, or Atlantic, to Castile that the passage was revealed as the most advantageous route back to Europe. Hitherto the route from the Indies to Castile lay directly east and northeast from the islands of Cuba, Santo Domingo and Puerto Rico, including the "Old Channel", between the north coast of Santo Domingo and the southern Bahamas.

The Bahama Channel became the official route for individual ships and yearly plate fleets which carried the wealth of the Indies to Castile. One squadron of the plate fleet sailed up from the Isthmus of Panama to Havana—la Habana—with the bullion from Peru, and the other sailed over from Vera Cruz with that of New Spain. At Havana the two squadrons united and sailed north through the Bahama Channel, past Bermuda to the Azores and then to San Lucar de Barrameda, at the mouth of the Guadalquivir, and up that river to Seville, which enjoyed the monopoly of the colonial trade.²

When Florida was finally occupied and held by the Spaniards, Saint Augustine, with its fortifications, had the mission of protecting this channel against foreign enemies and of affording refuge for fleets bound for Castile which encountered difficulties, storms and hurricanes in passing the channel.

Thus the Bahama Channel was a vital part of the life line of one of the greatest empires the world has seen, that of Spain during her period of supremacy.

The passage of the Bahama Channel by Alaminos, Montejo and Puerto Carrero on the return to Castile in 1519 was a direct result of the intrepid decision of Cortés to undertake the conquest of Mexico in his own right, casting off the authority of Diego Velázquez, Governor of Cuba, under whose aëgis his expedition had sailed out from Cuba. Velázquez, under whose auspices Yucatan had been discovered by Francisco Hernández de Córdoba in 1517, and by whose authority Mexico, which before long became known as New Spain, was discovered by Juan de Grijalva in 1518, had been granted the governorship of the new lands to the west of Cuba, with the title of *Adelantado*, by the King-Emperor Charles. Consequently, on moving to the conquest of Mexico, Cortés had to push Velázquez to one side and obtain royal recognition and favor for himself as governor if he was to reap the reward of his daring decision. With the great majority of his expedition supporting him, Cortés chose as the representatives who were to present his case before Charles, Francisco de Montejo and Alonso Hernández de Puerto Carrero, both noblemen and *alcaldes* of Villa Rica de la Vera Cruz. Alaminos was designated pilot to carry them to Castile, and Cortés' swift-sailing and sturdy *capitana*, or flagship, the best of his flotilla, with a crew of fifteen, was selected as the best ship for the mission.

Alaminos had served as chief pilot of the Hernández de Córdoba expedition to Yucatan in 1517, the Grijalva expedition to Mexico and first knowledge of the Aztec Empire in the next year, and the Cortés expedition. In fact, there is cogent reason to believe that it was Alaminos who, through his counsel and suggestions as the Hernández de Córdoba expedition was about to sail from Cuba, turned the enterprise into one which had discovery of lands to the west as one of its main purposes.

When it was originally organized the Hernández de Córdoba expedition seems to have been destined only for slaving and trade either northward to the Islands of the Lucayos, or Bahamas, or southward to the Guanajos, off the north coast of Honduras.³ Alaminos had received some 400 *pesos de oro* from Velázquez for his services.⁴

Cortés did not rely alone on the diplomatic skill of his envoys, on correspondence, or the importance of his objectives in the conquest of the new lands to the west which promised to be rich to sway the King-Emperor toward granting him authority over Mexico in place of Velázquez. He had received rich gifts of skillfully worked gold, silver and semi-precious stones, intri-

cately contrived feather work, articles of leather, and fine cotton textiles from emissaries of Montezuma and native caciques, and his men had obtained other riches by trade. Among these evidences of the wealth of the new lands which Cortés intended to bring under the rule of his sovereign and of the culture of their inhabitants were: "a large wheel of gold, with figures of strange animals on it and worked with tufts of leaves weighing three thousand eight hundred ounces; a large wheel of silver weighing forty marks . . .; a hundred ounces of gold ore, that their Highnesses might see in what state the gold came from the mines; a fan of variegated featherwork, with thirty-seven rods plated with gold; two collars made of gold and precious stones; a bird of green feathers with feet, beak and eyes of gold; six shields, each covered with a plate of gold, with something resembling a golden mitre in the centre; two pieces of cotton very richly wrought with black and white embroidery. . . ."⁵

The delighted Spaniards called the "large gold wheel" the *sol*, or sun, and the "large silver wheel" the *luna*, or moon. Both were "large as cart-wheels."⁶ The learned and accomplished Peter Martyr says that the gold wheel had in "the center an image of a man a cubit high, resembling a king seated upon his throne, the figure draped to the knees; . . . it has the features we ascribe to nocturnal goblins. The bottom [is] decorated with branches [and] flowers. . . . Both are pure, without alloy."⁷ The Spaniards valued the treasure at over 25,000 ducats.⁸ Montejo, Puerto Carrero and Alaminos were to present these riches to Charles and also were to take to Spain four men and two women of Mexico, to show what manner of people inhabited the new lands.

A native of the port of Palos, from which Columbus had sailed to the discovery of the New World, and breeder of daring mariners like the Pinzóns, Alaminos had followed the sea from his youth. He was a cabin boy on one of Columbus' ships on his fourth and final voyage, on which the Admiral reached the north coast of Honduras, followed the coast to Panama, and then, after meeting failure in efforts to found a colony on the Isthmus, had sailed on to shipwreck off Jamaica. His service with Ponce de León had given Alaminos knowledge of the waters of Florida and the Bahamas, and of the powerful current—the Gulf Stream—which flowed northward between the Bahamas and Florida.⁹

There was no certainty in 1519 as to where this current led, nor any general certain knowledge as to what possible lands might lie to the north or northeast of the point reached by Ponce de León in 1513 to block a voyage to Castile,¹⁰ but with his experience and knowledge and the instincts of a

great mariner, Alaminos became sure that the current of which he knew and the passage between Florida and the "Islands of the Lucayos" had to lead to the Ocean Sea to the north and therefore to a feasible route back to Castile. In the same way, after his experiences as a youth, and having seen the north coasts of Honduras with the Admiral in 1502, he had in 1517 felt certain that there was a land mass not far west of Cuba. He was universally recognized as "a person of great experience and a great pilot, able in the art of navigation,"¹¹ undoubtedly the greatest in the Indies at the time, and well deserved to be the mariner to reveal the true importance of the Bahama Channel.

There had been slaving expeditions to the Lucayos, known from the time of Columbus' first voyage, and there had been voyages into the waters of the Bahama Channel, for they were known to many and were considered dangerous because of shoals, reefs, currents and tempests. It would be interesting to know how many unrecorded voyages were made into these waters from Cuba, Santo Domingo, and Puerto Rico, how far they reached, and who headed them and for what purposes, over and above the capture of Indian slaves.

With the treasure of Cortés aboard the *capitana* and everything prepared, Alaminos and the two representatives Montejo and Puerto Carrero sailed from the harbor of Villa Rica de la Vera Cruz on July 16, 1519.¹² It was not until August 23 that, with supplies exhausted after more than a month's voyage, they put in at the Bay of Marien on the northwest coast of Cuba, west of La Habana, where Montejo had *haciendas* from which supplies for the long voyage across the Ocean Sea could be obtained. Two hundred or two hundred fifty *cargas*, each the equivalent of four bushels, of bread, one hundred live hogs and a large supply of water were brought aboard the *capitana*. Obviously, before leaving Villa Rica de la Vera Cruz, it had been decided that supplies for the long voyage from Cuba to Castile would be placed aboard at Montejo's isolated *haciendas*.

The *capitana* remained at Marien two days and one night, and then sailed. In a moment of what may have been sheer bravado, Montejo took the majordomo of his *haciendas* aboard the *capitana* to see the treasure just before sailing, although he, Puerto Carrero, and Alaminos had been sworn to secrecy by Cortés. This majordomo disclosed the arrival of the ship, the mission of Cortés' representatives, and declared that the *capitana* was literally "ballasted" with gold. Rumors spread swiftly, and it was said that there was from 100,000 to 270,000 *pesos de oro* of treasure in the ship.¹³

Velázquez, already Cortés' bitter enemy, was infuriated and from distant

Santiago, seat of the government of Cuba, sent a fast-sailing, well-armed vessel to the north coast under the treasurer of the island, Gonzalo Guzmán, to intercept the *capitana*, her treasure, and Cortés' representatives. Velázquez and all others expected that Alaminos would sail eastward along the north coast of Cuba to follow the sealane east to Spain, the "Old Channel" used by all ships until that time.¹⁴

It was under these circumstances that Alaminos, partly to avoid possible interception by ships of Velázquez, or having to put into port where they and their treasure might be captured, decided to sail northeast, attempt a passage of the Bahama Channel and a return to Castile in a continuous voyage. His decision meant a search for a new, "unused and unknown" route for the voyage from the Indies to Spain through dangerous waters with their strong currents, shoals and reefs, including the keys off the southern tip of Florida—Los Mártires, so named by the devout Spaniards because their forms suggested Christian martyrs undergoing torture—and dangers from unfavorable winds, storms and hurricanes. The waters were feared then and for a long time afterward.

Montejo and Puerto Carrero were not entirely ignorant of the sea themselves. As a captain, Montejo had commanded a ship and the soldiers she carried with Juan de Grijalva in 1518 and again under Cortés in 1519. He had enough knowledge of the sea, as did Puerto Carrero, to be ready to accept Alaminos' more expert judgment.

Montejo and Puerto Carrero, jointly in charge of the mission, had the power to reject Alaminos' counsel and under such circumstances Alaminos would have had to obey them. They, however, accepted Alaminos' decision to sail by way of the Bahama Channel.

The decision taken:

"the ship laden with such a quantity of gold that [it was believed] . . . that it was ballasted with it, . . . [Alaminos, Montejo and Puerto Carrero] sailed away secretly and by a route very perilous for navigation, and many ships could be lost there, . . . It is not usual to sail by that route

[To sail] . . . by way of the . . . islands of the Lucayos is perilous, and voyages are not made by way of those islands, but by way of other ports on this island [of Cuba] . . . , [where] voyages can be made without danger. . . .

From the time these Indies have been discovered, never has a ship sailed for Spain [by that route] because it is so dangerous. . . .¹⁵ One Spaniard, Juan de Xerez, who had aided in the organization of the

Cortés expedition by order of Velázquez, added, upon giving testimony against Cortés, that he knew that the waters of Florida and the Bahamas were perilous because "he has gone on voyages toward those parts and has heard other pilots and mariners [speak of it] . . ."16

Alaminos, Montejo and Puerto Carrero safely passed the Bahama Channel and reached San Lucar de Barrameda in October. They apparently encountered good fortune both in the passage of the channel and on the long voyage across the Ocean Sea.

Montejo, who not only rose to be the *Adelantado* of Yucatan but also was to be the real conqueror of Honduras, later wrote of the passage of the Channel, ascribing the credit to himself:

. . . I went to give a report to Your Majesty of the land [of New Spain] and to discover the route of navigation [to Castile].17

After Montezuma, lord of Mexico, had given his obedience to the Marqués don Hernando Cortés and had sent many presents of gold and silver and jewels to him, and when all the land had come to peace along with everything in it, the *Adelantado* don Francisco de Montejo ventured himself in a very small ship, which carried no supplies, to discover a new route to Castile and to come there to give His Majesty news of what had happened in New Spain and also to bring to His Majesty the gold and jewels that had been received in that land of New Spain. Thus, having begun his voyage, the *Adelantado* don Francisco de Montejo went to an *hacienda* he had, called Marien. He went there since it is a very good port, and from his *hacienda* he supplied the ship with everything it needed for the voyage to Castile.18

Without the route having been known before, the *Adelantado* don Francisco de Montejo dared to enter the Bahama Channel and discover a new route to Castile, by which all the ships now sail from Tierra Firme and from Peru and New Spain to Castile. Ships now come from all those parts of the Indies much more quickly than before, and without danger. It was the contrary before the *Adelantado* Francisco de Montejo discovered the way.19

Although Montejo and Puerto Carrero as representatives of Cortés were in command of the mission to Castile and as a result share the honor for the revelation of the true importance of the Bahama Channel, it is of course to Alaminos as a great and daring pilot, relying on initiative and technical skill, and inspired by imagination, that the real credit is due. Charles V, who was told by Alaminos, Montejo and Puerto Carrero of the voyage in interviews

at Tordesillas in 1520,²⁰ later gave what amounted to recognition of the passage of the Bahama Channel by them as the official "discovery" of that route by declaring in a *cédula* granting a changed coat of arms to Montejo that "you discovered the route for the voyage from . . . New Spain to these our Kingdoms. . . ."²¹ In writing of this revelation of the Bahama Channel as a vastly important sea-lane for the Spanish Empire, the Royal Chronicler Antonio de Herrera y Tordesillas declared that Alaminos was "the most experienced pilot of that sea [To escape Velázquez] . . . he set his course to the north because, on the basis of what he heard of the Lucayos and the coast of Florida, he judged that the currents had to lead somewhere. Touching at Marien, they passed to Havana and through the Bahama Channel. . . . Things went well, they reached the open sea. . . , and arrived in Spain with good weather. With good success they entered San Lucar by October . . . , being the first who made that voyage."²²

NOTES

- 1 See Woodbury Lowery, *The Spanish Settlements within the present limits of the United States, 1513-1561*, New York and London, G. P. Putnam's Sons, 1911, pp. 123-45, for an account of Ponce de León's voyage of 1513 to Florida, and Diego Luis Molinari, *El Nacimiento del Nuevo Mundo, 1492-1534: historia y cartografía*, Buenos Aires, Editorial Kapelusz y Cía., 1941, *passim.*, for a recent careful discussion of voyages to the southern, southeastern and eastern coasts of the United States. Lowery briefly discusses the infinitely debated voyage of Sebastian Cabot and both Lowery and Molinari discuss the debated question of Vespucci. For a list of maps see Woodbury Lowery, *Descriptive list of maps of Spanish possessions in the United States 1502-1820*, Washington, Library of Congress, 1912. For geography see Juan López de Velasco, *Geografía y descripción universal de las Indias, 1571-1574*, Madrid, 1894, and Antonio Alcedo, *Diccionario geográfico-histórico de las Indias Occidentales o América . . .*, 5 vols., Madrid 1786-89. Cabo Cañaveral was the north end of the Bahama Channel.
- 2 Clarence H. Haring, *Trade and navigation between Spain and the Indies in the time of the Hapsburgs*, Cambridge, Massachusetts, Harvard University Press, 1918, provides an authoritative account of Spanish commercial policy, fleets, trade routes, and sea-lanes. On the voyage from Castile to the Indies the annual fleet, which came out with supplies and returned with the bullion and products of the Americas, sailed from San Lucar de Barrameda or Cádiz to the Canaries, then southwest to about 16 degrees, where, taking advantage of prevailing winds, it sailed west to Deseada, an island just east of Guadeloupe. At Deseada the ships for northern South America and the Isthmus of Panama (Porto Bello or Nombre de Dios) and those for the West Indies and New Spain (Vera Cruz) separated to sail to their destinations. As indicated in the text, the fleet concentrated at Havana for the return to Castile by way of the Bahama Channel and the Azores.
- 3 See Bartolomé de las Casas, *Historia de las Indias*, 3 vols., Madrid, n.d., *Libro 3, Capítulo 96*.
- 4 Información recibida ante el gobernador y adelantado Diego Velázquez sobre una expedición sospechosa emprendida desde la Habana por Alonso Fernández Portocarrero y Francisco Montejo con pretexto de que iban a nuevos descubrimientos, [Santiago, Cuba,] October 7, 1519, in *Collección de documentos inéditos relativos al descubrimiento, conquista y organización de las antiguas posesiones españolas en América y Oceanía, sacados de los archivos del Reino, y muy especialmente del de Indias*, 42 vols., Madrid, 1864-84, vol. 12, pp. 151-204. Cited hereafter as *Información recibida ante . . . Diego Velázquez*, Santiago, Cuba, 1519, *D. I. I.*, vol. 12, pp. 151-204. A peso de oro was equivalent to a *castellano*, which valued 4.5534 grams of gold: a ducat had a gold

content of 3.485 grams: a gold mark valued 230.0675 grams: a silver mark valued five pesos de oro.

- ⁵ William H. Prescott, *History of the Conquest of Mexico*, New York, the Modern Library, n. d., p. 196, note 7. For a published list of the treasure see Marshall H. Saville, Report of the jewels, shields and clothing sent to the Emperor Charles the Fifth by Don Fernando Cortés and the town council of Vera Cruz . . . , in *The goldsmith's art in ancient Mexico*, Museum of the American Indian, Indian Notes and Monographs, Misc. Series, No. 7, pp. 31ff. See also Bernal Díaz del Castillo, *Verdadera y notable relación del descubrimiento y conquista y de la Nueva España y Guatemala*. 2 vols., Guatemala, Tipografía Nacional, 1933-34, Capítulo, 39. A complete inventory of the treasure as recorded by the officials of the *Casa de la Contratación*, Sevilla, is found in *Legajo Número 4675, Sección de Contaduría, Archivo General de Indias de Sevilla*.
 - ⁶ Bernal Díaz, *loc. cit.*
 - ⁷ Peter Martyr D'Anghera, *De Orbe Novo*, Edited by Francis Augustus MacNutt, 2 vols., New York and London, G. P. Putnam's Sons, 1912, Decade 4, Book 9.
 - ⁸ See Hubert Howe Bancroft, *History of Mexico*, 6 vols., San Francisco, 1883-1888, vol. 1, p. 167, note 20.
 - ⁹ For salient points of Alaminos' career see Lowery, *Spanish Settlements*, pp. 137, 143, 149, 150, 151, 443, 444, and Bancroft, vol. 1, pp. 1-173 *passim*.
 - ¹⁰ See *Información recibida ante . . . Diego Velázquez*, Santiago, Cuba, 1519, *D. I. I.*, vol. 12, pp. 151-204.
 - ¹¹ *Ibid.*
 - ¹² Second Cortés *Carta de Relación, Cartas de Relación de la Conquista de Méjico*, 2 vols., Madrid, Calpe, 1922, p. 36.
 - ¹³ *Información recibida ante . . . Diego Velázquez*, Santiago, Cuba, 1519, *D. I. I.*, vol. 12, pp. 151-204.
 - ¹⁴ *Ibid.*; *Letter of Diego Velázquez*, Santiago, Cuba, October 12, 1519, *D. I. I.*, vol. 12, pp. 246-251.
 - ¹⁵ From *Información recibida ante . . . Diego Velázquez*, Santiago, Cuba, 1519, *D. I. I.*, pp. 151-204.
 - ¹⁶ *Ibid.*
 - ¹⁷ *Adelantado Francisco de Montejo to the Crown, Gracias a Dios, Province of Honduras*, December 26, 1545, *Archivo General de Indias de Sevilla, Sección de Guatemala, Legajo Número 9*.
 - ¹⁸ *Probanza of Merits and Services in Suit of the Adelantado Francisco de Montejo with the Fiscal de la Tierra Firme del Mar Océano*, 1552, *Archivo General de Indias de Sevilla, Sección de Escribanía de Cámara, Legajo Número 1006A*.
 - ¹⁹ *Ibid.*
 - ²⁰ Las Casas, *Libro 3, Capítulo 121*; Herrera, *Decada 2, Libro 5, Capítulo 14*; *Decada 2, Libro 4, Capítulo 7*; Prudencio de Sandoval: *Historia de la vida y hechos del Emperador Carlos V. . .*, Amberes, 1681, *Libro 4, Número 10*.
 - ²¹ Grant of a new coat of arms to Francisco de Montejo, Granada, December 8, 1526, *Archivo General de Indias de Sevilla, Sección de Indiferente General, Legajo 421*.
 - ²² Antonio de Herrera and Tordesillas, *Historia general de los hechos de los Castellanos en las Islas i Tierra Firme del Mar Océano*, Madrid, 1601-15, *Decada 2, Libro 5, Capítulo 14*. In his *Historia de México, con el descubrimiento de la Nueva, Espana conquistada por el muy ilustre y valeroso príncipe don Fernando Cortés, Marqués del Valle Anvers*, 1554, Francisco López de Gómara writes that Alaminos, Montejo and Puerto Carrero sailed from Villa Rica de la Vera Cruz in an "insignificant ship" and that on sailing from Marien "saying that they were going to La Habana, they passed through the Bahama Channel without halting and sailed with very favorable weather until they arrived in Spain." Bernal Díaz, *op. cit.*, Chapter 56, says that after leaving Villa Rica de la Vera Cruz "they reached la Habana with good sailing, and then passed through the channel, and it is said that it was the first time that such a voyage had been made by that way; in a short time [they] reached the isles of Tercera and from there Seville. . . ."
- For an account of the voyage of a treasure fleet and the perils from wind and sea which shipping from the Indies to Castile faced see Robert S. Chamberlain, *The Spanish Treasure Fleet of 1551*, in *The American Neptune*, vol. 6, no. 4.

HISTORICAL ASSOCIATION OF SOUTHERN FLORIDA

Treasurer's Report for Eight Months Ending
August 31, 1948

Cash on Hand January 1, 1948.....\$ 132.46

RECEIPTS:

Dues 1947 and prior years.....	\$ 15.00	
1948.....	934.00	
1949.....	20.00	
1950.....	5.00	
Miscellaneous Income	<u>41.85</u>	1,015.85

DISBURSEMENTS:

Stationery, printing	\$224.77	
Postage	108.28	
Miscellaneous	<u>120.17</u>	\$ 453.22
Cash on Hand August 31, 1948....	<u>695.09</u>	<u>1,148.31</u>
	\$1,148.31	\$1,148.31

Total members for 1948: 391 annual @ \$2.00; 66 sustaining @ \$5.00.
Out of cash on hand, we shall have to pay for the 1948 TEQUESTA.

EDWIN G. BISHOP, *Treasurer*

Contributors

MRS. MILLICENT TODD BINGHAM, Ph.D., of Washington, D. C., is a writer and world traveller. Her doctorate is in Geography. In 1935 she established on a forest-covered island in Maine the Todd Wildlife Sanctuary, named in honor of her mother, Mabel Loomis Todd, long a resident of Coconut Grove.

W. T. CASH is Librarian of the Florida State Library at Tallahassee. He is author of *The Story of Florida*, a history of the State, eleven articles in the Dictionary of American History, and numerous other writings on the History of Florida.

ROBERT S. CHAMBERLAIN, Ph.D., was an associate professor of History at the University of Miami until he resigned to enter the service of the United States Government in Washington, D. C. He is author of the recent Carnegie Institution book, *The Conquest and Colonization of Yucatan, 1517-1550*.

DOROTHY DODD, Ph.D., is an archivist in the State Library at Tallahassee, and has done considerable research and writing in the History of Florida.

J. E. DOVELL, Ph.D., is an assistant professor of history and political science at the University of Florida. He has written several articles on Florida history and government and at the present time is working on a manuscript on the economic aspects of flood control in southern Florida.

THE HISTORICAL ASSOCIATION OF SOUTHERN FLORIDA

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