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What Matters Most

The Many Worlds of Archie and Marjorie Carr

WILLIAM BARTRAM visited northern Florida in 1774, and confronting the Alachua Savanna, reveled in "the contemplation of the unlimited, varied, and truly astonishing native wild scenes of landscape and perspective." The vast treeless plain, with its circle of hills canopied by forests and orange groves, stung him to spasms of the rich, often torrential, prose that was soon to make his *TRAVELS* one of the fountains of romantic literature. In their poetry, Wordsworth and Coleridge drew on Bartram's imagery of wild things and natural man, and Thomas Carlyle esteemed his "floundering eloquence." "Billy" Bartram had been indelibly impressed by wild Florida. He, in turn, was to arouse Europe's nineteenth century intellectuals with the sheer exuberance of his prose, with his vision of this New World living on in time as a remnant of Eden itself.

More than two centuries later—to be more precise, on a soft, cloudless afternoon last March—another eloquent naturalist confronted the savanna, which for many years past has been called Paynes Prairie. Archie Carr, who is graduate research professor of biology at the University of Florida in nearby Gainesville, is known around the world for his pioneering studies of sea turtles in tropical oceans and on exotic beaches. But, for him,

Paynes Prairie remains a tangible reflection of all those reptile-haunted landscapes he dreamed of as a boy. On this day in 1981, he looked out across acres of maiden cane toward a dozen sandhill cranes feeding in a cluster against the horizon.

"Most of the cranes have already headed for their nesting grounds up in the Great Lakes region," he said to a companion. "But Paynes Prairie is probably the most important wintering area for the eastern population. This basin is just one great confluence of sinkholes in the underlying limestone, almost 18,000 acres with the surrounding uplands, and Florida protects it as a state preserve. The variety of animals that live here is a wonder, everything from wading birds and hawks to otters, deer, and bobcat. And, of course, snakes and alligators."

Of course, which is what attracted Archie Carr to Paynes Prairie in the first place. He has been exploring this aqueous land since he was a student at the University of Florida half a century ago. At seventy-two, though his hair has turned white, his wiry body moves with a youthful spring, and his face still lights up when the talk swings around to reptiles.

Among Paynes Prairie's muck and herbage live those creatures that only small boys are supposed to love—mud turtles, toads and frogs, and baleful-looking



snakes—but which both Bartram and Carr have written about in loving detail. When Carr shows off the prairie to a visitor, he usually brings along in his four-wheel-drive a copy of Bartram's *TRAVELS*. The accounts of that pioneer naturalist's wanderings in the Alachua region are still pertinent to the terrain, and his descriptions of the things that creep, crawl, or slither must have inflamed the imaginations of armchair naturalists back in old Philadelphia, and even across the ocean in Europe.

Opening *TRAVELS* almost at random, Carr pointed to a passage in which Bartram strolls through this wet prairie like



Adam in his Eden:

"I soon came up to a little clump of shrubs, upon a swelling green knoll, where I observed several large snakes entwined together. I stepped up near them; they appeared to be innocent and peaceable, having no inclination to strike at anything, though I endeavoured to irritate them, in order to discover their disposition, nor were they anxious to escape from me. This snake is about four feet in length and as thick as a man's wrist; the upper side of a dirty, ash colour; the squamae large, ridged and pointed; the belly or underside of a reddish, dull flesh colour; the tail part not long but slender

like most other innocent snakes. They prey on rats, land frogs, young rabbits, birds, etc. I left them, continuing my progress and researches, delighted with the ample prospects around and over the savanna."

Carr, himself standing on a swelling green knoll over the marsh grasses, shrugged as he snapped shut Bartram's book.

"We used to come out here from the university forty years ago and roll up a huge mat of water hyacinths like a snowball and find all sorts of snakes," he recalled. "Horn snakes, Allen's mud snakes, ringneck snakes, red-bellied snakes, all

Archie and Marjorie Carr: "Having identified what matters most, each has gone about trying to safeguard it with spirit and a fine attention to detail."

kinds. In fact, herpetologists came here from all over the world because it was so famous for its snakes. But I drove around here one day last week, made a complete loop, and didn't see a single snake—where forty years ago, even twenty years ago, there would have been two hundred. The lack of kingsnakes is incredible. There aren't any! I haven't seen one here in ten years.

"Why? Well, for one thing, in the fifties and sixties the cattle growers used this as winter pasture and they kept draining the land. Also, the state pushed two four-lane highways through Paynes Prairie. Every snake in here tries to get across those highways at one time or another, and the chances of making it with all those cars and trucks going by are practically nil."

But Archie Carr, who has followed sea turtles around the world for many years, is apt to think of conservation problems in terms that are not confined to even so complex a local phenomenon as the abundance or disappearance of snakes in Paynes Prairie. As an ecologist, he knows most of the horror stories about what happens when exotic animals are introduced into a native ecosystem. He is ready to repeat to any interested visitor his theory of an introduced species that is laying waste to his—and William Bartram's—pristine Florida.

"The armadillo was brought here from the Southwest in the twenties and introduced around West Palm Beach," he said. "It's now one of the most destructive

elements in Florida's ecosystem. Why, here in Alachua County armadillos turn over almost every square foot of leaf-mold. They aerate the forest litter and destroy the habitat of all the tiny creatures that live in that stratum. They eat many of the small snakes and ruin the habitat for the rest of them. It seems odd that the only snakes I see anymore in Paynes Prairie are big, six-foot diamondback rattlers. Some people say that's because rattlers live in the holes made by the armadillos."

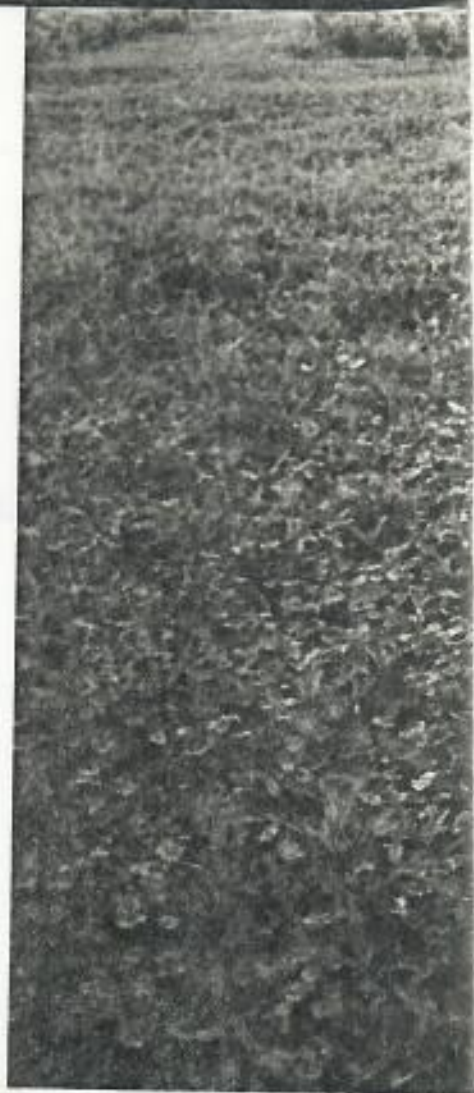
Archie's vendetta against armadillos had led to the creation of one of the first backyard eagle feeders in the South. Any armadillo that wanders within range of a Carr shootin' iron ends up neatly laid out on open ground in sight of the house. Bald eagles can be counted on to find the carcass without delay, providing Archie Carr with splendid views of their regal selves.

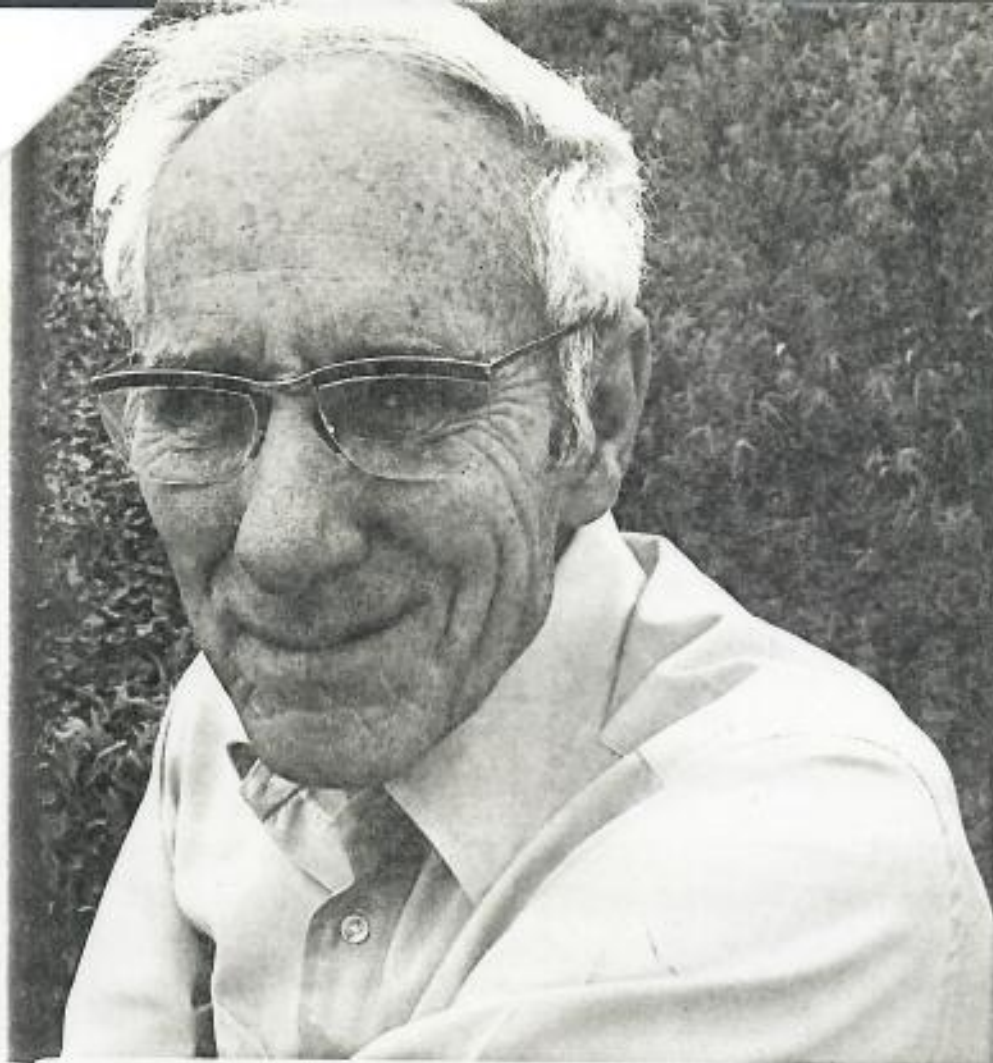
ARMADILLOS, TURTLE poachers, and the U.S. Army Corps of Engineers are permanent occupants of the dingy underside of a world that has otherwise delighted Archie and Marjorie Carr for most of their lives. Florida is the center of their existence, though both have traveled widely, and Archie is still a globe-trotter to an unusual degree even in this highly mobile age. Although he made his reputation through his work on the biology and conservation of sea turtles, he

also has been extremely active in the attempt to preserve the Suwannee River. Marjorie, who began her career as a professional biologist, has probably been the most influential citizen conservationist in Florida for some years. Each is highly individualistic, yet they share an affinity for plain speaking. No one will fight very hard to protect wildlife or wilderness, the Carrs believe, if they are thought of solely as material resources to be hoarded or exploited. There has to be a conviction that we will keep these things around so that people will be able to see them in the centuries to come.

"And we ought to stop talking vaguely about 'space for man to breathe in,' too," Archie writes in his book *ULENDO*. "A man breathes his very best in an oxygen tent. If this difficult saving is done, it will only be for motives that make men keep paintings and dig ruins and write about their time for other times to come. It will be because man is the creature who preserves things that stir him."

If Marjorie Carr is not as well known outside Florida as her husband, it probably comes as news to her friends and foes





"Florida is the center of the Carrs' existence, though both have traveled widely. Although Archie made his reputation through his work on the biology and conservation of sea turtles, he also has been extremely active in the attempt to preserve the Suwannee River. Marjorie, who began her career as a professional biologist, has probably been the most influential citizen conservationist in Florida for years."

within the state. She is a personality and a presence in Tallahassee, the capital city, when environmental matters come before the legislature or the administration. A year or so ago, when the legislature was taking up a bill to close out the state's interest in the controversial Cross-Florida Barge Canal, one of the legislators urged her to come to the capitol for another of the many votes on the bill.

"You don't have to prepare a special statement this time, Margie," the legislator, who was also an opponent of the Barge Canal, told her. "All you have to do is walk the halls. You don't have to say a word. Just be seen there, and every legislator who sees you will say to himself, 'Oh, yes. The Barge Canal.'"

Although neither of the Carrs is native to Florida, Archie having been born in Alabama and Marjorie in Massachusetts, it has been their permanent home for a good part of their lives. For some years past that home has been among the palms, live oaks, and other tall southern trees on the edge of a big alligator pond in the historic north-central Florida town of Micanopy.

Micanopy may be considered a distant satellite of Gainesville today, but in the past it outshone that university city in every respect. William Bartram visited Micanopy in 1774, when it was the site of the thriving Seminole village of Cuscowilla. The first permanent white settlement in Alachua County was established there in 1821 under the intriguing name Wanton, but it found respectability later with the Indian name Micanopy (accent on the penult). Several skirmishes were fought around the village during the second Seminole War.

The town's rise and fall was abrupt. Its nineteenth-century prosperity was sapped by destructive fires, and later by its own prominent citizens, who fought the coming of the railroad. ("They didn't want to be awakened early in the morning by the train whistle, so Gainesville got the railroad," Archie Carr explained.) Micanopy became almost a ghost town. Its ancient and magnificent live oaks have survived partly because Marjorie Carr campaigned to have them protected as "wards of the town."

Much of the Carrs' success stems from

their exceptional capacities for getting their enthusiasms across to other people, then inducing those people to work on their behalf. "Marjorie has made arm-twisting into an art form," says a university professor in Gainesville. "One of her favorite techniques is to remind a potential supporter who is a scientist that he or she is an honorable person and ought to testify for the side that is right. It is hard for a professional person to resist such an appeal."

Two years ago Dempsey Barron, a powerful state senator, kept throwing obstacles in the way of Marjorie's attempts to have the state close out its interest in the Barge Canal.

"Mrs. Carr," Barron told her one day, "I don't see any real public support for your point of view."

She went back to her office and made five telephone calls. The next morning editorials urging that Florida remove itself from the canal boondoggle appeared in five major newspapers around the state.

"We had been sending these papers information right along and keeping them up with developments," Marjorie Carr



From the Carr snapshot album, circa 1966: Archie with Jimmy Otter, a family pet who slept at the foot of their bed but was free to come and go as he pleased.

says. "So all I had to do was call the editors and let them know the current state of the bill."

Archie Carr professes amazement at his wife's ability to raise funds and persuade legislators, editors, and business people to support conservation projects. Yet Archie is just as skillful a propagandist, in his case through the use of the written word. Like most good writers, he is a good reader.

"My mother and father encouraged me to do a lot of reading when I was a child," he says. "I loved the words, and I would pore over every line, savoring the words and saying them over to myself as I read. I found myself studying the style of the writer, and even today I am a slow reader."

Such habits are frowned upon by efficiency experts in this era of speed-reading, but Archie Carr's careful attention to style has made him a very able writer and propagandist. His book *THE WINDWARD ROAD* not only has received critical ac-

claim as "a classic of travel-nature writing," but, as we shall see, effectively gathered support for the protection of the world's imperiled sea turtles. His devotion to the craft of writing, which is apparent in all his work, accounts for the ambivalence he feels about his success as a propagandist.

"I often wish that I had spent more of my time writing about all the different subjects that interest me in life," he says. "At the same time, I always have this guilty feeling that I am not writing enough about sea turtles and their conservation. Since this is the subject I am best known for, I feel I should put most of my energy into turtle protection."

Yet everywhere in his writing, Archie Carr's delight in words shines through. In *THE WINDWARD ROAD* he digresses from turtles to insist on the depravity inherent in using the word *juke* (as in jukebox) instead of the more appropriate *jook* (which rhymes with *took*). The latter word, as he points out, came to America

from a West African dialect and means to misconduct oneself. It soon was applied to any "humble, usually rustic, beer joint with a record player and a few amiable girls." But the word crept into the press and popular literature as *juke*.

"The millions of Americans, and now even Englishmen, who talk about *juke*-boxes got their pronunciation from reading the word," Carr writes, "and not only is this reversing the normal process of word evolution, but what they read was a defective transliteration to start with. As a native of the coastal plain I have a proprietary feeling about the word. I've been saying it right ever since I learned about the sin there is in the world, and I refuse to be led by any tone-deaf journalist into mistreating it."

He pursues the origins of strange words with the assiduity he would bring to unraveling the life history of some reptile new to science. While on an expedition through the rain forest of Nicaragua's Miskito (accent on the first syllable) Coast some years ago, he overheard a local man, named Joe, refer to a tough but flexible liana as a *mon-wit*. Carr questioned the man about the term. Joe explained that a single *mon* could drag this species of climbing plant from the trees, while another liana, called *ox-wit*, could be collected only by a team of oxen.

"That left the word *wit*," he writes in his book *HIGH JUNGLES AND LOW*, "and I claim some credit for recognizing in it the good English word *withe*, which, though dormant in my vocabulary, was probably an everyday word to the pirates who founded Joe's English."

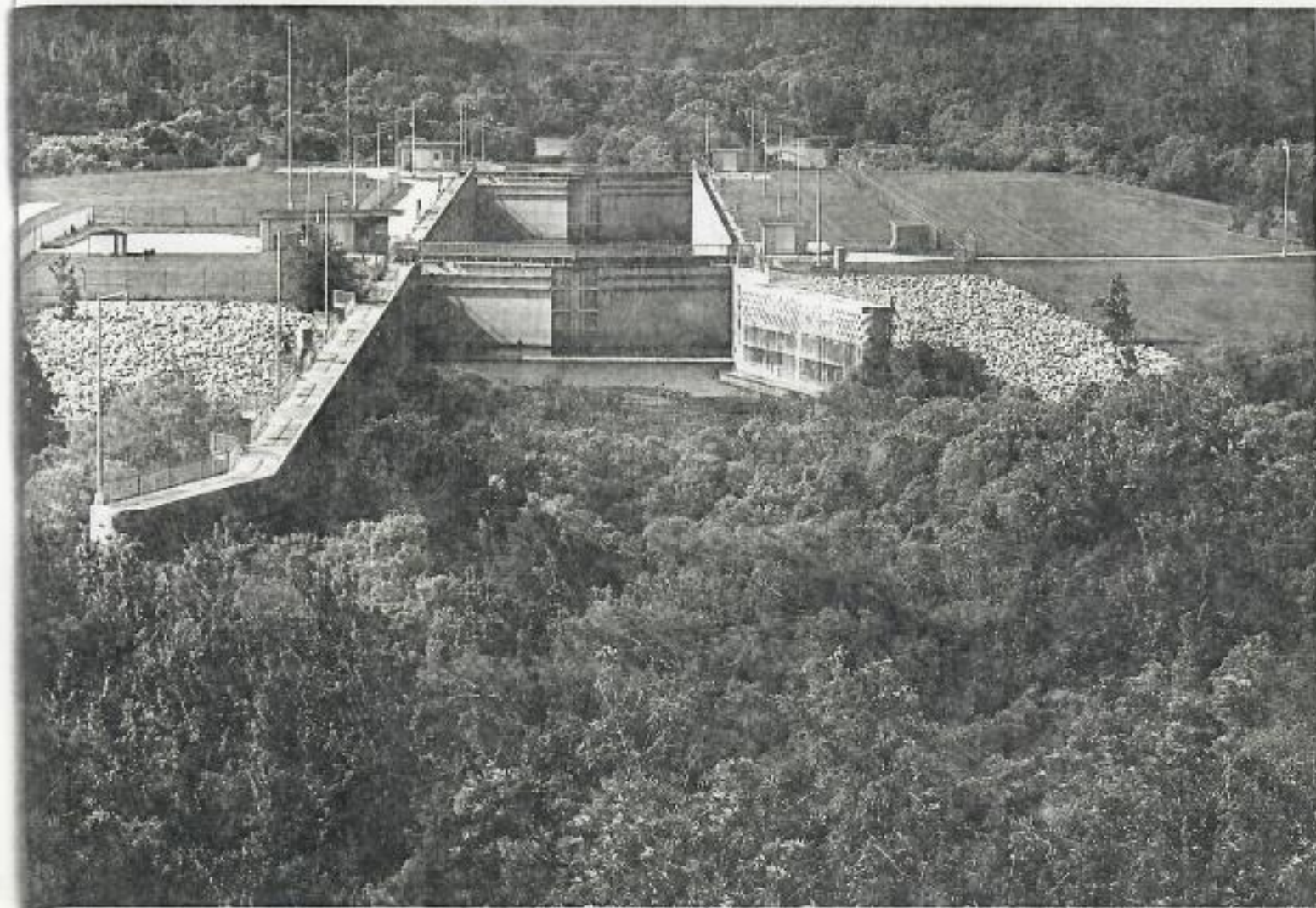
BUT THE INTEREST THAT brought the Carrs together in the first place was not etymology but natural history. It is a subject that has interested both Marjorie and Archie since early childhood.

"I was fortunate in having parents who could answer my questions about the wild things I saw around me," Marjorie says. "I read everything I could find about nature. Thornton Burgess was one of my favorite authors, and I could recite Kipling's *Jungle Books*. I knew more birds and flowers when I was nine than I do now."

She was Marjorie Harris then. Her father, a lawyer and teacher in Boston, hated New England winters and bought land near Bonita Springs, Florida, planning to establish a retirement home there. He



"Marjorie will always be remembered best for organizing the opposition to the Cross-Florida Barge Canal. She would be the last to suggest that the burden of assault on the Army Corps of Engineers lay solely on her. But always somewhere near the center of the battlefield was Marjorie, cajoling another scientist from the ivory tower to perform some onerous statistical analysis, or getting across her side of the story to the press, or finding a few more dollars to bring the case to court." A monument to her success is the uncompleted Eureka Lock and Dam, which "stand incongruously in the lush countryside, symbols of the more than \$50 million squandered on this ill-conceived project."



moved Marjorie and her mother into a house near the Imperial River and drove down to stay with them in the summer and whenever he could spare a week or two away from his work. Marjorie grew up with no close neighbors but had her own horse and a landscape teeming with fascinating plants and animals. When Marjorie was thirteen, the family moved to Fort Myers.

Her father's death in 1931, and the loss of the family's savings during the Depression, abruptly changed her life. Her mother began teaching school on Sanibel Island. In 1932, Marjorie entered the Florida State College for Women (which is now Florida State University) and majored in zoology.

"It was not a course that many women chose in those days, but I had always been going in that direction," she recalls. "We didn't have any money, and a full year at the college cost about two hundred and fifty dollars, which was really beyond our means. Then after my freshman year I found out about the National Youth Administration. In return for working all summer, NYA would pay your tuition, room, and board all year, plus fifty dollars in cash for yourself. This was a big break."

During that first summer she was a clerical worker at a day-care center near Fort Myers. The next two summers she designed her own program, giving talks to

children on local natural history.

"I drove around in my mother's old Ford," she says. "I could live at home, and it worked out beautifully. It was then that I became convinced that people will care for their environment if only they can learn a little bit about it."

After graduation in 1936, she planned to do graduate work in zoology at the University of North Carolina, but at the last moment her fellowship fell through. She found a job as a biologist in Welaka with the Resettlement Administration, a Depression program established by the federal government.

"The program's director was very uncomfortable with a woman biologist," she says. "He didn't know what to do with me, so he gave me some sick quail and told me to find out what was wrong with them. I had minored in bacteriology, so I took the quail over to a laboratory at the University of Florida."

Just down the hall from the laboratory was the Zoology Department. There she met a young man named Archie Carr who was working on his doctorate in zoology. "That was in October," Marjorie says matter-of-factly. "We were married in January."

Archie Carr's path to that meeting in the laboratory was almost as undeviating as hers. He was born in Mobile, Alabama, but his father, who was a Presbyterian

minister, soon moved the family to Fort Worth, Texas.

"As a child, I seldom saw any trees," Archie says. "Fort Worth was still almost a frontier town, and there were only a few hackberries up and down our street. Then one day my mother took me shopping, and down at the end of a street I saw a clump of big, unbelievably green, live oaks. I begged my mother to take me to them. There were really only four or five trees, but for me they held all the romance of a great forest."

Archie Carr Sr. was a duck hunter from Mississippi who had an abiding interest in natural history. Young Archie dipped into his father's books and was soon enchanted by stories of faraway places written by Rudyard Kipling, Ernest Thompson Seton, and Theodore Roosevelt. Visions of African landscapes filled his days and have never completely deserted him, though *HUCKLEBERRY FINN* was, and remains, his favorite book.

"I filled up boxes with all kinds of reptiles I caught out in the fields," he remembers. "Keeping them wasn't easy. My mother was horrified by creeping and crawling things, and my grandmother had a special phobia about snakes. She wouldn't let you talk about them after three o'clock in the afternoon because she was afraid she would dream of them."

Later the family moved to Georgia.



When Archie entered Davidson College, he decided to major in English because of his interest in books. "I had an English professor who went over our compositions very carefully," Archie says. "He would explain exactly why he liked or did not like what we had written. I got high marks, and so from then on I thought I could write, and I wasn't scared to do it."

But the old interest in nature persisted, and finally, with the idea that he needed a subject to write about, he switched to biology and entered the University of Florida. He did his master's work in limnology, studying the chemistry of local lakes. He spent much time at Lake Wauberg in Paynes Prairie, where his boyhood passion for reptiles reasserted itself and determined the course of his life. He was working on his doctoral thesis, "The Geographic and Ecological Distribution of the Reptiles and Amphibians of Florida," when he met Marjorie.

Some papers Archie had written, unsnarling old problems of turtle nomenclature, came to the notice of Thomas Barbour of Harvard's Museum of Comparative Zoology. Barbour, who was one of the most distinguished herpetologists of the time, invited Archie to Cambridge on a fellowship in the summer of 1937. It was the first of seven summers he would spend as a Thomas Barbour fellow.

"We rented a room from a Mrs. Murphy in Cambridge," Marjorie says. "On weekends Archie and I collected marine animals off the coast and we filled up Mrs. Murphy's cellar with pickled specimens. We would get dogfish from a fishing boat in Rockport. The Sicilian fishermen took great delight in watching us inject various colored fluids into the circulatory systems of the dogfish. One of the Sicilians had an uncle who was a mortician, and he would make running commentaries on our technique."

Marjorie, meanwhile, hoped to go on to Cornell for graduate work in her first love, ornithology. She applied for her fellowship, but was dissuaded by Arthur Allen, the director of the Laboratory of Ornithology, who told her there was no place for women in that field.

"I wanted to do research, but I couldn't get a job in research," she says. "I eventually was able to do it because my husband had a research job."

Marjorie worked at the Museum of Comparative Zoology during several summers. ("One year I changed all the alcohol in the bottles where reptiles were preserved, and another year I took apart owl pellets.") At last, in 1942, she earned her Master's degree at the University of Florida with her thesis, "The Breeding Habits, Embryology, and Larval Develop-

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ment of the Large-mouthed Black Bass in Florida." In the course of her work she may have become the first scientist to uncover cases of social parasitism among freshwater fishes. Shiners, in behavior remarkably similar to that of such birds as cuckoos and cowbirds, dash in during a moment of inattention by a species of sunfish and lay their eggs in the latter's nests, forcing a kind of foster parenthood on them. Marjorie found a similar social parasitism practiced by chub suckers, which lay their eggs in the nests of large-mouth black bass, the eggs hatching into tiny suckers so closely resembling bass fry that the victims protect the alien species. (All of which causes one to wonder which species is the sucker.)

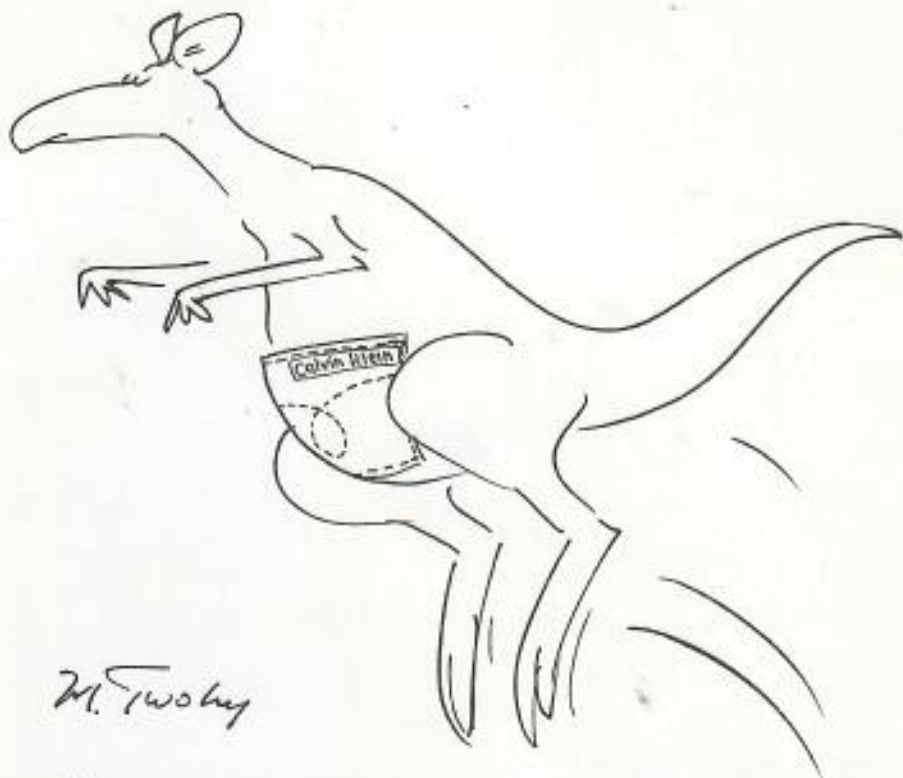
ARCHIE'S LIVELIHOOD came chiefly from the University of Florida, where he taught in the Biology Department, but with Thomas Barbour's encouragement he was already at work on the collection of material that he would publish in 1952 as *HANDBOOK OF TURTLES*. Although there was a considerable amount of scientific information about freshwater turtles, it soon became apparent to him that the literature on sea turtles was an inextricable mass of rumor, folklore, and occasional fact. Museum collections were inadequate, and no one seemed to have any clear idea about the differences between Atlantic and Pacific populations. Archie knew that if he could go to Central America, where the oceans were close together, he would be able to make direct comparisons of the separate populations.

"Barbour advised me to go to Honduras and hook up with a man named Wilson Popenoe, who had just been appointed director of an agricultural school built by the United Fruit Company," he says. "Popenoe didn't know about sea turtles, but he offered me a job teaching biology."

Although the Carrs already had two children, Marjorie was eager to make the move to the tropics. Archie arranged for a leave of absence from the University of Florida, sold their house, and in 1945 set out for what proved to be five years of teaching at the Escuela Agrícola Panamericana in the mountains of southern Honduras. It was a daring step, but in keeping with the resolution that Archie Carr had already made: "I decided to become the world's sea turtle man."

That he was able to pull it off was the result not only of his talent for field investigation but of his readiness for adventure in the pure sense. In *THE WINDWARD ROAD* he writes:

"When I was growing into my leaning



toward the tropics, it was the custom among sound scientists to inveigh against the having of what they spoke of as 'adventures' in the field. Adventures on an expedition were a sure mark of incompetence, they said, or of chicanery—and there was something in it, too. In those days a regular rash of restless people of both sexes was dashing about the tropics cooking up sensational situations to write about and claiming to be doing it for the sake of science. It was only natural for honest men to bemoan such antics. But saying it was adventure that was the harm was nonsense.

"The thing is—as you may know, but I had not discovered then—adventure is just a state of mind, and a very pleasant one, and no harm to anybody, and a great asset if you use it right."

He came to know the Honduran forest on timber cruising expeditions along the Miskito Coast (shared by Honduras and Nicaragua). On one of those expeditions, he served as a "white hunter" to supply the party with fresh meat, an assignment suggested by United Fruit Company officials who were not eager to permit guns among the volatile crew of mixed races, bearers, boatmen, and trail-cutters.

Marjorie shared Archie's sense of adventure at the agricultural school, where the neat palm groves and buildings of hand-cut rhyolite seemed only a transient phenomenon in the surge of enveloping forest. She had two more children in Honduras, took part with Archie in the turtle studies, and contributed a paper to the *Wilson Bulletin* on the San Geronomi swift.

Archie Carr began to establish his international reputation during those years. Spending as much time as possible on turtle boats and Central American beaches, observing turtles, and sorting out fact from fancy in local folklore, he supplied many of the missing fragments in the scientific picture of sea turtles. He collected the first sound information on the Pacific ridley, described variations in the Atlantic and Pacific populations of green turtles, and concluded that there were no significant differences in the Atlantic and Pacific hawksbill turtles.

The Carrs returned to Florida in 1949. In his absence Archie had been made a full professor by the university, but the family had little money and no place to live. Fortunately, a friend mentioned some land he owned on an alligator pond in Micanopy, and the Carrs found the forested retreat on which they have lived ever since. That problem settled, the Carrs concentrated on acclimating their four children (a fifth child was to be born later) to life in the United States.

"We had an excellent Honduran doctor for the children while we were in the tropics," Marjorie said. "When we were getting ready to come back he told me, 'Margie, don't take your children to a doctor in the United States until they've gone through one winter. If a doctor up there gets a look at all the parasites these kids have in their gut, he'll go out of his mind.' So we waited until spring for a complete exam, and by then everything was flushed out of them. Of course, our kids quickly picked up chicken pox and all the other common contagious diseases



they had been spared in Honduras."

Archie wrote *HIGH JUNGLES AND LOW*, a book based on his experience in the tropics, and it received fine reviews after it was published by the University of Florida Press in 1953. Meanwhile, he was taking advantage of every moment free from his responsibilities at the university to follow turtles to their island and coastal landfalls in the Caribbean. He was pinning down vital facts about the life histories of sea turtles. For instance, scientists had tended to discount the reports of turtle boat captains that green turtles made use of wonderful navigational abilities on extensive migrations. Archie tenaciously sought out the facts of green turtle life.

"They seemed wonderfully colorful creatures, bound to be doing exciting things in remote places it would be pleasant to visit," he writes. "From the beginning I was inclined to accept the folk belief that green turtles were long-range migrants, and therefore navigators; and if they were, investigating their ecological geography seemed sure to be scientifically rewarding."

Out of his investigations in the Caribbean came a series of scientific papers that acquainted the world with facts of the sea turtles' natural history, including their regular migrations between the feeding grounds and distant nesting beaches. Out of those investigations, too, came the remarkable book *THE WINDWARD ROAD: ADVENTURES OF A NATURALIST ON REMOTE CARIBBEAN SHORES*. It was published in 1956 by Alfred Knopf, who had admired *HIGH JUNGLES AND LOW*.

THE WINDWARD ROAD, as its title and subtitle imply, is not strictly about natural history. Its real subject is Archie Carr's exuberant sense of adventure, as acted upon by turtles and turtle boat captains, a pair of sapphire eyes in the dark, queer smells carried on tropical winds, night

sounds in a swamp or a jook, and—well, the stuff of life. One chapter, "The Black Beach," which tells of his meeting with a local woman at a turtle's nest on a Costa Rican beach, was published separately in *Mademoiselle* and won an O. Henry Award as one of the best short stories of 1956.

"I was horrified at first because the award made it seem as if my book was fiction," Carr says. "But every damn word of it was true."

Yet, for one reader, the book sticks in the mind as a ballad. It is an expression not only of Archie Carr's infatuation with nature but with the way nature sings. He is a naturalist who is at home in the night, when so much that is wild erupts in what sounds to most ears like a confusing, disjointed chorus, but to him is a serenade of individual calls as readily identifiable as the voices of old friends. He apprehends sound as substance, as the very life force of one sentient presence out there in the dark. He writes:

"I collect frog songs in my head as some people save stamps in a book."

And again:

"I like the looks of frogs, and their outlook, and especially the way they get together in wet places on warm nights and sing about sex."

He is also responsive to human music for its expression of joy or deep emotion, as on the night he walked past a little wattle house behind a tropical beach, its doors and windows shut up tight, but bright light showing through the cracks, and inside people talking, and guitars and drums feeling each other out:

"You could hear the skins and strings catch at something that seemed right and suddenly start driving it. The thump, boom, and rattle of the drums built a slow design and then started tearing it up, and the guitars clanked and jangled and people

began to hum and pat their feet and fill the breaks with half-sung comments or snatches of falsetto harmony. Then a young contralto voice began to sing and the talking stopped, and the melody drew in the others one by one till the little house sang like an organ."

And another thing. The quality of writing turned out by some of our better naturalists is very high, but there is seldom a shift in the earnest, even solemn, tone. (Of course, judging by the present state of nature, why should there be a lapse from solemnity?) For the most part, humor in fine nature writing is rare, and is usually cultivated only by cutesy-poo animal lovers who produce books with titles like *MY MERRY LIFE AMONG THE NEMATODES OF THE WIT AND WISDOM OF WOMBATS*.

Archie Carr, when the occasion demands, can be every bit as earnest and solemn as—well, Ralph Nader. Yet, though he demeans neither the people nor the wild creatures he writes about, there is quiet humor, a half-concealed chuckle, on nearly every page of his books. Quotation out of context would be meaningless, even destructive to these wisps of laughter, but they are there for the reader to savor as he goes through the books, and the chances are that when he reads *THE WINDWARD ROAD*'s prize-winning chapter, "The Black Beach," he will laugh out loud.

THIS BOOK'S PUBLICATION profoundly affected Archie's future. There was instant acclaim for its excellence. It apparently made a stir even in the Soviet Union, where a pirated edition appeared, selling for thirty kopecks, with a chapter added by some local commissar.

"The chapter pointed out to Russian readers what a good Communist I was because I spoke well of poor folks in the Caribbean," Archie says. "It was a wonder the university didn't fire me."

On the contrary, the University of Florida was so impressed by the presence of this international celebrity on campus that in 1959 it appointed him graduate research professor and relieved him of teaching obligations. "They just wanted me to go on doing things for the glory of old UF, attending conferences and writing books. At the time, it was probably the best university position any biologist had in America."

Archie does not look back on *THE WINDWARD ROAD* with complete equanimity. If his sensitivity to song shows through the printed page, so does the zest with which he ate wild animals, including

green turtles. ("One trouble of this kind is the way I appear to be at one moment dejected over the precarious survival state of sea turtles, and at the next drooling over the thought of eating them.") Sea turtles, parrots, monkeys, manatees, and various rodents such as pacas, agoutis, and capybaras all went into the pot of this "catholic victualer." Archie has since taken the pledge against eating some of the rarer species, and despite occasional lapses he notes, "Today I try to do better."

Another recent misgiving is the pitch his book seems to make for turtle farming. This is an extremely controversial subject even among turtle biologists now, but Archie has come around to the viewpoint that anything encouraging people to eat sea turtles or use their incredible parts in crafting luxuries is bound to put added pressure on wild populations that are almost catastrophically low.

"Some of my colleagues, who believe that farming will take the pressure off wild turtles, think I am being a pain in the butt about this," he admits. "Yet turtle farming, like any commercial venture, tends to create new markets for its products, and it just isn't possible under present techniques to raise all the turtles needed to meet a bigger market. Wild turtles would then be in even greater demand."

But added to THE WINDWARD ROAD's literary excellence is its value as propaganda. Books such as SILENT SPRING or THE POPULATION BOMB had the initial advantage of making plain the details of a problem about which many people were already at least faintly concerned. Archie Carr's book created interest in a situation which, before then, had come to hardly anyone's notice. Sea turtles, whose oceanic habitat and out-of-the-way nesting beaches make them among the least conspicuous of large animals, might have slipped into extinction without even a commemorative paragraph in the daily papers.

THE WINDWARD ROAD made people take notice. Among the first was Joshua Powers, a New York publishers' representative, who became so enthusiastic about the book that he sent copies to a number of friends and formed an organization called the Brotherhood of the Green Turtle. Out of this informal group evolved the Caribbean Conservation Corporation, which set in motion the worldwide effort to preserve sea turtles. The focus of this effort became a Costa Rican beach, Tortuguero, which was the last great nesting grounds of the green turtle in the Americas.

Green turtles, as the turtle boat captains knew but earlier scientists did not, feed in large numbers on Nicaragua's Miskito



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Bank and migrate to the breeding grounds at Tortuguero. They are joined there by other turtles swimming up from Colombia and Panama.

"Green turtles need entirely different habitats for feeding and nesting," Carr points out. "The Miskito Bank provides ideal foraging, with its extensive growth of sea grasses, which will only grow in quiet water. But sand beaches, in which green turtles bury their eggs, are created only by powerful wave action. These two habitats are generally far apart, and the turtles are obligated to move at intervals between them."

The Caribbean Conservation Corporation coordinated the job of setting up a research station at Tortuguero, where Archie Carr and his colleagues have carried out their studies on the green turtle. (Archie tells the story in detail in his book *SO EXCELLENT A FISHER*.) Costa Rica has protected Tortuguero Beach as a national park since 1975. The publicity and praise given to the Tortuguero project has stimulated an international demand that the beleaguered turtles, which were killed in appalling numbers for food and other "turtle products" on both their feeding and nesting grounds, be saved from extinction.

Protection is by no means universal. Large numbers of turtles are still taken legally by commercial boats in some places and by poachers in others. In *SO EXCELLENT A FISHER*, there is a marvelous photograph of a "poacher" uncovering turtle eggs on the beach at Tortuguero. Many of the book's readers must have wondered how Carr managed to photograph the culprit in the act.

Now the truth is out. The man in the picture, according to Archie, never poached a turtle egg in his life. In fact, he *hates* turtle eggs. But Archie wanted a

picture of a poacher, and there was a character around the Tortuguero camp who was reputed to have spent time in jail for other misdeeds, and certainly looked the part. Archie got along well with the fellow, so he asked him to come out on the beach and pose next to a pile of turtle eggs.

"Look real mean, *malo*," Archie told him.

The man good naturedly complied, and the result was an appropriately sinister photograph.

Archie Carr's susceptibility to the possibilities of adventure carried him away from the Caribbean and all the way to the heart of Africa in 1952. Through a friend at the University of Florida, he was invited to take part in a survey of the medically important insects in Nyasaland (now Malawi). From that expedition and three others to Africa, he put together his book *ULENDO*. Here he expresses the fascination with wild Africa that was kindled during his childhood in Fort Worth when he dipped into his father's books on natural history. But there is a sadness here too, as he sees that continent's large wildlife slipping away. Archie, once an enthusiastic hunter himself, reflects in a melancholy vein on the sight of a handsome, self-assured, American boy in the dining room of an East African hotel:

"A party in the last stages of preparation for a safari came in, and the boy was one of the group. There were two big men in khakis, with shortsleeved tunics over shortsleeved shirts and bullet loops around the tunics . . . My first thought, looking at him, was that he was a lucky boy. Not many boys have fathers who can give them an African safari for being good and manly.

"I listened to the men talking seriously about the great game they were setting out

to play, and I felt a little envious because no son of mine would probably ever go out on safari that way. But after thinking a while I was not so sure the boy was lucky. For his youth and a while afterward, he would have a solid thing to hold to—unless the Africans who are taking over their land should suddenly cut it off. But from the religious way the men were grooming him, they seemed to believe they were handing down some heritable asset for generations to come, like a good business or a wine cellar. What would be left of it when the boy would be his father's age? And how about the boys of the boy, I thought. What meaning would remain for them in the cult of the hunter?"

But always, as Archie Carr went about his studies, adventure was just a step away: a wrestling match with a twelve-foot python in the African bush, which Archie won by stuffing the snake's head into an eight-inch collecting bag Marjorie had sewn for him; a run-in with a fer-de-lance at Tortuguero, which the snake won by biting Archie on the right calf and very nearly killing him; a night encounter with a jaguar, which ended in a draw when the big cat got tired of standing eyeball to eyeball with him and slipped away. Just as memorable in its own way was the sight of a shining eye in the darkness proceeding slowly across a bridge high over a rain-swollen river in Trinidad, because when Archie finally got close enough to make the identification he discovered he had been following a very confused freshwater shrimp!

MARJORIE CARR'S Africa, her turtle beach, lies chiefly in the Florida peninsula. Although she continues to work with Archie on monographs about the breeding biology of the green turtle, most of her acutely concentrated attention is directed at the tangled environmental problem that is present-day Florida.

"If you find out what Margie does, please let me know," Archie said to a reporter not long ago. "The kind of work she is involved in is beyond my capacities—or comprehension."

It is not glamorous work. It is not the stuff out of which evolve books that sing. But if a little bit of natural Florida survives, it will bear traces of Marjorie's blood and sweat.

The work requires long hours on state highways, driving from Gainesville to Tampa, heading on to Miami, with perhaps a pressing appointment with a committee in Fort Lauderdale, and then a frantic rush to Tallahassee so that a few influential legislators bear in mind that

Marjorie Carr is alive and well and alert to the current status of some urgent environmental bill. Lobbying at the capitol is time-consuming because it means steeping oneself in all the facts legislators ought to know about a certain piece of legislation. Yet at the end of a long day passing the facts along to legislators, there is always more time needed to bring editors up to date, talk to business leaders about contributions, and rally the faint-hearted among one's own supporters.

Marjorie will always be remembered best for organizing the opposition to the Cross-Florida Barge Canal. She would be the last to suggest that the burden of assault on the Army Corps of Engineers lay solely on her. As a professional scientist, she was aware from the beginning that a project that seemed to be grounded so firmly in economics could only be stopped by more accurate facts and figures than the Corps could provide. The final balance sheet that proved the canal to be unsound both economically and environmentally was the work of dozens of scientists and other professionals from around the state. But always somewhere near the center of the battlefield was Marjorie, cajoling another scientist from the ivory tower to perform some onerous statistical analysis, or getting across her side of the

story to the press, or finding a few more dollars to bring the case to court.

That particular struggle has been going on for nearly twenty years, though it is now in the mopping-up stage. It began for her in 1962 when the Alachua Audubon Society, of which she was a board member, invited representatives of state and federal agencies to make a presentation to its members about the proposed canal.

"There has been talk of digging a canal across Florida since the days of sailing ships and pirates," Marjorie explains. "Some work was begun on a canal back in the thirties, but it was abandoned. Through the years talk persisted, but there did not seem to be enough to justify the project either in financial or environmental terms. Still, there's a lot of money to be made simply by digging canals and building locks and dams. The Corps of Engineers decided to go ahead with the canal in the sixties."

At the Audubon meeting on that long-ago evening there was a blizzard of questions from members, many of whom were university professors in Gainesville. The men who were there to puff the canal for the Corps were not able to provide satisfactory answers. It was soon apparent that the Oklawaha, one of Florida's loveliest,

winding, wild rivers, was going to be sacrificed to a boondoggle.

The Corps of Engineers began digging the canal in 1964. Local, uncoordinated attempts to stop the Oklawaha's destruction failed. Finally, in 1969, Marjorie Carr was instrumental in creating an organization called Florida Defenders of the Environment (FDE), composed mainly of scientists and other professionals. These people had the background to supply the courts, the press, and government agencies with reliable information on the project's destructive impact on the state. The new organization joined with the nationally known Environmental Defense Fund to bring suit against the Corps of Engineers.

In January 1971, a federal court issued a temporary injunction against canal construction. A few days later President Nixon ordered a complete halt to the project. Since then the Corps and its supporters have made spasmodic attempts to revive the project, but Marjorie Carr and her colleagues have kept up the pressure against it.

"The Corps has been vicious on some occasions since we stopped the canal," Marjorie says. "A few years ago they invoked a snagging contract that had been negotiated a long time before. They sent

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crews out and just cut the trees along a stretch of the river, especially fine old stands where the crowns met overhead to form a canopy. We finally got them to stop, and they were very apologetic. But their excesses of enthusiasm always seem to fall on the side of the canal builders."

Although the canal has been effectively stopped, a sixteen-mile stretch of the Oklawaha still lies in a kind of straitjacket, restrained by the Rodman Dam. A few miles below, the Eureka Dam and its lock stand incongruously in the lush countryside, symbols of the more than \$50 million squandered by the Corps of Engineers on this ill-conceived project.

"We won't rest until the Oklawaha flows completely free again," Marjorie promises. "Once the dams are removed and it is all opened up, the river will take care of itself. The banks can be reseeded, and with fast-growing trees those ruined stretches of river will be covered by forest in twenty years."

But Marjorie Carr has no intention of retiring from the environmental battle. Most of her energies these days are going into the running of a permanent office for the Florida Defenders of the Environment in Tallahassee. For the first time, FDE has a paid, full-time staff close to the scene where legislative matters are thrashed out.

Marjorie is in the process of raising \$300,000 for the first three years of operation.

"People have asked me why we need another conservation unit like our Environmental Service Center in Tallahassee," she said. "We will not be duplicating the environmental effort. Our single activity will be to gather facts and reports on environmental issues. We will be the only organization always on the scene at the capitol—not a radical, chip-on-the-shoulder group, but one that will work here with business and government in a cooperative approach to fact-finding and problem-solving on environmental issues."

SOMEHOW ARCHIE and Marjorie found time to raise five children, who are now all adults with vital careers of their own. Archie Carr III, who is always called "Chuck," is assistant director for animal research and conservation at the New York Zoological Society. Mimi is an actress in San Francisco, Stephen is an artist at the Florida State Museum, and Thomas does research on whales at the University of Rhode Island. David and his wife, Peggy, are carrying on management studies in the Costa Rican national parks.



McNown 1980

Archie Carr has remained at the University of Florida to see the last of his graduate students through to their doctorates. Each of these three young women has made major contributions to piecing together the latest dossier on sea turtle biology.

"These were the three best graduate students I ever had," Archie said in his office at the university this fall. "One of them, Jeanne Mortimer, has gotten her doctorate and works on sea turtle conservation problems in the Seychelles. Anne Meylan is doing her work in Central America on the feeding ecology of the hawksbill turtle. And Karen Bjorndal, who has her doctorate too, has been making nutritional studies on green turtles on Great Inagua in the Bahamas."

Archie's chief concern remains the tagging and monitoring program at Tortuguero, which has been in continuous operation for twenty-six years. Turtles, in fact, occupy as much of his time as they ever did. He works closely with various international organizations on turtle conservation, while he pursues two major problems of their biology.

One deals with the question of the "lost year." When turtles hatch on the beach, they swim out into the surf, and until recently no one has had any idea where they go or how they live until they begin to show up with the adult population a year or two later as dinner-plate-sized turtles. Archie believes the best clues now point to their hiding out in large, drifting masses of seaweed, or sargassum, where they find shelter as well as small organisms on which to feed.

The other major question deals with navigation. How, exactly, do turtles reach a specific landfall across hundreds or perhaps thousands of miles of open ocean?

"It's not simply a question of some innate ability to head in the right direction," Archie says. "For instance, how do they compensate for currents, obstacles in their path, and major changes in weather conditions? I hope to get an 'address' on a satellite from NASA, not just to track turtles but to design complicated experiments and then track the turtles to see how they solve these problems of obstacles and weather. The ability of some animals, such as sea turtles, to find tiny islands in the open ocean ranks as one of the most advanced aspects of natural selection. We haven't the vaguest idea how they do it."

So, at seventy-two, Archie Carr's life still unrolls before him as a quest for knowledge, the most intense of all human adventures. Minor diversions, though, keep cropping up. Earlier last year he was at work in his office when he heard a

commotion in the next room. "Snake!" a secretary screamed, and as Archie dashed in she pointed a trembling finger at a plastic cottage cheese container rolling across the floor. He picked it up, snapped open the lid—and a pygmy rattler struck him sharply on the tip of his right thumb.

"I saw the snake's pattern at once, and knew I was in trouble," he said afterward. "It hurt like hell. I grabbed the thumb with my left hand and squeezed as hard as I could. I must have squeezed out all the venom, because by the time they got me to the emergency clinic it was all gone."

The rattler had been left on a desk by an undergraduate who had finished studying it and wanted someone to release it outside the city. A detail she had overlooked was to mark the box or let someone know that there was a snake inside. A secretary, returning to her desk, was naturally curious about the little container beside her phone and peeked in. At that point the rattler was probably too sluggish to strike, but after it had been thrown halfway across the room, it was understandably riled and just itching for another chance.

Archie was doubly distressed but, typically, not for the reasons one might suppose. For one thing, he felt sorry for the student when he learned how broken-up she was about the incident. And, for another, he was irritated because someone had rushed over from the state museum and killed the snake.

"It would have made a beautiful little pet," he said ruefully.

In summing up the achievements of Archie and Marjorie Carr, the point to make is that they are not visionaries. Neither is addicted to the heroic stance. They have coped with the realities of the modern world, brought up their children decently, and had the guts to make some enemies along the way. Having identified what matters most, each has gone about trying to safeguard it with spirit and a fine attention to detail.

Despite their successes, they have seen some disheartening changes in the things they care about. Sea turtles were still relatively abundant when Archie began to study them. The countryside in which Marjorie grew up was closer in substance to that of William Bartram than to the Florida of today's condos and shopping malls. But if, in the future, we ever watch a green turtle crawl up on a quiet beach to lay its eggs, or we canoe a wild, winding stretch of the Oklawaha, we ought to spare a nod of appreciation in the Carrs' direction.

Archie and Marjorie Carr are not the sort of people who build monuments. They leave them. ▲

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