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No Heart, No Moon

THE SPACE RACE killed the sparrow.
Of course, there were other factors.

There was the decision in '46 by the Brevard Mosquito Control District to slather the Merritt Island salt marshes in DDT dropped aurally from a No. 2 diesel fuel carrier.

Then, because the mosquitoes grew resistant to DDT, there was the application of BHC and Dieldrin and Malathion.

There was brand name FLIT, a petroleum derivative, the same stuff that was sprayed over the Spanish moss that hung from the rafters of the Rhythm Club in Natchez the night the one-story building went up in flames killing 209 people.

There was Paris Green powdered finely over the dikes, the same stuff that killed Parisian rats; the same popular pigment used in the paintings of Cézanne and Van Gogh; the same crystalline powder that, despite its name, gave fireworks their blue hue.

There was the direct and indirect poisoning from various insecticides. The physiological problems. The eggshell thinning. The reproductive failures.

There were the dikes themselves. The impoundments built up along Banana Creek and Banana River. The flooding of the salt marshes to drown out the mud-loving mosquitoes.

There was the railroad causeway that went up just north of Roach Hole in 1963.

There was the loss and degradation of habitat. The disappearance of cordgrass and seashore saltgrass.

There was the invasion of dense sea myrtle and snakes and raccoon and aggressive redwing blackbirds.

There were the controlled burns.

And the flooding. So much flooding.

The Orlando Jetport that opened to the public in 1962.

There was the SR 528, otherwise known as the Martin B. Anderson Beachline Expressway: the Bee Line that stretches from the Space Coast all the way to Disney.

And make no mistake: Disney was involved.

But more than anything, the fate of the dusky seaside sparrow was intertwined with the space race that started sometime around '55 with Khrushchev, Sputnik, Yuri Gagarin, Kennedy, and that Special Message to Congress on Urgent National Needs in which JFK so boldly declared, "It will not be one man going to the moon—if we make this judgment affirmatively, it will be an entire nation."

That was the real deathblow to the dusky seaside sparrow: man's ambition. The year NASA purchased most of North Merritt Island, where the largest colony of dusky seaside sparrows lived, was the same year John F. Kennedy stood in front of a crowd of thirty-five thousand people at Rice Stadium in Houston, Texas, and said, "We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win, and the others, too."

Many ornithologists had observed that these particular birds, no larger than canaries, their feathers black-and-white, kept a limited range for hunting, nesting, and habitation. They were known for their unique tendency to stay close to home. They were a nonmigratory species. So perhaps—just maybe—the duskies were also responsible for their own demise. Perhaps they were simply either unwilling or unable to adapt. Maybe they simply lacked the boldness that made us humans consider leaving our first and only home.

But as surely as Americans would one day step foot on the moon, so, too, would the dusky seaside sparrow travel beyond the land it had always known, touching down finally about an hour west across the center of the Sunshine State in what was then being touted as "The Vacation Kingdom of the World."

After he journeyed to the center of the earth, but before he traveled twenty thousand leagues beneath the sea, science fiction author Jules Verne set his sights on outer space.

Following the end of the American Civil War, Verne released the fourth book in his Extraordinary Voyages series: *From the Earth to the Moon*. In it, members of the Baltimore Gun Club attempt to build a cannon so long and powerful it can launch three men to the surface of the moon.

The novel got a lot of things wrong.

For instance, Konstantin Tsiolkovsky, a Soviet rocket scientist and one of the

founding fathers of astronautics, critiqued Verne's theory of using a cannon to reach the moon. The explosive force required to achieve the escape velocity necessary to exit Earth's atmosphere would have disintegrated the cannon, the men, and the dreams inside each of their heads. Even so, *From the Earth to the Moon* inspired Tsiolkovsky, and many of his theories were later used to shape the Soviet space program that would eventually send both the first satellite and the first animal into orbit.

And there were plenty of things Verne got right.

One of them was placing the location of his imagined launch site at N 27°7'0", W 82°9'0", an area more commonly known as Florida. In doing so, he planted the Sunshine State in the American subconscious as a sort of gateway between myth and reality—here and there, Earth and moon.

Fools would call it fate that Verne wrote about Florida, but Fate is a town in Texas over six hundred miles west of Florida, just a half-hour drive from Dealey Plaza in Dallas, where John F. Kennedy was assassinated. Fate—the town—was also the place where Lee Harvey Oswald's widow got remarried. When you start to pick apart fate—the idea, not the place—you begin to realize it doesn't make sense. Fate is a cannon inside your head capable of shooting you to the moon, but the future is something much different.

Nearly a century after the publication of *From the Earth to the Moon*, a joint NASA-air force team was busy looking for the location of their new launch site. Of the eight sites up for consideration, there was Brownsville, Texas; the White Sands Missile Range in New Mexico; and Cumberland Island, Georgia. The engineers had to consider access to deepwater transport, the populations of surrounding towns, and the type of land available and the cost of it.

The same can be said of Walt Disney, who, before selecting Orlando as the future site of Walt Disney World, visited investors in Niagara Falls; the Saint Louis Riverfront; Marceline, Missouri; and the blighted area of Kansas City known only as Signboard Hill. After settling on Florida, Disney and his team first considered a six thousand-acre parcel of land on East Lake Tohopekaliga and sites in Sebring and New Smyrna Beach. After weighing factors such as weather and access to tourists and price per acre, Disney purchased almost thirty thousand acres of Florida swampland between Orlando and Kissimmee by way of various shell corporations.

Nowhere in the official documentation was a quality such as fate admitted into the decision-making process for either NASA or Disney. However, there was the strange fact that, on the same day John F. Kennedy was assassinated—November

22, 1963—Walt Disney reportedly looked out the window of a small twin-propeller plane and decided that the stretch of freshwater lakes and interstate construction below would be the site of his next greatest project. Now, you might be able to call that fate. But the piece of land Disney saw from his window had already had a host of other names.

In fact, it was a tiny island in the center of Bay Lake that Disney was rumored to have fallen in love with when he and his associates flew over it on November 22, 1963, while scouting potential locations. When Disney first purchased this island, it was known as Riles Island, and before that, Idle Bay Isle and Raz Island, and later on, Treasure Island and Discovery Island, and before being abandoned altogether, it would eventually become known as the final resting place of the last dusky seaside sparrow.

The race to the moon was first a race to send a living creature beyond the Kármán Line, that invisible altitude sixty-two miles above sea level that separates Earth's atmosphere from outer space. Technically, the United States won that first sprint in 1947 when they launched fruit flies on about a one-hour round trip journey into the thermosphere and back. In the immediate years following the success of that first journey, the U.S. sent up white mustard, scarlet globe radish, Radium Brand spring rye, and wild lily seeds that were all soaked and planted in the ground upon their return. In an alternative history, the road to the moon would be lined by radiation-kissed wildflowers and root vegetables that glow in the dark, but in this version of events, the route to the moon was perilous, the shoulder littered with irradiated perennials and roadkill. If the moon were a goddess hungry for sacrifice, then each failed biological payload was evidence of her insatiable appetite.

The death of Albert I, the first rhesus monkey to be rocketed into outer space, was soon followed by the death of Albert II. There were also dozens of white mice and hamsters, anesthetized cats, dogs, frogs, and fertilized chicken eggs. It was only in 1957 that the Soviet Union successfully carried an animal into orbit. The dog's name was Laika, and, at the time of her launch, the Soviets had not yet developed the technology to retrieve spacecraft from orbit. She is thought to have died hours after takeoff, but her vessel orbited above Earth for five months. The Germans called her the "She-Hound of Heaven." The Americans preferred "Muttnik."

Only a year after that, the United States launched an intermediate-range ballistic missile manned—or monkeyed—by a Navy-trained South American squirrel monkey named Gordo. While Gordo made it into the upper reaches of the

thermosphere, past where the International Space Station currently orbits, his capsule's parachute failed to open when he reentered Earth's atmosphere, and he sank into the depths of the Atlantic. Scientists believe Gordo was alive at the time of impact because the in-flight telemetric data being transmitted back to Earth indicated a slight elevation in pulse at splashdown.

While the U.S.S.R. eventually won the space race in 1961 by sending Yuri Gagarin into orbit, the Americans stole the show again on July 16, 1969, when NASA launched a Saturn V rocket from the Kennedy Space Center in Merritt Island, Florida. Four days and nearly 240,000 miles later, the three-man crew of Michael Collins, Buzz Aldrin, and Neil Armstrong arrived at their destination. Collins piloted the command module *Columbia* as Aldrin and Armstrong descended toward the moon's surface inside the lunar module named after the national bird of the United States: the *Eagle*.

Armstrong's heart rate jumped from 77 bpm to 156 bpm as Aldrin called out the altitude readings: "750 feet, coming down at 23 degrees . . . 700 feet, 21 down . . . 400 feet, down at 9." When they finally touched down, Armstrong quietly said, "Houston. Tranquility Base here. *Eagle* has landed."

The dusky seaside sparrow was still stuck back down on Earth. In fact, in that same year, one biologist observed that only thirty singing male dusky seaside sparrows remained on Merritt Island. The scientific community had been sounding the alarm about the disappearance of the dusky for years, but there was little concern shown beyond the small circle of ornithologists studying Florida's Atlantic coast. The average sparrow is about as large as a human heart, though not nearly as important to the survival of actual humans. Perhaps the greatest thing the dusky seaside sparrow had working against it was that it was not as glorious or impressive as other species. It was no bald eagle. It was no heart. It was no moon.

What the duskies needed was to develop the same kind of drive that made Kennedy look toward the stars, that made Disney look down from the sky at a tiny patch of island in the center of Florida's Bay Lake and say, *There. There's the spot where I'll change the world*. Either that, or they simply needed support and publicity if they were going to survive.

Luckily, support did arrive. In 1971, the same year the Walt Disney World Resort opened just fifty miles west of Merritt Island, the federal government allocated over \$2 million to purchase 6,250 acres beside the Indian River to create the Saint Johns National Wildlife Refuge, home to the only other dusky population that was known to exist.

Even so, the dusky completely disappeared from Merritt Island over the course of the 1970s. The habitat west of the refuge, along the Saint Johns River, was ill managed. The Bee Line Expressway that stretched between Florida's Space Coast and Orlando was expanded. Residential properties were erected. The marshes were continually drained, invasive shrubs grew in thick, and ranchers conducted controlled burns to create more pastureland. Because the bald eagle had been declared an endangered species in 1967, and because it had flown all the way to the moon, new environmental protections were put in place and its population steadily rebounded. However, by 1979, only six dusksies remained in Saint Johns National Wildlife Refuge. Biologists were able to trap only five for a captive-breeding program that was the last chance to save the species. There was just one problem: all of the surviving sparrows were male.

While the dusksies dwindled on the Florida coast, their new habitat was being prepared in the center of the state.

Originally intended to debut as a pirates' getaway that would emulate the 1950 Disney film of the same name, Treasure Island was built up with fifteen thousand cubic yards of soil and a thousand tons of trees and boulders, transforming it into a tropical oasis where, with the purchase of a Special Adventure ticket, guests could sail across the Seven Seas Lagoon into Bay Lake to spend the day exploring the wreckage of a fictional ship, the *Walrus*, and observing a variety of imported flora and fauna.

Opening to the public on April 8, 1974, Treasure Island became a singular place in the Walt Disney World Resort. There, visitors could spot brilliantly colored macaws and cockatoos from Cap'n Flint's Perch and stumble across vulturine guinea fowl while traipsing through the Indian orchid trees, blue passion flowers, and Chinese gardenias that stretched all the way from Black Dog Bridge to Scavenger Beach.

Despite its being billed as a "tropical island paradise," Treasure Island failed to attract many visitors. So in 1976 Treasure Island closed down for redevelopment. A snack bar was added, along with an aviary, and the pirate references were scrapped. A few months later, Discovery Island opened as not only a tropical destination for Disney tourists, but also a breeding facility for rare birds that would shortly thereafter be accredited by the American Association of Zoological Parks and Aquariums.

The five surviving dusky seaside sparrows that had been captured in Saint Johns National Wildlife Refuge were named after the colors of the identification bands

affixed to their tiny legs: Orange Band, White Band, Red Band, Yellow Band, and Blue Band. While some of them would eventually wind up at Disney's Discovery Island, they first traveled to the Santa Fe College Teaching Zoo in Gainesville, Florida. In a cooperative effort with several organizations, including the Florida Museum of Natural History and the Wildlife Research Laboratory of the Florida Game and Fresh Water Fish Commission, the last male duskies were entered into an experimental breeding program, where they were mated with females from a closely related subspecies that was native to the Gulf Coast: the Scott's seaside sparrow. The goal of this program was genetic backcrossing, in which the first generation of female hybrid offspring, being 50 percent dusky, would mate with the remaining pure duskies to produce chicks of 75 percent purity, and so on for several generations, in hope of eventually producing a bird that was at least 90 percent dusky.

While Red Band died of a tumor early in the breeding program, the remaining four duskies made the journey to Discovery Island to continue the crossbreeding experiment. It was just about this time, and halfway across the theme park, that Walt Disney's original dream was being resurrected from the ashes. Eleven years after the Walt Disney World Resort first opened, so, too, did EPCOT Center.

Originally modeled on Ebenezer Howard's *Garden Cities of To-morrow*, Disney first imagined EPCOT Center (later renamed Epcot) as a kind of urban utopia, unmarred by crime and poverty and waste, radiating outward in concentric circles of entertainment, shopping, green space, industry, and high-density apartment housing for twenty thousand live-in residents. More than anything, Epcot was supposed to function as a model "progress city" that tourists could visit, enjoy, and later try to emulate in their own hometowns.

Walt Disney often spoke of Epcot like Kennedy spoke about the Moon. He spoke of challenges and new technologies and better tomorrows. He called Epcot a "virgin land" and a place "that will always be in the state of becoming." As something that wasn't quite fate would have it, this turned out to be true, just not in the way Walt Disney had imagined.

Housed in a building known as Spaceship Earth, an eighteen-story geodesic sphere designed with the help of science fiction writer Ray Bradbury, Epcot wasn't the fully functional live-in city Walt Disney had originally pictured, but it was an attraction that promised to offer guests a glimpse into how something like a future was created.

The attraction itself was composed of a time machinesque experience that took guests on a sixteen-minute, dark ride through a history populated by animatronic figures. While guests were on the ride, lights and projectors drew their attention to a series of important historical moments—the origin of prehistoric man, the invention of the alphabet, the fall of Rome, the Renaissance, and the Apollo 11 *Eagle* landing on the moon—all of which, much like time itself, quickly faded into darkness and receded into the past as the train of guests crept forward.

In Epcot's early days, the entire journey through time was narrated by Lawrence Dobkin, a voice made famous during the golden age of radio. At the end of the ride, guests would arrive at the top of the track only to be met with a large planetarium full of twinkling stars and galaxies so close they seemed attainable by simple extension of the arm. Then the vehicles turned around and made their descent back into reality, the artificial sky slowly fading from view. This was just about the point in the ride where Lawrence Dobkin's ethereal voice echoed, "Tomorrow's world approaches, so let us listen and learn, let us explore and question and understand. Let us go forth and discover the wisdom to guide great Spaceship Earth through the uncharted seas of the future. Let us dare to fulfill our destiny." For those who didn't have the time or money to purchase the Special Adventure ticket that would have taken them out to Discovery Island, it sure would have been neat to have the silvery tweee-tweee of the dusky piped in through the speakers.

Success stories of imperiled species coming back from the brink of extinction are not unheard-of. In fact, the Endangered Species Act, passed by Congress in 1973, played a part in saving the nene, the American peregrine falcon, and what John F. Kennedy once called a bird that "aptly symbolizes the strength and freedom of America": the bald eagle.

The dusky seaside sparrow was among the species protected by the Endangered Species Act. However, the crossbreeding program that took place on Disney's Discovery Island presented an interesting challenge. As reported by the *Chicago Tribune*, the hybrid sparrows, at least in the view of the U.S. Fish and Wildlife Service, were a "nonspecies—deserving neither federal protection nor the right to be released on federal lands."

Between the remaining four duskies—Orange, Yellow, Blue, and White—only five viable hybrid chicks were produced. One was a male of 75 percent purity, while the other four were females that were 25, 50, 75, and 87.5 percent dusky, the last of

which was thought by ornithologists to have looked nearly indistinguishable from a purebred bird.

The original duskies and their chicks lived in eight-by-ten-foot screened-in cages stocked with clumps of native cordgrass, crickets, and insect larvae. At the top of each cage was a miniature sprinkler system that rained down pockets of mist when the weather was at its hottest. Their faux habitats were hidden from the public eye, tucked away safely between the toucan exhibit and the Discovery Island restrooms. By the time Blue died and then Yellow and then White, the Discovery Island tour guides spoke in hushed whispers about the only two birds left with any hope of success—Orange and the 87.5 percent—as “a project for salvation.”

It really can't be overstated: 1986 was a year of failed flight.

On January 28, the NASA Space Shuttle orbiter *Challenger* lifted off from Kennedy Space Center in Merritt Island, Florida. On the CNN live broadcast, Tom Mintier had just said, “So the twenty-fifth space shuttle mission is now on the way after more delays than NASA cares to count,” when the *Challenger* broke apart over the Atlantic Ocean seventy-three seconds into its flight. It was the *Challenger's* tenth launch. There had been at least eight delays, from bad weather at the transoceanic abort-landing site in Dakar, Senegal, to a malfunction of the microswitch indicator used to ensure that the hatch was safely locked.

For the people watching, either from their living rooms or the grassy lawns alongside the Florida coast, it appeared as if the orbiter had unexpectedly exploded in a giant fireball. But there was no explosion, at least not in the traditional sense of the word. Despite the fact that history would remember the flight of the *Challenger* as ill-fated, fate had little to do with what happened on that cold January morning in 1986.

The disintegration was actually caused by an O-ring seal that failed shortly after lift-off. During preliminary tests, a number of NASA engineers filed reports and voiced concerns that the O-rings were faulty, even going so far as to redesignate the small rubber parts “Critical 1,” knowing that the failure of a part so seemingly miniscule as the O-ring could open an almost indiscernible gap in the infrastructure of the orbiter, through which gases would leak and combust. Both NASA managers and engineers had been aware of this problem since 1977.

The Rogers Commission, charged with investigating what caused the *Challenger* to disintegrate just over a minute into its flight, concluded that the tragedy had little to do with fate and more to do with “go fever,” a uniquely human condition

rooted in our ability to overlook issues and ignore risks based on a desire to succeed, even in the face of irrefutable danger. The commission eventually surmised that what had happened to the *Challenger* was “an accident rooted in history.”

The same could be said of the ill-fated dusky seaside sparrow. Of the few remaining birds with dusky blood still in them, only Orange Band and the one hybrid female chick—the 87.5 percent—offered a viable path forward, to redemption, to achieving a dusky that was over 90 percent pure. If there were ever a place where finding salvation seemed not only possible, but also likely, then it would have to be at Disney World, “Where Dreams Come True.”

Science fiction author Jules Verne has been called a “merchant of dreams” because of books like *Twenty Thousand Leagues Under the Sea* and *Journey to the Center of the Earth*. He trafficked in dream machines, in opulent submarines, elephantine locomotives, and cannons capable of blasting men all the way to the moon. That was the beauty of a Vernian dream: the future was capacious. There was room enough for anyone and everyone. In an eight-by-ten-foot bullet-shaped room called a “projectile coach,” Verne was able to comfortably fit fifty gallons of brandy, two dogs, six rifles with plenty of ammunition, a dozen small shrubs, a half-dozen chickens, several cases of wine, enough food and water to last an entire year, and three adult men all bound for the moon.

The employees of Disney’s Discovery Island could have learned something from Jules Verne, who knew so well how to preserve the future in an eight-by-ten space, dimensions that proved too small for the dusky seaside sparrow. In 1985, Orange had given birth to another 87.5 percent dusky, the sister of the hybrid female with which he ultimately failed to mate. The chick broke its neck against the side of the cage. Charles Cook, the head curator of Discovery Island at the time, said, “It was a terrible misfortune. They fly in a straight line. They take off like a jet fighter. They have to learn their boundaries.”

Orange Band died on June 17, 1987, just an hour’s drive from Merritt Island, fifty or so miles as the crow flies. He was blind in one eye and estimated to be as old as fourteen. “At the end,” Tom Sander of the Florida *Sun Sentinel* reported, Orange “was treated like royalty, kept in a special eight-by-ten-foot cage, cooled and bathed by a soft artificial rainfall, fed a particularly nutritious diet of crickets, seeds and grubs and protected from infection by a requirement that his human guardians disinfect their boots every time they came to pay a visit.”

The sort of rosy ending that Sander imagined has long been a fixture of our storytelling: that everything will be OK. That against all odds, humanity is destined

not only for survival, but also for greatness. But if history has shown us anything, it is that there is no such thing as destiny.

There is no such thing as fate.

There is only the future, itself an accident rooted in history, an inadvertent offspring of the past so similar in appearance and design that it is sometimes indistinguishable, even to the trained eye.