



UP and Away to Angel Falls and Paradise Falls

by
Karen Angel
Jimmie Angel Historical Project

British documentary filmmaker Adrian Warren (1949-2011) and I commenced an email correspondence in 2002 while he was in post-production for his PBS film *The Lost World – Venezuela's Ancient Tepuis*. When I heard from Warren that he was the consultant for Pixar Animation Studio's [2009 Academy Award winner] animated movie *UP*, I was delighted that Pixar had selected him because he was a respected authority on the Tepuis and their exploration history.¹

I was interested to see how the Pixar animators would portray the geology, flora, and fauna of the Tepuis in contrast to the organic features I was familiar with from my several trips to Auyántepeui and Angel Falls.² I anticipated that there would be few, if any, similarities between the characters in Jimmie Angel's Great Savannah and Angel Falls exploration history.

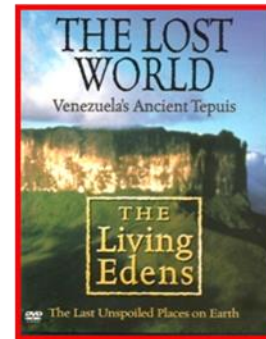


Adrian Warren Archive

Adrian Warren filming from the summit edge of Roraima

Warren's tepui explorations began in the early 1960s as a field biologist and continued through 2011 as a documentary filmmaker.

2003 PBS "The Lost World"



2006 Disney • Pixar guide for 'UP'

Before I compare and contrast the geology, flora, fauna, and characters in *UP*'s story with Jimmie Angel's story, a synopsis of each story is presented.

UP Story: Carl Fredricksen and his neighbor Ellie met as children in Midwestern United States and shared their dreams of adventure and their desire to live by Paradise Falls in Venezuela. Famous in the 1930s, daring American aviator-explorer Charles Muntz, with his dirigible named *Spirit of Adventure*, was their childhood hero.

Carl and Ellie married and hoped to have a child, but that dream is not realized. During their marriage Carl worked as a balloon salesman and Ellie worked in the South American information center in the same park where Carl sold balloons, maintained their home, and kept their dreams of adventure alive. Unfortunately, life got in the way and Ellie died an old woman with their dream of living by Paradise Falls unrealized.



Carl & Ellie
dream of
Paradise Falls



Graig Foster (graphic design), Ellie Docter, art, *The Art of UP*, Disney • Pixar

Alone, an old man of 80-years, Carl was cast adrift in a sea of remorse and was on the verge of forced eviction from the house where he had lived with Ellie. In anger and desperation, he tied thousands of balloons to the house and set forth on an aerial voyage of discovery. Stowaway Wilderness Explorer Scout Russell was on board the flying house; actually, he was on the front porch waiting for Carl to answer the door. Russell was a rotund, talkative, and lonely boy who pursued Carl because he wanted to earn an "Assisting the Elderly" merit badge. Carl was the old man he wanted to assist; Carl did not want to be assisted.

Eventually the house, with passengers Carl and Russell, landed on a mysterious Tepui (tabletop mountain) named Auyántepui in the Great Savannah of southeastern Venezuela. They can see Paradise Falls in the distance and Carl and Russell set off to take Ellie's tethered house to the waterfall.

On their journey to Paradise Falls, they encountered a large exotic bird named Kevin. Kevin was on the run from Carl and Ellie's childhood hero, the famous Charles Muntz. Years earlier Muntz had claimed discovery of the bird, "The Monster of Paradise Falls," but his peers had laughed at him saying the bird did not exist. Muntz was expelled from the Explorer's Club. To prove them wrong, Muntz had dedicated his life to capturing a live bird.



Kevin, Russell, Dug and Carl with Paradise Falls in the background.
Pixar Animation Studios

Carl and Russell next encountered a friendly dog named Dug who can speak because his owner, again the famous Muntz, had designed a special collar which translated a dog's thoughts into human language; there were several language choices on the collar. Muntz and his pack of talking, aggressive hunting dogs were in pursuit of the bird. Friendly Dug was an outcast from Muntz's dog pack and was in pursuit of happiness with humans who would love him.

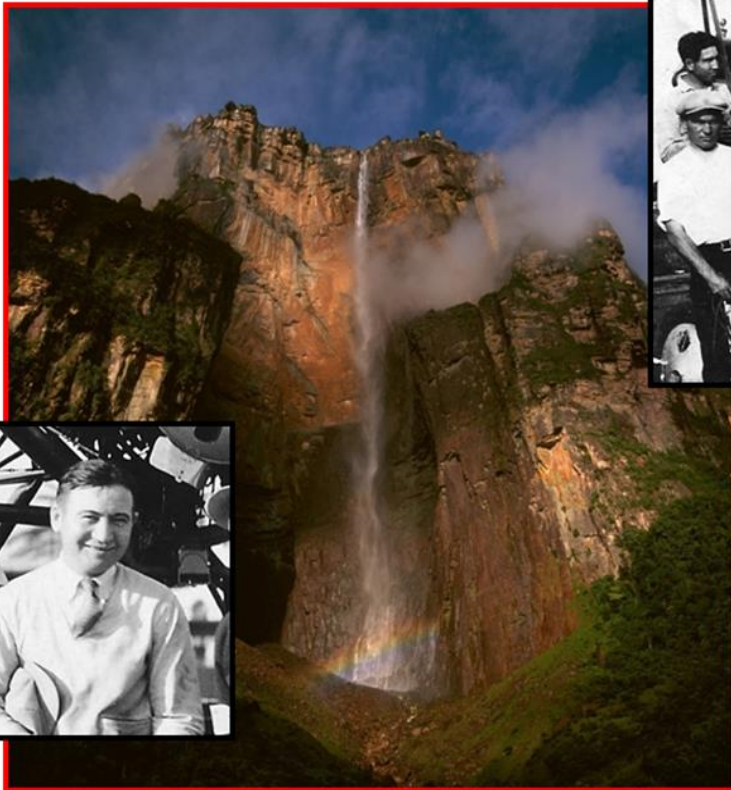
At the conclusion of their journey to Paradise Falls, Carl had to let go of the house, which represented his old life with Ellie, and fight Muntz for the survival of Russell, Kevin, and Dug who were his new life. In a wonderful

ending, the house when released by Carl floated on its own and landed next to Paradise Falls; Ellie's dream was fulfilled.

Jimmie Angel Story: Jimmie Angel (1899-1956) was born in the Midwestern state of Missouri in 1899 and became a pilot. He barnstormed across the United States during the 1920s with his first wife Virginia (Martin) Angel (1906-1985), who was from the Midwestern state of Oklahoma, and three of his brothers Eddie, Parker, Clifford, and their wives. His fourth brother, my father Clyde Marshall Angel (1917-1997), was too young to fly with his older aviator brothers.

Angel Falls The world's tallest waterfall: 3,212 feet / 979 meters

Photo: Adrian Warren



The five Angel brothers and their parents, 1927



Angel told the following unverified story to my father and to many other people who did and did not believe him: In 1921, he was hired for \$5,000 in Panama to fly an American mining geologist named McCracken to the top of a mysterious tabletop mountain in southeastern Venezuela where they collected many pounds of gold from a riverbed. Several years later, Angel heard that McCracken had died in the United States, and he began his quest to find McCracken's "River of Gold."



Carl & Ellie



Photos: JAHF Archive

Jimmie & Virginia Angel, 1924

While married to Virginia, Angel was hired as an aviation-guide for an exploratory resource expedition to the Great Savannah where he saw Angel Falls for the first time on a solo flight into Auyántepeui's Churún Canyon (also known as Devil's Canyon) 16 November 1933. Four years later, searching for the "River of Gold," he landed his airplane, named *El Rio Caroni* (The River Caroni), on the summit of Auyántepeui in the company of his second wife Marie (Sanders) Angel (1906-1987), who was also from Missouri, and two other companions. On landing, the airplane became bogged in mud, and he was not able to take off. The landing party was forced to abandon the airplane and struggled for eleven days to reach their camp in the Kamarata Valley at the base of Auyántepeui.



El Rio Caroni was mired in mud on Auyántepeui's summit, 9 October 1937. Jimmie Angel is standing next to Marie while Miguel Angel Delgado digs through the grass.

Photo: Gustavo Heny, JAHP Archive in association with Enrique Luca Collection

Angel's stories about a "mile high waterfall" and an unexplored Tepui inspired the 1937-1938 American Museum of Natural History's (AMNH) Phelps Venezuelan Expedition to Auyántepeui. In 1939, Jimmie worked as the aviator-guide for the Venezuelan Ministry of Development's Great Savannah Expedition and met AMNH paleontologist George Gaylord Simpson. In the same year, the Venezuelan government acknowledged him by naming the waterfall Salto Angel (Angel Falls) in honor of his explorations. He died at age fifty-seven in the Canal Zone.

LOCATION
LOCATION
LOCATION



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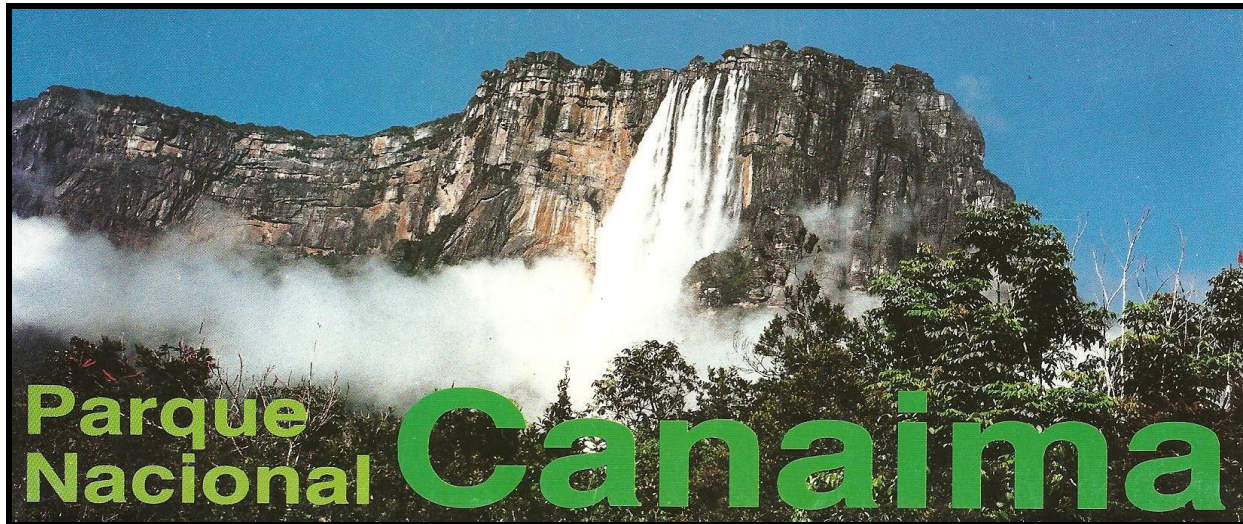
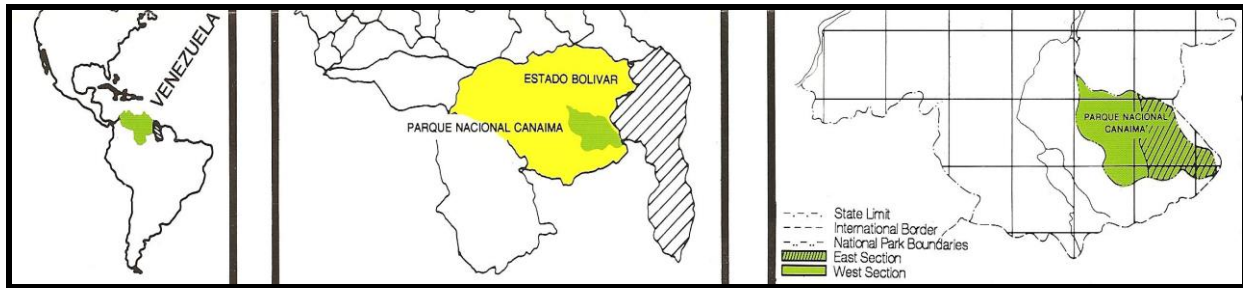
LOCATION

Pixar Animation Studios is known for its meticulous research. According to Ricky Nierva, *UP*'s Production Designer, *Ratatouille*'s key people "took an amazing research trip throughout Paris especially the 5-star restaurants." The key people who created *Toy Story 3* and *Wall-E* were less fortunate and made due with visits to regional East (San Francisco) Bay landfills.³ The primary location for *UP* was Canaima National Park in southeastern Venezuela, a region known as the Great Savannah and the "Lost World."⁴ The park is home to most of the Tepuis and the world's tallest waterfall, Angel Falls, called Paradise Falls in *UP*.

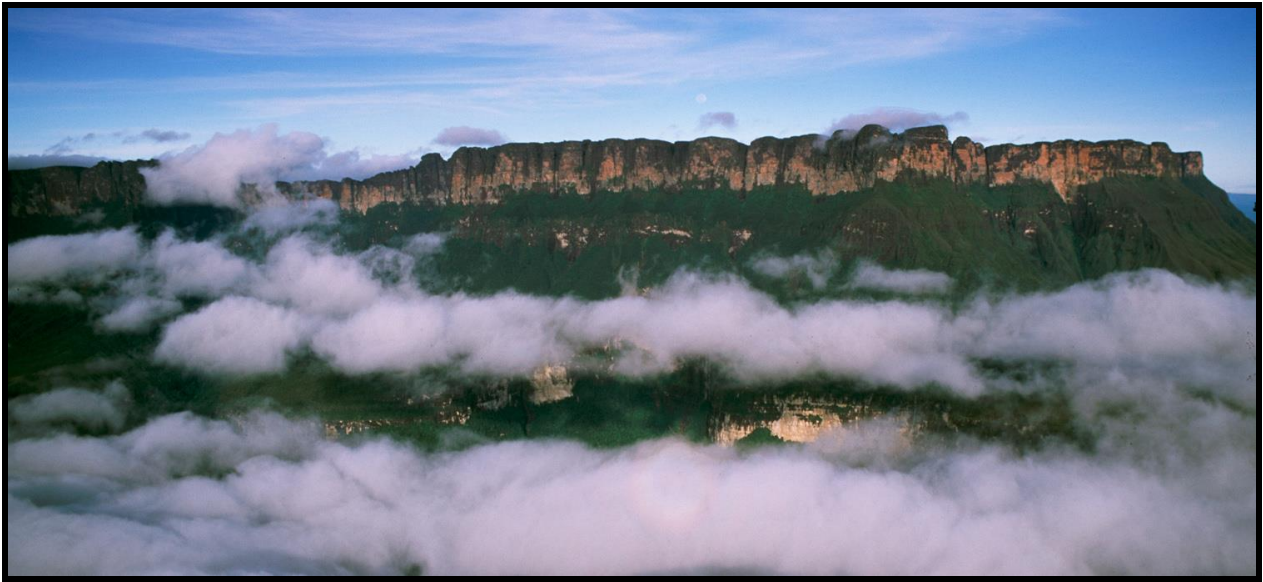
According to Pete Docter, *UP*'s Director, "Ralph [Eggleston, a Pixar production designer] gave us a documentary about the Tepui mountains in South America and as soon as I popped the DVD [of Warren's film] my hair stood on end because I knew this was where we should set the movie."⁵

"We were looking for places to put our characters and put them stuck together. We thought a tropical island ... (But) we saw a documentary by Adrian Warren, and he came to Pixar to show us some other places ... We

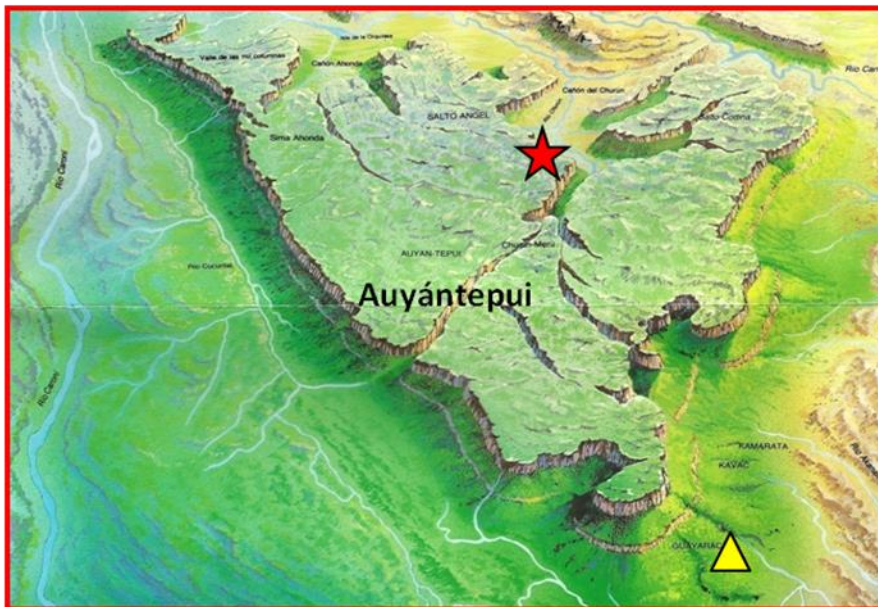
said, 'We need to go there!' This place is unique, very specific, we really needed to experience what it's like to put it in the movie.⁶



Living in England, Warren was contacted by Docter in 2005 and invited to the Pixar Animation Studios in Emeryville, California, located at the east end of the San Francisco Bay Bridge, to talk with the *UP* production team about the landscapes they had seen in his documentary film. The decision was made for the team to go to the Tepuis and Angel Falls with Warren as their guide. Warren also participated in the making of Pixar's companion documentary film about the making of *UP* titled *Adventure is out There*.⁷



Auyán-tepui.
Photo: Adrian Warren

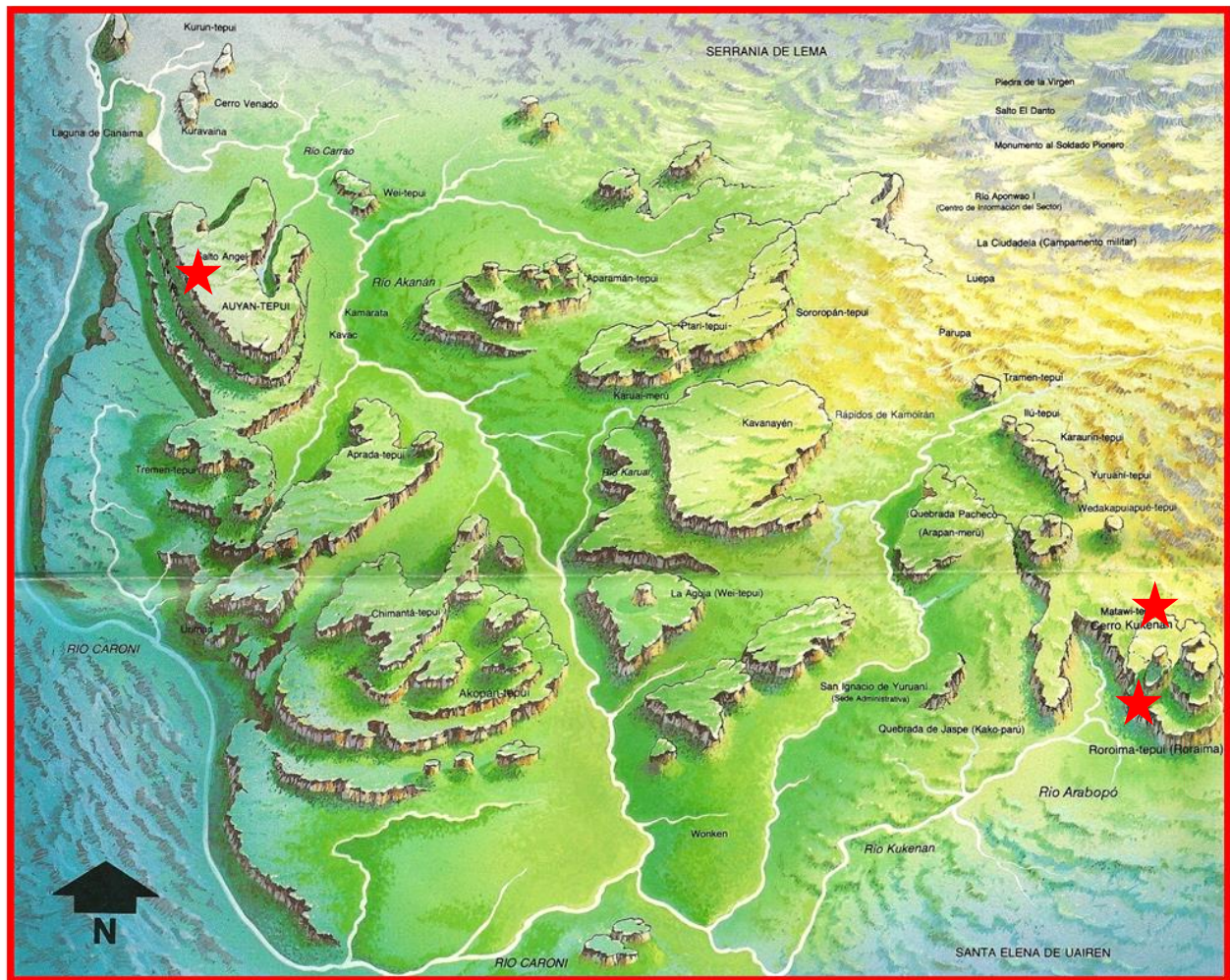


Auyán-tepui
“House of the Devil”

★ Angel Falls
3,212 Feet
979 Meters

▲ Kamarata

Canaima Nation Park's "Islands in Time"



★ **Warren took the Pixar team to three Tepuis: Roraima, Kukenán, and Auyántepui.**

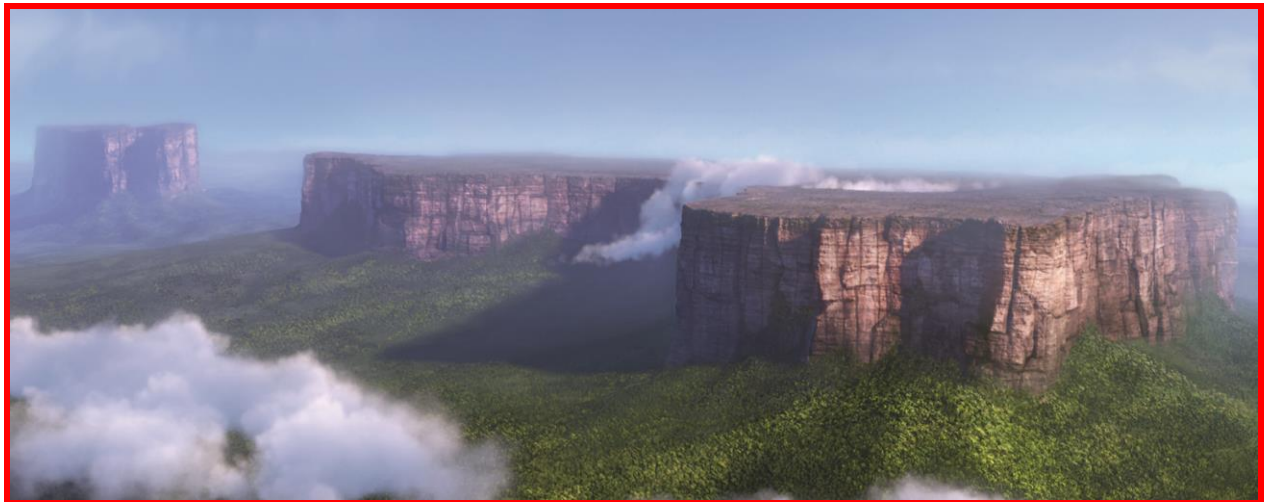
Ten members of *UP*'s production team made the journey to Canaima National Park with Warren: Director Pete Docter, Co-director and writer Bob Petersen, Production Manager Mark Nielsen, Supervising Technical Director Steve May, Production Designer Ricky Nierva, Shading Art Director Bryn Imagire, Story Designer Ronnie del Carmen, Designer Lou Romano, Environmental Designer Don Shanks, and Designer Nat McLaughlin.⁸

For Pixar's Tepui research, Warren took the *UP* production team to several locations. The first location was Roraima, the most well-known and visited Tepui. Warren had their helicopter drop them at the base of the tabletop mountain. "I wanted them to have the experience of climbing Roraima's cliffs, to reach the summit, to give them a feeling of adventure and a sense

of achievement. There was a lot of grumbling during the climb,” remarked Warren, “but after they made the summit, they thanked me for the experience.”⁹



Roraima.
Photo: Adrian Warren



Roraima.
Pixar Animation Studios

From Roraima they traveled a short distance by helicopter to the rarely visited Kukenán Tepui which is noted for its unusual rock formations and inaccessibility. Warren remarked, "Where I took them, more people had landed on the moon than had been to this place [on Kukenán]."¹⁰



Kukenán.

Photo: Paolo Costa Baldi, 2010

"It's one of the last pristine unexplored areas of the world, in fact the plants and the animals are known no-where else. It's a real living laboratory as far as natural history is concerned" stated Warren about the Tepuis.¹¹

The final leg of their trip was by airplane to Kamarata, a village of the Kamarakotos, a sub-tribe of the Pemón, at the base of Auyántepeui.¹² From there, they traveled via the river system in motorized *curiaras* (canoes) to Angel Falls.¹³

"One of the biggest challenges on this film was to design a place that looked otherworldly and yet was still believable enough that audiences would feel like the characters are actually there. We knew we had to go there because there's something fundamentally different about experiencing a place versus just seeing pictures or film," remarked Docter.¹⁴ According to Shading Art Director Bryn Imagire, the decision about who would go on the

trip was decided by who would gain the most valuable impression of the place and then get it on screen. "It really did make a difference in how we



Photo: Karen Angel

Auyántepui

Summit looking
North to
Devil's Canyon with
Angel Falls in the
distance

Pixar Animation Studios



saw the place. ... I do not think we realized the scale until we went there. I imagined that you could see across the tabletop plateau, that you could walk over there if you want to see the other side. But oh my gosh, it is so varied, so many places you cannot even get to; it is physically impossible to get to some areas. It's amazing that they [Jimmie and Marie Angel] were able to be up there. We had a 4-wheel drive, a helicopter. ... I feel that the feeling of the place really comes off on the screen. If we had not been there I would never have felt that way."¹⁵



Pixar's production team on the edge of Auyán-tepui's summit.
Pixar Research Photo

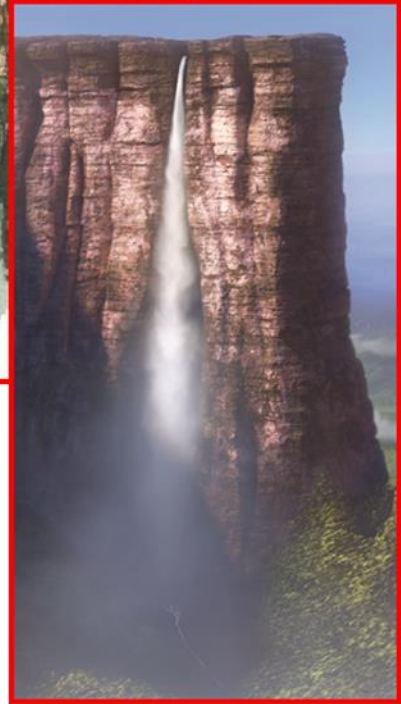
The *UP* animators intentionally changed geological aspects of reality. For example, Angel Falls, the tallest waterfall on Earth at 3,212 feet (979 meters), is called Paradise Falls and scaled taller at 9,700 feet (2,959 meters) tall.¹⁶



Photo: Adrian Warren



Drawing: Ronnie del Carmen



Pixar Animation Studios

Angel Falls

The Tewasen Pinnacle, which is actually on side of Roraima, was moved 124 miles (200 km) to Auyántepeui, made slenderer, and placed next to Paradise/Angel Falls.

Tewasen Pinnacle



Pixar Animation Studios

Roraima's Towashing (Tewasen) Pinnacle was moved next to Angel Falls on Auyántepeui.

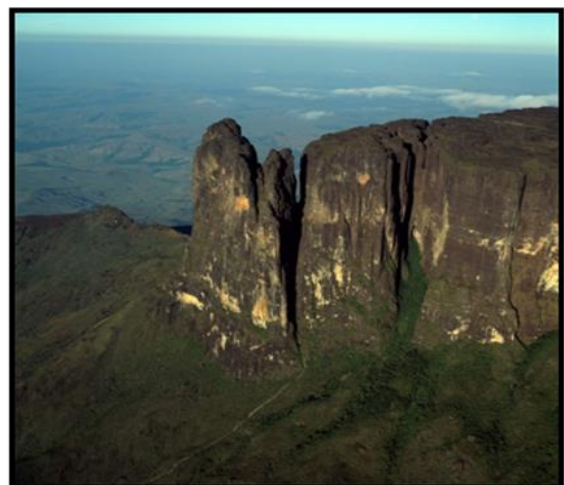


Photo: Adrian Warren

Adrian Warren was pleased with the work of Pixar's animators, "They captured not only the essence of the place but they got the rock shapes and they got the plants in wonderful detail. They got the atmospherics, the changing weather, and the mists coming in. The whole thing was very much brought to life and very three dimensional thanks to that trip that they made."¹⁷



Photo: Adrian Warren

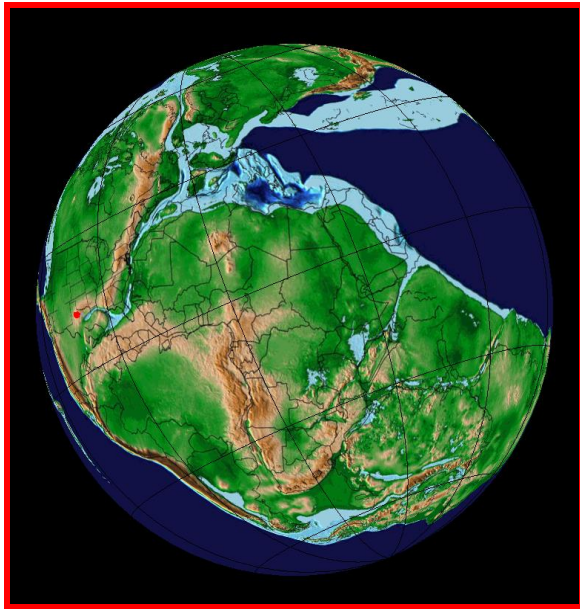
GEOLOGY



Pixar Animation Studios

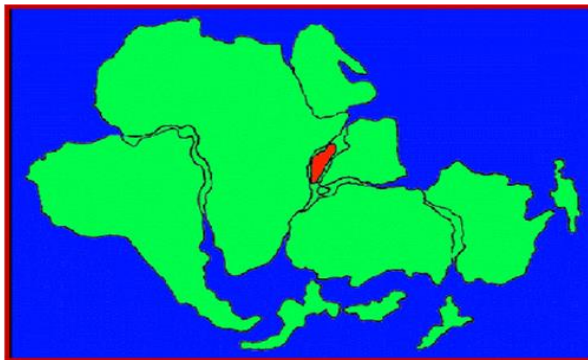
GEOLOGY

The Tepuis, referred to as "Islands in Time" by contemporary Venezuelan explorer Charles Brewer-Carias, are the remaining towering sandstone structures from the vast continent of Gondwana which started to break apart about 200,000 million years ago. Each Tepui rises from the Great Savannah as an isolated island with its own unique botanical and zoological world.¹⁸



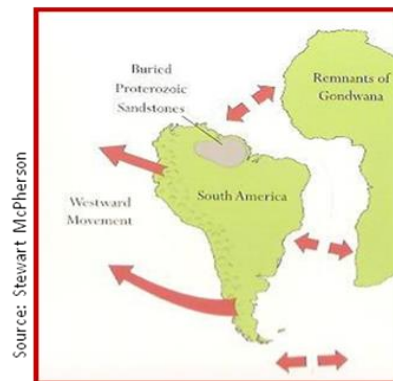
Gondwanaland

Gondwanaland was composed of South America, Africa, Antarctica, Australia, Madagascar, India, and New Zealand. It started breaking apart about 200,000 million years ago to form the land structures of today.
Gondwanaland World Map Source: C. R. Scotese, PALEOMAP Project, 2012

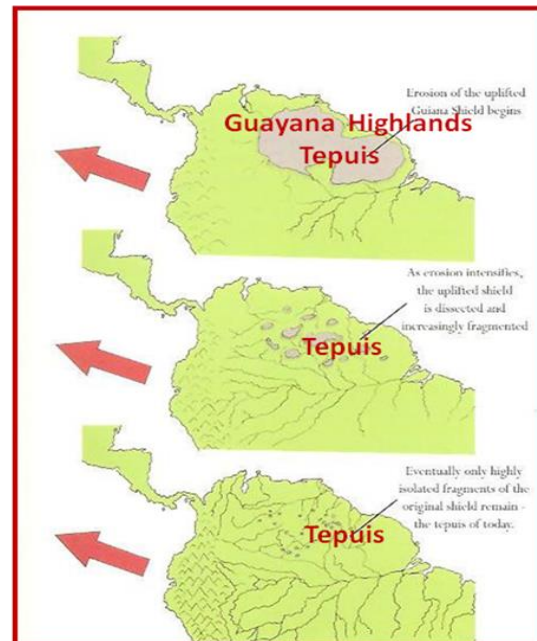


Gondwanaland

Source: Lawver & Scotese, 1987



Source: Stewart McPherson



Guiana Shield

The uplifted Guiana Shield erosion begins to form the Tepuis of today.

South America & Tepuis Map Source:

Stewart McPherson, *Lost Worlds of the Guiana Highlands*, 2008

"It was the closest I've ever felt to being on another planet. It's so isolated, so remote, so unlike anything that you've seen elsewhere – the rock shapes, the plants. I kept pointing out rock formations to Ricky [Nierva], saying, 'I don't believe any of that.' If you put that image up on the computer, I would say, 'There's no way that rock can actually stand, supported by this thin little spindle underneath.' But there it was, in real life, right in front of us," remarked Docter.¹⁹

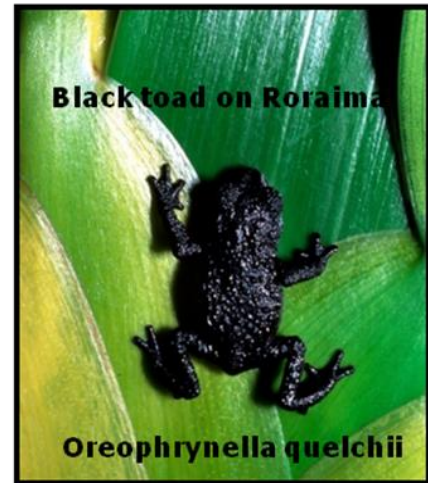


UP's Director Pete Docter is standing on the right.
Pixar Research Photo



Photos: Adrian Warren

Roraima's surface



Oreo:
from the
Greek for
Mountain



An Oreo



Roraima's surface.
Pixar Research Photo



Pixar Research Photo

Wind & rain carved
Roraima's surface



Photo: Adrian Warren

"For a fairyland it was – the most wonderful that the imagination of man could conceive."

Sir Arthur Conan Doyle

"The filmmakers wanted their CGI [computer generated imagery] environment to appear believable, to convey a sense of real physical danger for the characters. But, while examining the wealth of research material [over 10,000 photographs and hundreds of watercolors and sketches²⁰] Rivera [*UP* Producer Jonas Rivera] and his team found that the shapes, topography, and textures of the real Tepui environment were too unreal. 'It looks like a trip to the moon or Never Land or something,' said Rivera. 'It looks fake'." ²¹ Bob Peterson remarked, "We'd look out over the edge — and straight down — at these massive spired and hanging gardens and rocks that were shaped like faces and people. It was unbelievable." ²² Designer "Don Shank called the tepui rock formations modern art that was made by nature."²³



"...modern art that was made by nature."



Pixar Research Photos



Director Pete Docter reviewing rock models with Shading Art Director Bryn Imagire, 2006.
Pixar Behind the Scenes Photo

"With the organic locations, the Tepui and the rocks, we are going for greater realism. We realized on *The Incredibles* that you can't stylize certain natural elements too much, or else, you don't believe it," remarked Imagire.²⁴ Nierva added, "The burden of trying to pass along what I saw up there has been an adventure in itself. Not only to re-create for audiences what it actually looked like, but to re-create the feeling of what it looked like. That was really difficult."²⁵



Pixar Research Photo



Pixar Animation Studios

Inspiration for two of the film's main characters came from the unique rock formation on Roraima:²⁶ Dug, the loveable dog, and the colorful, tall flightless bird Kevin that was Muntz's paleontological quest.

Paradise/Angel Falls was the most important geological element in the film because it was Ellie's dream destination. It became Carl's goal to take their house to the waterfall.

Since its discovery by Angel in 1933, the perpetually cascading giant wing of water named Angel Falls (Salto Angel in Spanish. The Indigenous Kamarakoto Pemón in the Kamarata Valley call the waterfall Churún Vena.) has captured the imaginations of many people.²⁷ The waterfall has carved a massive, towering amphitheater in the pink sandstone of Auyántepeui.

Written in 1941, the words of American Museum of Natural History's (AMNH) ornithologist E. Thomas Gilliard captured Angel Fall's magic:

You've walked a mile, but did you ever see a mile of water stood on end, and slowly falling, falling through eternity? Not breaking into spray because there is so much of it, and seeming slow because it falls so far — unbroken by so much as one cascade. It makes you realize the scale on which the world is built, and it belongs just where it is, where time itself is slowed, foreshortened by its own immeasurable reach.²⁸

Adrian Warren, two Pemón porters, Ricky Nierva, Pete Docter, Ronnie del Carmen, and Nat McLaughlin hiked beyond the Salto Angel Mirador (view point) and the pool that captures the cascading waters of Angel Falls and stood immediately below it. Nierva reminisced, "It was the most difficult hike I have ever made because the rocks were slippery, slimy, and teetering on themselves. Standing under the waterfall was life changing. I had never done anything like that before, and now I want to do more. I am so grateful to Jimmie Angel for discovering Angel Falls."²⁹



Water rushing over rocks below Angel Falls.

Photo: Kevin Rowland, 2012



FLORA

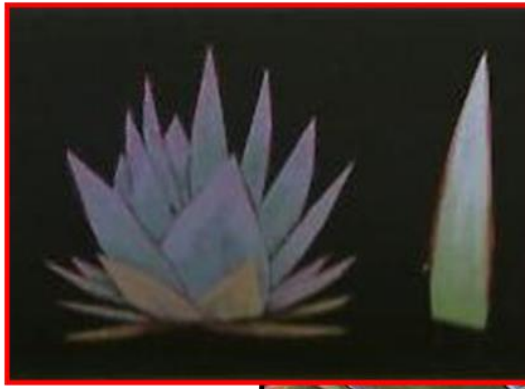
Drawing: Bryn Imagire

FLORA

Bryn Imagire commented in her interview with me, "No wonder it's not explored – it's almost like inhospitable. It was so helpful to just touch everything. It is so textural; the plants are very hardy and thick, so much thicker than you would think. It was great to get that sense of scale from the rocks to see how tactile the rocks are in contrast to how smooth the plants were."³⁰ "The plants were so beautiful; we didn't have to make anything up. We'd just pick the colors, eliminate all the extraneous detail, and do simple color gradations. ... It's really easy to make plants beautiful because they are completely organic. We examine real life, then extract the essence of beauty from each one."³¹



Palm fronds.
Pixar Research Photo



Orectanthe sceptum (Family Xyridaceae)

Drawing: Bryn Imagire
The Art of UP, Disney • Pixar



Photo: Adrian Warren

"With a lot of those plants in Venezuela, like the chiflera [Schefflera] tree, the leaves had an interesting furry texture. The bromeliad had an interesting effect where one side was green and then the other side was red. And that's from exposure to sunlight. The plants grow so fast that the red part doesn't have time to produce chlorophyll. There's really a biological reason why it's so beautiful. The red and green contrast is very graphic and that's something Pete [Docter] wanted to maintain throughout. So we used these little design details to bring those qualities in," commented Imagire.³²



Bromeliad.
Pixar Research Photo

Animated images of the endemic flowering yellow-orange *Stegolepis guianensis* (Family Rapateaceae) appeared more frequently in *UP* than any other flowering plant.



Photos: Adrian Warren Archive



The Art of UP, Disney • Pixar

According to Nierva, "The term we came up with was 'simplicity,' that is the art of simplifying an image down to its essence. ... 'Simplicity' is about selective detail."³³ The use of 'simplicity' was especially evident in the lush jungle scenes.



JUNGLE



Pixar Research Photo



Drawings: Ronnie del Carmen

FAUNA

DOGS



Drawing: Daniel López Muñoz
The Art of UP, Disney • Pixar

BIRDS



Pixar Animation Studios

FAUNA

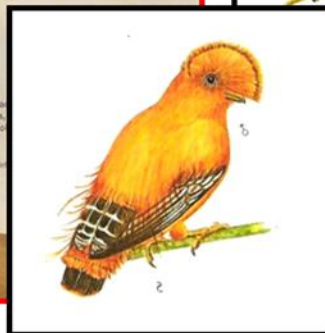
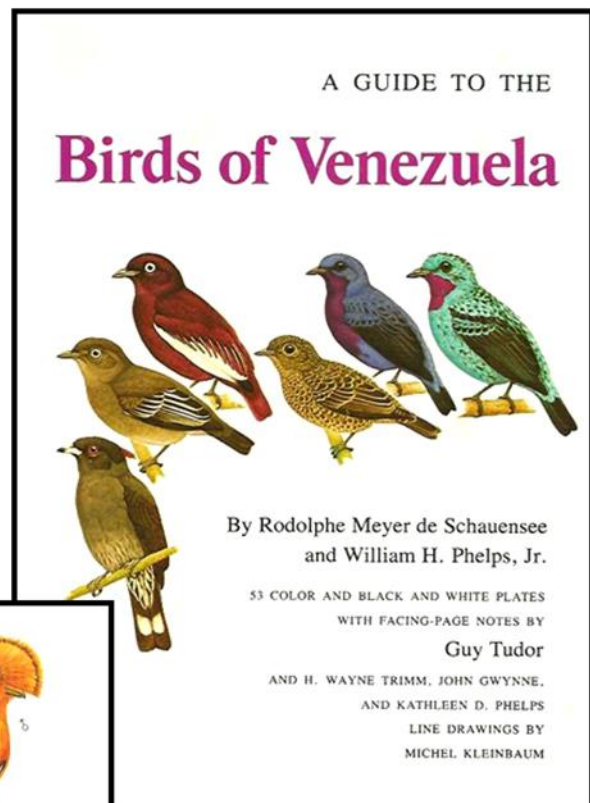
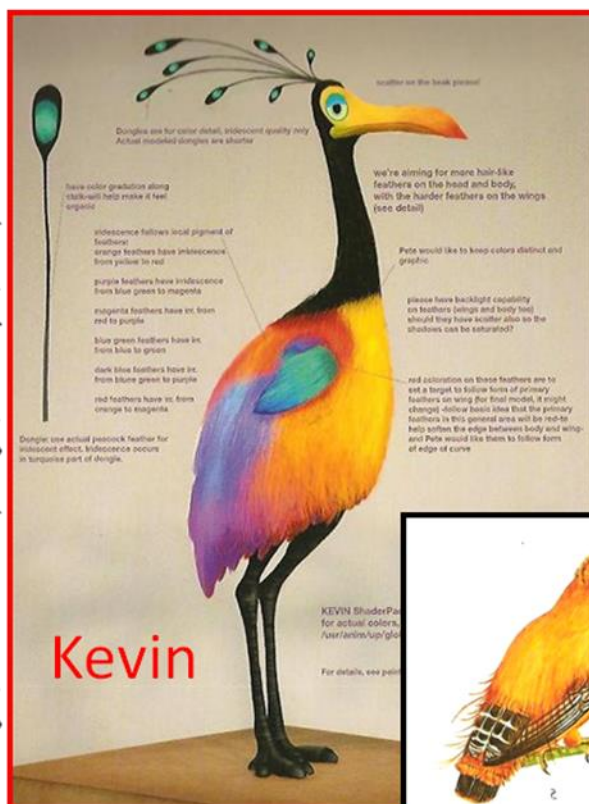
Named Kevin by Russell, the prehistoric bird was a central character in the film. Kevin was actually a mother bird who was worried about her three chicks. She was tall, flightless, colorful, and lovable, especially with Russell who first attracted her attention with treats of chocolate.

Chocolate was the perfect tempting jungle food because Venezuelan *Cacao criollo* beans are world renowned with much of the annual production shipped to Europe where it becomes the primary ingredient for premium priced Swiss, German and French chocolates.³⁴

Venezuela is also renowned for its varied and colorful bird life. The purpose of the 1937-1938 AMNH Phelps Venezuelan Expedition to Auyántepeui, in which E. Thomas Gilliard participated, was to research birds. William H. Phelps, Sr, a wealthy businessman and ornithologist who lived in Venezuela, had heard fantastic stories about Jimmie Angel's new "Lost World" of Auyántepeui and the mile-high waterfall Angel had discovered. He wrote to

his friend Frank M. Chapman, Curator, AMNH Department of Ornithology, with an offer to sponsor and accompany an expedition to Auyántepeui. Chapman responded enthusiastically, "Your letter of June 9 is unique in my museum experience of forty-nine years. It is the kind of a letter that a curator, when in a particularly happy and imaginative mood, might write to himself, the kind of a letter of which dreams both geographic and zoologic come true." ³⁵

Digital, Kevin Shader & Bryn Imagire, The Art of UP, Disney • Pixar



Guianan Cock-Of-The-Rock

Bird Expedition: 1937-1938 Phelps Venezuela Expedition



Members of the 1937-1938 Phelps Venezuela Expedition (seated l to r): ornithologist William H. Phelps Jr., mammalogist James A. Dillon, ornithologist William H. Phelps Sr., mammalogist and expedition leader George H.H. Tate, ornithologist William F. Coultas and ornithologist E. Thomas Gilliard holding a camera. The photograph was published in the New York Times 28 August 1938. The people standing in the back row were identified as "native helpers." Photo: AMNH Ornithology Department

In reality, a bird species of Kevin's great size does not exist in Venezuela. According to Nierva, "for inspiration for the bird we looked at two Cassowaries at the San Francisco Zoo [The Cassowary is native to Papua New Guinea and Eastern Australia]. They sound like dinosaurs; their gullet expands and their sound reverberates, it is very low. I had never seen a bird like that before, so unique. The color on their face, their feathers inspired Pete Docter. They look like fur. They look like hair. They are feathers, but more quelled to protect them in the jungle. It's amazing what's out there in this world. Prior to working on this film I had never heard of a Cassowary. One of the world's experts on the Cassowary came [to Pixar Animation Studios] from Papua New Guinea. He brought a dead Cassowary and he gave us little feathers. What interested us about that bird is that it's large and flightless. We also looked at an ostrich and the moa [a large extinct, flightless bird native to New Zealand]. Kevin's color is based on a Himalayan Monal Pheasant."³⁶



Photo: Biswarup Satpati

Himalayan Monal Pheasant



Kevin

Pixar Animation Studios

Kevin's Models

Cassowary



Photo: Tony Wills, 2007

Ostrich



Photo: Michael McDonough, 2008

Kevin was the hardest figure for character supervisor Thomas Jordan and his team to design. Its iridescent feathers required a new approach to hair technology. The team approached feathers as hair growing on splines, which react much like hair itself.³⁷

"A lot of artistic judgment is needed even after the design is done," commented *UP's* Technical Director Steve May. "Kevin, her feathers are very complicated. We look at all these animation problems."³⁸

Kevin's wildly colorful feather patterns were based on science. Contemporary paleontologists believe that many dinosaurs were colorful rather than the drab, greenish-colored creatures usually presented in illustrations and film. "In fact, in the last few years, paleontologists have succeeded in recovering pigments from the fossilized feather impressions of dino-birds ... the feathers of these dinosaurs sported different colors and patterns, much like those of modern birds."³⁹

In an 8 March 2012 news release, the AMNH reported that "A pigeon-sized, four-winged dinosaur known as *Microraptor* had black iridescent feathers when it roamed the Earth 130 million years ago, according to new research led by a team of American and Chinese scientists that includes Museum researchers. The dinosaur's fossilized plumage is the earliest record of iridescent feather color." According to Mark Norell, research team member, and chair of the AMNH's Division of Paleontology, "This study gives us an unprecedented glimpse at what this animal looked like when it was alive."⁴⁰

"Modern birds use their feathers for many different things, ranging from flight to thermoregulation to mate-attracting displays. Feather color is produced partially by arrays of pigment-bearing organelles called melanosomes, the structure of which is constant for a given color. By comparing the imprint patterns of fossilized melanosomes to those in living birds, scientists can infer the color of dinosaurs that lived many millions of years ago."⁴¹

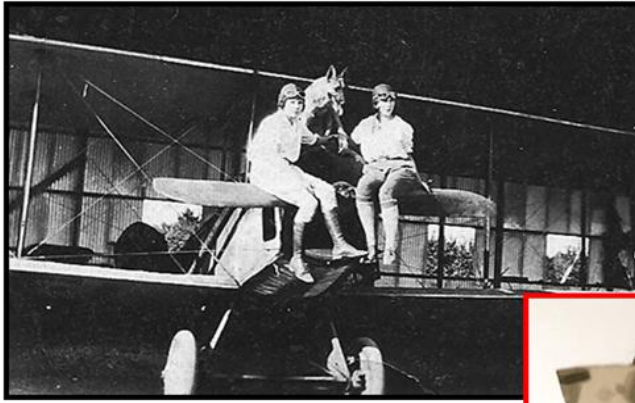


Photo: JAHP Archive

Virginia & Juanita Angel
with "Taro,"
Jimmie Angel's German
shepherd, 1926

DOGS

Drawing: Daniel López Muñoz



Dogs also qualify as fauna with Muntz's dogs distinctive characters in the film. Some of them even piloted the small fighter airplanes launched from Muntz's dirigible. The airplanes were modeled on the Curtiss F9C Sparrowhawk⁴² which was a light 1930s biplane fighter aircraft that was carried by the United States Navy's rigid, helium filled airships USS Akron and Macon⁴³



Angel brothers perform, 1926 Richmond, California Air Show.

Photo: JAHP Archive

The dogs of the Indigenous Kamarakoto Pemón, living at the base of Auyántepeui, are companions and “they occasionally use them for ‘hunting’ – they are more used to ‘spot’ wildlife rather than chase it down,” reported Paul Graham Stanley who visits their villages frequently.⁴⁴



A Pemón's dog in the village of Santa Marta.

Photo: Karen Angel, 2012

Venezuelan entomologist and exploration historian, Jorge M. González, PhD., told me the following “The Father of the Dogs” Pemón legend: “The Pemón believe that each person has five souls. Each soul looks like the shadows of persons (when exposed to lights or the sun). The fifth soul is the one that allows them to talk and that is the one that leaves the body to travel around when the person is dreaming. This is also the only one that goes to the stars (basically the ‘Milky Way’) after death. Before arriving at that final destination, the fifth soul meets the Father of the Dogs. If the person has mistreated his/her dogs, the dogs' souls will recognize the person and will kill him/her. Thus, that soul will not reach his/her final destination.”⁴⁵



Pixar Animation Studios

HUMAN CHARACTERS

HUMAN CHARACTERS

Having interviewed members of *UP*'s production team and studied background material about the making of the film, I have concluded that the *UP* characters were not modeled by the script writers and film animators on any of the characters in the Jimmie Angel story because they were unaware of them except for Jimmie Angel and only him because the waterfall bears his name. Nevertheless, there are some interesting similarities between the characters in *UP* and the characters in the Jimmie Angel story.

***UP*'s Charles Muntz compared with Jimmie Angel**

The Muntz character was modeled on Erroll Flynn, Clark Gable, Howard Hughes, and Walt Disney and blended into one heroic 1930s man.⁴⁶ Angel was regarded as a heroic, handsome young man,⁴⁷ but in middle age his 5' 9" physic became blocky, more similar to Carl Fredricksen's body than to Muntz's tall, angular frame.

Charles Muntz



Drawing: Daniel López Muñoz,
The Art of UP, Disney • Pixar

Photo: JAHF Archive



**Jimmie Angel
with Virginia Angel**

Visible evidence in *UP* of other people in Muntz's life was not apparent — no human crew on his airship or male or female companions to share his life. Angel was seldom without human companionship — a wife, a brother, a friend, a co-pilot, or an airplane mechanic by his side.

Muntz and Angel were from the same generation, and both were famous aviators. Muntz's dirigible was named *Spirit of Adventure*. Angel's most famous airplane was named *El Rio Caroni* after the primary river flowing south to north in the Great Savannah.

In *UP*, the *Life* magazine cover of pilot Muntz was dated December 1933. Angel discovered Angel Falls 16 November 1933 and spent most of the next decade in the Great Savannah. If Muntz had been a real character living in the Great Savannah near Angel Falls, he and Angel would surely have met.

Postcard: Courtesy of Russell Smith



Photo: JAHP Archive

Jimmie Angel and Charles Muntz were both adventurous pilots.

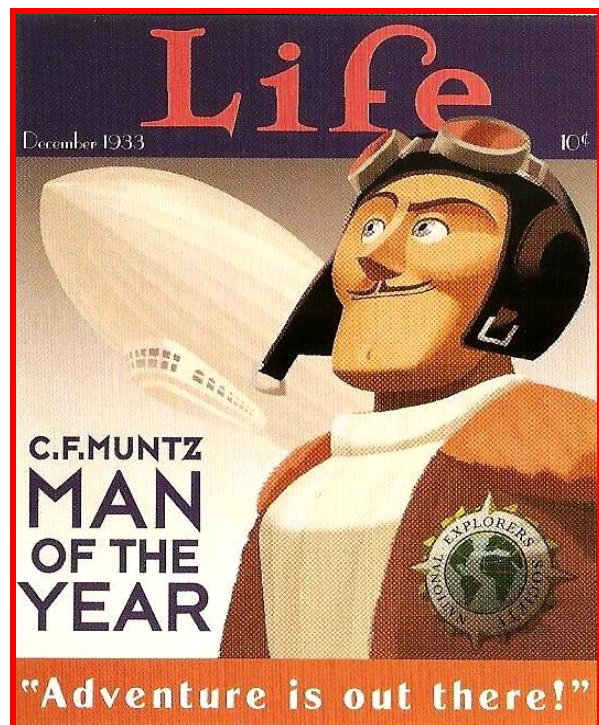


Pixar Animation Studios

1933 Angel Discovers Angel Falls and Muntz is "Man of the Year."



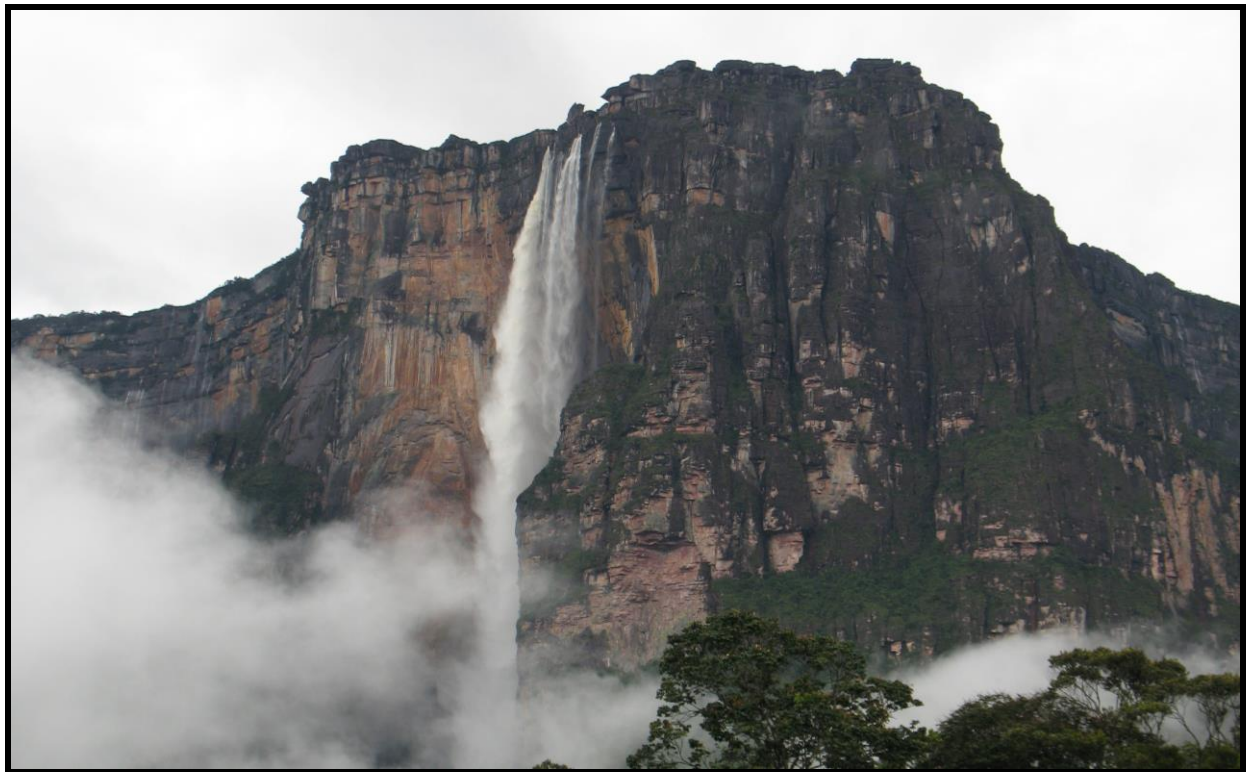
Photo: JAHP Archive



Digital, Craig Foster & Bill Pressing
The Art of UP Disney • Pixar

Both Muntz and Angel were obsessed characters. Muntz was obsessed with proving to his peers that the exotic giant bird existed; he dedicated his life to this pursuit. In his long quest to capture the elusive bird, Muntz had aged from a young man in his prime to an old, reclusive man who lived in the jungle in a well-appointed cave with his dirigible *Spirit of Adventure* and his pack of bird hunting dogs.

From a young man in his twenties until his death in 1956, Angel was obsessed with finding “The River of Gold” on Auyántepeui; he dedicated his life to this pursuit. Ornithologist Gilliard wrote about Angel in 1941, before the height of the waterfall had been verified, “I believe that Jimmy Angel has discovered the eighth wonder of the world. And this is not the age of faith, but I still dare hope that he may someday find his creek of gold.”⁴⁸ In recognition of his explorations, Angel did find some solace when the government of Venezuela named the waterfall Salto Angel in 1939.



Angel Falls.

Photo: Karen Angel, 2012

Both Muntz and Angel failed in their obsessive quests. In Muntz's case, Russell rediscovered the elusive bird Kevin. Muntz fell to his death during his fight with Carl to keep Kevin for himself. In Angel's case, he died from health complications related to a rough airplane landing while in transit to South America to resume his search. The elusive "River of Gold" has never been rediscovered.⁴⁹

Charles Muntz compared with George Gaylord Simpson and Alejandro Laime



Photo: Eriks Dzenis

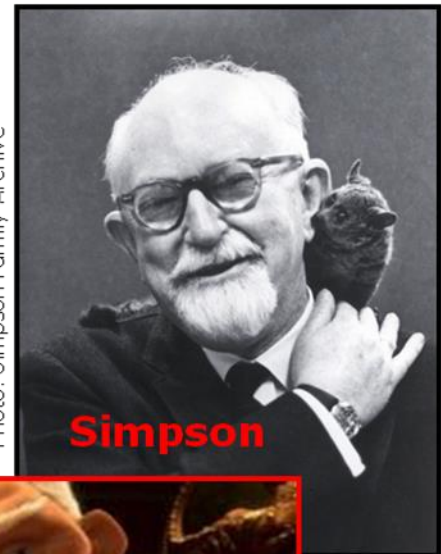
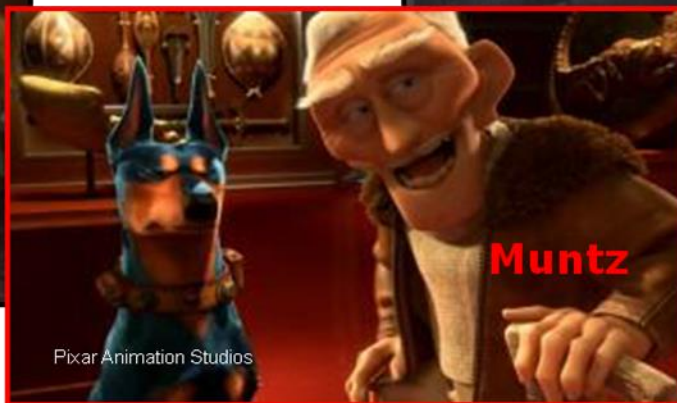
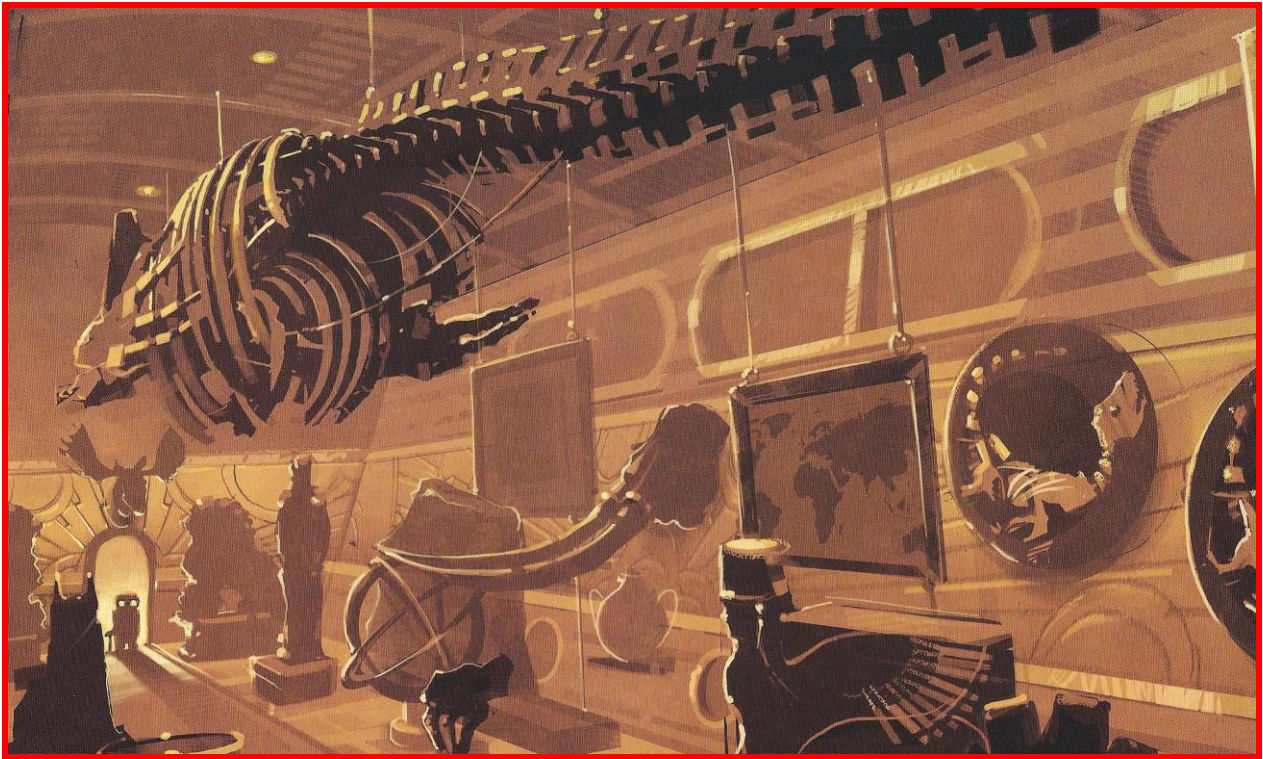


Photo: Simpson Family Archive



It was not clear in *UP* if Muntz was a trained paleontologist. It was clear that he was obsessed with a prehistoric bird that his peers believed had never existed and which Muntz believed still lived on Auyántepeui. He maintained a trophy collection room in his dirigible, which included a skeleton of the bird, which appeared to have been modeled on an AMNH collection room or some other grand paleontological museum.⁵⁰



Muntz's Trophy Collection Room.
Digital, Sandeep Menon, *The Art of UP*, Disney • Pixar

AMNH Paleontologist George Gaylord Simpson was a prominent twentieth century evolutionist, who explored Venezuela for prehistoric mammals in 1939. Simpson met expedition aviator-guide Jimmie Angel in March 1939 when he joined the Venezuelan Ministry of Development's Great Savannah Expedition. Because of heavy rains and the resulting thick mud, Simpson studied the Indigenous Kamarakotos during the expedition and did not look for prehistoric mammals. When I interviewed Ricky Nierva at the Pixar Animation Studios, he found it uncanny that the Jimmie Angel story involved a paleontologist.⁵¹

1939 Venezuela Great Savannah Expedition Members



Kamarata Camp, March 1939 (back row, l to r): Expedition Co-leaders Dr. Carlos A. Freeman, Dr. V. M. Lopez, Dr. S. E. Aguerrevere, and Dr. Delgado O.(geologists & mining engineers); (middle row):Jimmie Angel, Dr. V. Nicki (colonizer), Dr. A. Cristoffal (agriculture), Dr. L. M. Araila and Dr. M. de Lemos (astronomers); (front row): Marie Angel, Dr. F. H. Hays (Jimmie Angel's mining engineer friend), Dr. Anne Roe Simpson (psychologist & mammalogist) and Dr. G. G. Simpson (paleontologist & ethnologist). Angel's Hamilton airplane is in the background. Photo: Carlos A. Freeman/JAHP Archive

Alejandro Laime⁵² (1911-1994) was a citizen of Latvia, who claimed to be an engineering graduate from the University of Riga.⁵³ He lived in the Great Savannah among the Kamarakoto Pemón for many years during the twentieth century. He wrote about his first steps on Auyántepei:

My first impression was one of terror and I half expected to see one of the prehistoric dinosaurs such as Sir Arthur Conan Doyle described in his fiction story *Lost World*. The wind was strong on my face and the knee-deep grass bowed before it as I looked across the great plateau at a weird collection of two-story high rocks arranged in such a fashion that they looked like a petrified lost city.

Hummingbirds, so small you could put six of them in the palm of your hand, buzzed around me and a brilliant yellow bird landed on

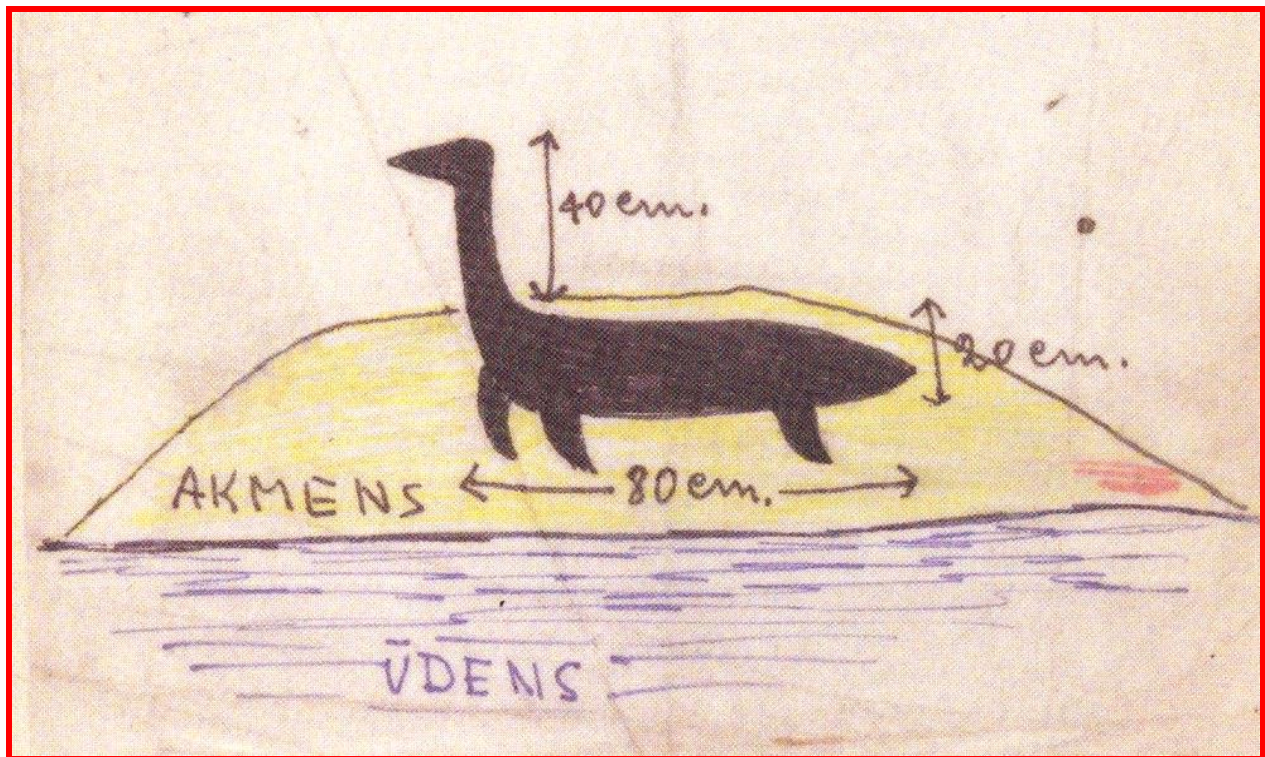
my head. I saw huge unfamiliar hoof prints, indicating that some giant animal had passed by not long before I put in my appearance. Brilliant red bugs sucked the juice from the base of a strange flower, a butterfly that looked like a flying turtle went by, and there were many strange small animals.⁵⁴



Iguanodons of
The Lost World's
Maple White Land



Laime reported to many people, including adventure travel writer Tim Cahill, that he had seen prehistoric creatures on Auyántepeui. "Laime said he had been walking in the river itself. Quite a bit ahead of him, he had seen some strange, dark shapes sunning on some rocks in a deep pool. ... Each had four flipper; two in front, two in back. When the things saw him, they slithered off the rocks and dropped sleekly into the water."⁵⁵



Laime's drawing of the prehistoric creature he saw on Auyántepei.
Courtesy of Valdis Abols

In his diary Laime "mentions having seen a big pigeon, 3-4 times bigger than the normal pigeon. It had red eyes with dark dots in the middle and a white spot behind the 'ears'. The bird had a yellow bill but its color was 'indefinable' - neither grey nor green..."⁵⁶

According to Latvia documentary filmmaker Valdis Abols:

Under the Soviet regime, almost no information about Alexander Laime reached his native Latvia, then sealed off from the rest of the world by the Iron Curtain. In 1999, five years after Laime's death, the Latvian journalist Andris Stavro published a book titled "Alexander Laime and his River of Gold" [Aleksandrs Laime un viņa Zelta upe] which remains the only source of reference for those interested in Laime's personality and exploits. The book, full of legends, exotic adventures and mysteries, helped to create a small but dedicated circle of Laime's fans in Latvia. At the same time, it has not inspired further research into the subject. There is a broad range of questions related to Laime still unexplored and shrouded in ignorance. The true story of Laime's life and discoveries still remains to be written.⁵⁷

A 2012 documentary film titled "Aleksandr Laime: Diamonds of Angel Falls" was an effort to address the lack of information about Laime. "...it is part of a larger series titled 'Inventurers' about Latvians who have done some crazy things in the world."⁵⁸

Ellie Fredricksen compared with Marie Angel and Virginia Angel



Of all the characters in *UP*, I found that Ellie was the one who was most similar to the characters in Jimmie Angel's life; his two wives, Virginia and Marie were both strong, independent, attractive, and slender women with red hair. Both chose a life of adventure with Jimmie Angel and traveled with him in Central and South America. In a romantic sense, they lived Ellie's dream of adventure in South America. In a practical sense, I doubt that their married lives with Angel were as happy as Ellie's life with Carl. At end of her life, Ellie wrote a final message for Carl in her Adventure Book: "Thanks for the adventure – Now go have a new one. Love, Ellie."⁵⁹

My father told me that Jimmie wanted children and Virginia, who was like an older sister to my father, did not want to have children. According to my mother, Catherine Angel (1921-2011), "Virginia felt their vagabond life would be a terrible life for children."

Within a year of separating from Virginia, Angel met Marie; she accepted his proposal of marriage during their first meeting at the home of mutual friends in Los Angeles.⁶⁰ Marie was Jimmie's expedition companion from 1935 until their first son was born in 1943 in Nicaragua. Their second son, and a twin brother who did not survive, was born in Costa Rica in 1947. Both surviving children suffered from malaria and had to be relocated from the tropical climates of Central and South America to the United States where a home was established for them and Marie in Southern California.⁶¹ When Jimmie left Southern California in April 1956, on what would be his last trip to South America, he and Marie were separated. He told his father Glenn Davis Angel (1877-1969) that he would not be back. ⁶² He died in the Canal Zone 8 December 1956. Unlike Ellie who died before Carl, both of Angel's wives outlived him by almost thirty years.

Ellie's House and Jimmie's Angel's Airplane *El Rio Caroni*

"Carl's journey begins in his childhood in the 1930s. He and his neighborhood pal Ellie, inspired by their hero aviator-explorer Charles Muntz, dream of soaring with Muntz to the jungles of South America, far away from their quiet Midwestern lives."⁶³ Carl and Ellie married, but their dream of adventure was never realized, and Carl was left alone with their house, which represented Ellie, after she died.⁶⁴

With Russell's assistance, Carl was able to make his way to Auyántepeui with Ellie's house. While fighting Muntz to defend his new friends Russell, Kevin and Dug, Carl had to let go of the line holding the house and his old life - the guilt of not realizing Ellie's dream. Turned free, the house floated on its own aerial course and landed on Auyántepeui next to Paradise Falls. Carl and Russell returned home to the United States piloting Muntz's *Spirit of Adventure* in the company of lovable dog Dug and Muntz's pack of now

friendly hunting dogs. Freed from hounding by Muntz and his dogs, Kevin happily remained on Auyántepei and raised her three chicks.



Pilot Carl flying home with Dug and Russell.
Pixar Animation Studios

In his quest for the “River of Gold” Angel landed *El Rio Caroni* on Auyántepei’s plateau not far from Angel Falls. Upon landing, the airplane becomes bogged in mud, and he could not take off. He, Marie Angel and their two companions, Gustavo Heny and Miguel Angel Delgado, were forced to abandon the airplane and struggled for eleven days to reach their camp in the Kamarata Valley at the base of the Tepui.



El Rio Caroni bogged in mud on Auyántepei.

Photo: Gustavo Heny, JAHP in association with Enrique Lucca Collection

That Ellie's house landed next to Paradise Falls echoed Jimmie Angel's words about his airplane *El Rio Caroni* when he was asked by his friend aviator Patricia Grant if he would like the airplane removed from Auyántepeui, "No, as long as it stays up there, it will be a memory of me," he replied.⁶⁵



LOU ROMANO | gouache | 2008

The Art of UP, Disney • Pixar

"When asked if he wanted his plane taken off Auyan-tepui, Jimmie said 'No, as long as it stays up there, it will be a memory of me'."



Photo: JAHF Archive

In conclusion, *UP*'s production team captured the beauty and mystery of the Tepuis and Angel Falls. "Up's backgrounds and landscape plates look unbelievable real and realistically unbelievable at the same time!"⁶⁶ They inadvertently portrayed some of their characters with parallel life themes and physical and personality characteristics similar to the characters in the Jimmie Angel story. It could be argued that the characters in any adventure story would have similar themes and characteristics, but I believe that the Pixar production team's trip with Adrian Warren to the Tepuis and Angel Falls helped to develop and mold the characters and their life stories. *UP*'s characters echoed the lives of the real people whose life stories made the Tepuis and Angel Falls known to the world.



Adrian Warren Archive

In Memory of Adrian Warren 1949-2011

ACKNOWLEDGEMENTS

Adrian Warren (1949-2011), Last Refuge, Ltd., Tepui expert, aviator, scientist, explorer, and documentary filmmaker, when learning of my interest in writing this paper introduced me via email to *UP's* Producer Jonas Rivera. Adrian also provided me with photographs and answered taxonomy questions for me. I have dedicated this paper to Adrian because he opened the door for me to Pixar Animation Studios, assisted me with James "Jimmie" Crawford Angel research for ten years, and left this world much too soon.

The cooperation and assistance of Pixar Animation Studios made it possible for me to write this paper. Special thanks to *UP's* Producer Jonas Rivera who invited me to the Pixar Studios to interview members of the production team and paved the way for me to receive Pixar's research photographs, drawings, and animation art. The following people at Pixar graciously contributed information for this paper: Ricky Nierva, Bryn Imagire, and Steve May. My thanks also to Hasia Stroat, Worldwide Publicity, Pixar.

An Agreement between Pixar Animation Studios [James M. Kennedy, Chief Legal Counsel] and the Jimmie Angel Historical Project [Karen Angel, President] was executed on 6 November 2020 affirming the use of Pixar materials on the JAHP's website.

My research for the Jimmie Angel Story began in 1996 and continues. Over the years, many people and institutions have contributed to my research. The following institutions and people were especially important in relation to this paper:

American Museum of Natural History (AMNH) in New York City. Mary LeCroy, Department of Ornithology, who upon meeting me by a chance introduction in the museum and learning of my interest in ornithologist E. Thomas Gilliard (1912-1965) invited me to investigate the Department of Ornithology Archives. It was there that many of the mysteries about Jimmie Angel's association with the AMNH and E. Thomas Gilliard's interest in him were resolved. Mary worked as E. Thomas Gilliard's assistant from May 1959 until his death in January 1965. After that, she was Scientific Assistant and Senior Scientific Assistant in the Department of Ornithology until she retired in 1997. She is currently a Research Associate in the Department of Ornithology; Dr. Mark A. Norell, Chairman and Curator of the Division of Paleontology for allowing me to do research in the Vertebrate Paleontology Archives in 2003. Special thanks to Susan K. Bell, Resident Research Associate in the Division of Paleontology, for her assistance with my research in the George Gaylord Simpson Archive.

Joe Cain, Ph.D., while on sabbatical from London University College at the American Philosophical Society Library (APS), Philadelphia, Pennsylvania, invited me to research the George Gaylord Simpson Papers at the APS. My thanks to Joe for identifying relevant materials and assisting me with my research at the APS. Others who were especially helpful at the APS were Rob Cox, Manuscripts Librarian; Roy Goodman, (former) Assistant Librarian and Curator of Printed Materials; and Valerie Lutz, Head of Manuscripts Processing and Library Registrar.

Special thanks to my parents Clyde Marshall Angel (1917-1997) and Catherine Mildred Angel (1921-2011); my cousin Rolan Angel (1947 -), son of Jimmie and Marie Angel, for Angel Family History; Jorge M. González, Ph.D., Department of Entomology, Texas A&M University for Spanish translations, Great Savannah Exploration History, and Kamarakoto Pemón cultural information; Valdis Abols, Vides Filmu Studija, for photographs and information about Alejandro Laime; Independent filmmaker Isabel Barton, Paul Graham Stanley, President Angel Conservation; and Patricia Grant (1920-1999), aviator and flight instructor, for her memories of Jimmie Angel.

For his unflinching good humor, interest and support during the development and writing of this paper, my thanks to Martin Sanderson Morgan, Professor Emeritus, Department of Art, Humboldt State University.

An earlier version of this paper titled '*UP' and Away to Angel Falls* was presented by the author at the Popular Culture Association Conference (Animation Section) 11 April 2012, Boston, Massachusetts.

PHOTO CREDITS: American Museum of Natural History/Department of Ornithology, Karen Angel, Eriks Dzenis, Carlos A. Freeman/JAHP Archive, Gustavo Heny/JAHP Archive, Pixar Animation Studios, Kevin Rowland, Biswarup Satpati, Simpson Family Archive, Adrian Warren and Wikimedia Commons: Paolo Costa Baldi, Michael McDonough and Tony Wills.

ILLUSTRATION CREDITS: Valdis Abols, *Birds of Venezuela*, Canaima National Park, *The Lost World*, Stewart McPherson, Pixar Animation Studios, C. R. Scotese and Russell Smith.

ENDNOTES

¹ Warren, email to the author, 2 April 2009.

² Warren. Email to the author, 11 March 2009. "I began exploring the region back in the 1960s as a field biologist and during the course of five expeditions made a number of discoveries of new species on the summits of Roraima, Kukenan and Auyantepui. I also made documentary films for WWF, the BBC and PBS about the Tepuis in 1971, 1976, 1981, 1985 and 2001. My last trip was in late 2007 [Warren made several more trips with his last taking place in August 2010]. I have worked variously as producer, director, cinematographer, writer and narrator on these films. I have also worked as Director of Photography and consultant on feature films so I have a lot of contacts. I am also a commercial pilot and have spent a lot of time flying in small single engine planes around the Tepuis. That's enough about me. Suffice it to say that I feel that much of my life has been driven by my connection with the Tepuis and my experiences there."

Karen Angel has been to the base of Angel Falls three times (1994, 2002 and 2012) and in 1994 climbed Auyantepui from which Angel Falls cascades. With the assistance of people interested in the history of exploration and aviation, Karen Angel, who is Jimmie Angel's niece, in 1996, co-founded the Jimmie Angel Historical Project (JAHP): <http://www.jimmieangel.org>. She is curator of the JAHP Archive and has authored several papers about Jimmie Angel and his era of exploration and has assisted with numerous books, articles and films about him and Angel Falls.

³ Ricky Nierva, *UP* Production Manager, email to the author, 22 January 2012.

⁴ Doyle, Sir Arthur Conan Doyle, *The Lost World – Being an account of the recent amazing adventures of Professor George E. Challenger, Lord John Roxton, Professor Summerlee, and Mr. E. D. Malone of the Daily Gazette* (London, 1912). The Tepuis were described by Sir Arthur Conan Doyle in his 1912 novel *The Lost World*; a place he never visited but may have learned about when he attended a lecture by British botanist Sir Everard Im Thurn who had scaled and explored Roraima in 1884.

⁵ "UP: British photographer inspiration for Disney Pixar movie," *The Telegraph* (6 October 2009): www.telegraph.co.uk>Culture.

⁶ Sigal Rathner-Arias, Associated Press Writer, SFGate.com, retrieved 1 June 2009, <http://www.sfgate.com/cgi-bin/article.cgi?f=/n/a/2009/06/01/entertainment>.

⁷ Adrian Warren, interview with the author, Berkeley, California, 26 April 2009. Warren and I had been corresponding via email since 2002 when he was working on his film, *The Lost World- Venezuela's Ancient Tepuis*. He had flown from England to San Francisco to attend in Pixar Animation Studio's 25 April 2009

preview of *UP* at the Paramount Theatre in Oakland and to help with the companion documentary film about the making of *UP* titled *Adventure is out There*.

⁸ Warren, email to the author, 27 May 2009.

⁹ Warren, interview with the author, 26 April 2009.

¹⁰ *The Telegraph*.

¹¹ *The Telegraph*.

¹² Except when used in a direct quote, the spelling “Auyántepeui” is used in this paper for the heart-shaped *Tepui* located in Canaima National Park in the Great Savannah of southeastern Venezuela. In popular western culture, *Auyán* means “devil.” In the language of the Indigenous Kamarakoto Pemón, *Auyán* is a sound without a particular meaning and *Tepui* means “house”; hence “the Devil’s House.” Angel Falls is located in Churún Canyon, which is a large cleft on the north side of Auyántepeui. The canyon is often referred to as Devil’s Canyon. The Churún River originates on the summit of Auyántepeui. The primary waters of the Churún flow over the canyon’s walls at a different point than Angel Falls and are called Churún Falls.

¹³ Warren, email to the author, 6 June 2009. “I took the Pixar team first into rain forest a few hours drive out of Santa Elena, then to the summit of Roraima (by jeep to Paraitepeui [a village], then helicopter to the base of the cliffs, then we climbed to the summit to camp for three nights). On Roraima we hiked to the edge to see a view of Kukenan, then up to the Grotto, the Crystal Valley and Triple Point. From the summit of Roraima we took a helicopter to the summit of Kukenan in the area of the Great Crack and the Green Swamp. We almost got stuck there overnight because of the storms. We were lifted off by helicopter back to Paraitepeui and then by jeep to Santa Elena. From there we took an aerial tour through the Tepuis including Chimanta and Auyantepeui, passing by Angel Falls to Canaima. From there we went by boat to Angel Falls and I took four of the more adventurous ones right up to the cliff underneath the waterfall itself. It was a lot to squeeze into a short time (about ten days).”

¹⁴ *The Telegraph*.

¹⁵ Bryn Imagire, *UP* Shading Art Director, interview with the author. Pixar Animation Studios, Emeryville, California, 6 Nov 2009.

¹⁶ Disney/Pixar’s *UP*. Fun Facts. 6 November 2009, www.dvdizzy.com/upfunfacts.html, Retrieved 10 November 2009; Karen Angel, “Why the World’s Tallest Waterfall is named Angel Falls,” *Terrae Incognitae*, Vol. 44 No. 1 (April 2012), p. 38; In 1949, American journalist Ruth Robertson organized and led the expedition that verified Angel Falls 3,212 feet tall. Alejandro Laime was her guide.

¹⁷ *The Telegraph*.

¹⁸ Angel, pp. 18-19.

¹⁹ Tim Hauser, *The Art of UP*, (San Francisco, 2009), p. 92.

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- ²⁰ Nierva interview with the author. Pixar Animation Studios, Emeryville, California, 6 November 2009.
- ²¹ Hauser, p. 94.
- ²² Hauser, p. 101.
- ²³ Hauser, p. 100.
- ²⁴ Hauser, p. 94.
- ²⁵ Hauser, p. 96; *The Incredibles* is a 2004 Pixar Animation Studios film about a family of superheroes.
- ²⁶ *The Telegraph*.
- ²⁷ Angel, pp. 39-40. Based on recent research by Venezuelans Jorge M. González and Charles Brewer-Carias, Jimmie Angel was the first person to see the waterfall when he sighted it from his airplane 16 November 1933. He recorded the finding in his pilot's log book and told many people about his "mile high waterfall." Furthermore, González and Brewer-Carias believe that the Indigenous Pemón did not know about the existence of the waterfall before Angel because Auyántepeui was feared by them and the remote location of the waterfall within the interior of the Tepui was unknown to them.
- ²⁸ Angel, p. 30. (Gilliard and Scoggins, "The Eighth Wonder of the World," *Saturday Evening Post*, July 26, 1941, p. 72).
- ²⁹ Nierva, interview with the author.
- ³⁰ Imagire, interview with the author.
- ³¹ Hauser, p. 106, Bryn Imagire.
- ³² Hauser, p. 105, Bryn Imagire.
- ³³ Hauser, p. 18, Ricky Nierva.
- ³⁴ Rohit Deshpandé, "Why You Aren't Buying Venezuelan Chocolate," *Harvard Business Review*, <http://hbr.org/2010/12why-you-arent-buying-venezuelan-chocolate>; Tony Perrottet, "Aguirre The Mad," *Insight Guides Venezuela* (Boston, 1994), p. 37.
- ³⁵ Angel, pp 25-26.
- ³⁶ Nierva, interview with the author.
- ³⁷ *UP Fun Facts*.
- ³⁸ Steve May, *UP* Supervising Technical Director, interview with the author. Pixar Animation Studios, Emeryville, California, 6 November 2009.

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- ³⁹ Bob Strauss, "What Did Dinosaurs Look Like?" <http://dinosaurs.about.com/od/dinosaurbasics/a/What-Did-Dinosaurs-Look-Like>. Retrieved 18 February 2012.
- ⁴⁰ American Museum of Natural History, <http://www.amnh.org/news/2012/03/new-finding-dinosaurs-feathers-were-black-with-iridescent-sheen>. Retrieved 15 March 2012.
- ⁴¹ American Museum of Natural History.
- ⁴² Nierva, email to the author, 9 September 2010.
- ⁴³ Wikipedia, http://en.wikipedia.org/wiki/Curtiss_F9C_Sparrowhawk, retrieved 9 September 2009.
- ⁴⁴ Paul Graham Stanley, email to the author, 17 February 2012. Stanley is the President of Angel Conservation, a non-governmental organization, working with the Kamarakoto Pemón to conserve their culture and President of Angel Eco, (an ecotourism company);
- Jorge M. González, Ph.D., email to the author, 21 February 2012: 1. "Dogs are used by Pemón to hunt," Charles Brewer-Carias, explorer and naturalist, 2. "*Los perros que vi estaban en la comunidad, les hablaban en Pemón... He visto todo tipo de mascotas en distintas comunidades indígenas ... perros y hasta gatos.*" Trans by González, "The dogs I have seen were within the community, they talked to them in Pemón ... I have seen every kind of pets ... dogs and even cats," Leopoldo García - naturalist, ecotourism guide), 3. "... los perros están en las casas donde viven, me imagino que como compañía y a la vez para cuidar, nunca los he visto con los individuos en las noches cuando salen de cacería," Trans by González, "Dogs are in their houses, I imagine they use them as pets and to safeguard the house, I have never seen dogs with hunters at night," Renato Mattei - explorer, entomologist, ecotourism guide.
- ⁴⁵ Jorge M. González, Ph.D., email to the author, 21 February 2012; González, "Note: If the legend is that old (Pre-Columbian), I guess that the "dog" in the legend was originally a "primitive" dog (could be in the genus *Canis* or a genus close to *Canis*). With the Spaniards bringing dogs to the New World, that "primitive" dog was mixed or substituted by Pemón (and other Indigenous groups) with "*Canis familiaris*" (the 'modern' dogs)." According to González, the legend originally appears in the book "Cuentos y no cuentos/ Panton, Panton Neke-Re" written by Fray Cesareo de Armellada in 1988. The book is a bunch of tales and stories told by the Pemón and translated by Armellada into Spanish," Jorge M. González, Ph.D., email to the author, 21 February 2012.
- ⁴⁶ Hauser, p. 106, Albert Lozano.
- ⁴⁷ Angel, p. 17.
- ⁴⁸ Angel, p. 30 (Gilliard and Scoggins).

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- ⁴⁹ As Jimmie Angel's biographer, I would prefer that the "River of Gold" not be found on Auyántepeui or any other Tepui because gold mining is a process which destroys the natural environment.
- ⁵⁰ Hauser, p. 133, Sandeep Menon.
- ⁵¹ Nierva, interview with the author.
- ⁵² Except when I am quoting someone, I have used the name Alejandro Laime throughout the paper. Born Aleksandrs Laime, he used the Spanish Alejandro pronunciation and spelling after he moved to Venezuela. Some writers use the English Alexander when writing about Laime. Rather than his interest in dinosaurs, Laime is most well known for his exploration of Auyántepeui. He was the first person to reach the base of Angel Falls (probably in 1946) and also guided Ruth Robertson's 1949 successful expedition to measure the waterfall and verify it Earth's tallest waterfall.
- ⁵³ Valdis Abols, email to the author, 22 January 2011. According to Abols, his research indicated that Laime was not a University of Riga graduate.
- ⁵⁴ Valdis Abols, email to the author, 9 March 2012, quote from *The American Weekly*, 15 August 1954.
- ⁵⁵ Tim Cahill, *Jaguars Ripped My Flesh*, (New York, 1996), pp. 50-51.
- ⁵⁶ Valdis Abols; Jorge M. Gonzalez, email to the author, 29 March 2012, "I checked the *Birds of Venezuela* book and other info on Venezuelan birds, and the pigeon mentioned by Laime is highly probably a very large *Columba cayennensis* known as Pale vented pigeon. This one and the scaled pigeon (*Columba speciosa*) are two of the largest pigeons in Venezuela. They both fly alone and out of the forest but only *C. cayennensis* fly as far south as Auyántepeuy. The one seen by Laime was possibly a larger than normal specimen, however, as I mention before, the species is one of the largest in the country. This species has red eyes, yellow beak, a whitish spot behind the "ears" (possibly whiter in the specimen that he saw), and purplish, grayish, greenish, colors of plumage, and flying around in the sun surely could make it of an 'indefinable' color."
- ⁵⁷ Valdis Abols, email to the author, 22 March 2012.
- ⁵⁸ Valdis Abols.
- ⁵⁹ *UP*, A Pixar Animation Studios Film, 2009.
- ⁶⁰ Marie Sanders Angel, "The Angel Falls," unpublished manuscript, 1978, p. 109; Jimmie and Virginia Angel never divorced. Marie acknowledged the presence of Virginia in her marriage to Jimmie Angel.
- ⁶¹ Rolan Angel, Jimmie and Marie Angel's second son, interview with the author, Santa Barbara, California, 12 May 1995.
- ⁶² Karen Angel, *The River of Gold*, unpublished manuscript, p. 117.

⁶³ Hauser, p. 10.

⁶⁴ Hauser, p. 66.

⁶⁵ Patricia Grant, letter to the author, 23 May 1996; Angel, p. 41, "The government of Venezuela declared the airplane a national monument in 1964. It was removed by the Venezuelan Air Force in 1970 and taken to the Aviation Museum in Maracay for restoration. A partially restored airplane, which includes many components of the original *El Rio Caroni*, was later moved to the airport at Ciudad Bolívar, where it remains on the green in front of the passenger terminal with a plaque dedicated to Jimmie Angel."

⁶⁶ Christian Hokenson, "Up-Blu-ray Review," 11 April 2010, <http://www.hd-report.com/2010/04/11up---blu-ray-review/print/>. Retrieved 29 November 2010.



Karen Angel at Angel Falls wearing her *UP* T-Shirt, 2 July 2012.
Photo: Kevin Rowland, 2012