

The Voyage of the Beagle Study Guide

The Voyage of the Beagle by Charles Darwin

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Plot Summary

Charles Darwin (2/12/1809-4/19/1882) writes about his explorations of various places he visits as a 19th century naturalist during a long voyage around the world. He ships aboard the Beagle, a ten-gun brig, anchoring at St. Jago (Sao Tiago), the primary island in the Cape de Verd group located west of Africa. From there he sails to St. Paul's Rocks, Brazil, Patagonia, East Falkland Island, Tierra del Fuego, Chile, Peru, the Galapagos Islands, Tahiti, New Zealand, Australia, Tasmania, Mauritius and St. Helens Island before returning home. The entire trip takes five years to complete.

Darwin walks the jungles of Brazil, rides with the gauchos and explores rivers, mountains and plains. He meets many different kinds of people along the way, from the most primitive to the stylishly modern. His main purpose is to gather specimens of unknown species and study how the earth has formed islands, mountains and plains. He observes cultures as an anthropologist, life as a biologist and the earth as a geologist.

His most favorite place is Tahiti and least favorite Tierra del Fuego. Tahiti offers beautiful scenery and lush vegetation. The people are friendly and beautiful in their own ways, although alien to Darwin's eyes. Tierra del Fuego, situated near the Strait of Magellan, is a stormy and cold place inhabited by very primitive natives.

For his scientific work, the Galapagos Islands offer the most important observation of Darwin's career. He notices that each island has unique bird and animal life, although the same species. He begins contemplating why and how species differentiate although relatively close together. This will lead to his ideas on the origination of species, and eventually lead to the theory of evolution.

Part field notes and part adventure story, *The Voyage of the Beagle* offers the diligent reader insights into the world of the 19th century, the state of science at that time, and Darwin's experiences. He explores all types of terrain while trying to understand how the land has formed. Caught in a revolution, he nearly becomes stranded in South America. Darwin crosses the Andes, rides across the desert, learns to throw the bola, and teases an aggressive penguin. His five years of exploration and discovery leave him very satisfied with the experiences, and he recommends others take similar journeys.



Chapter 1

Chapter 1 Summary and Analysis

Charles Darwin (2/12/1809-4/19/1882) writes about his explorations of various places he visits as a 19th century naturalist during a long voyage around the world. He ships aboard the *Beagle*, a ten-gun brig, anchored at St. Jago (Sao Tiago), the primary island in the Cape de Verd group located to the west of Africa. The island has volcanic geology and not much vegetation, due to trees having been cut down during development of the island. As a result, few wild creatures other than grasshoppers and lizards inhabit the hills and valleys, the latter filling with water during torrential downpours. Plant life springs up after the rains only to be quickly turned brown in the sun.

Two of the ship's officers and Darwin ride horses on the island. They discover the ruins of a fort and a cathedral near a little town, and with the help of a local guide, tour a cemetery with headstones dating back to the 16th century. Darwin and the officers eat a meal with the locals, tell stories and give the guide a few shillings for his time and effort.

A few days later they ride to St. Domingo, another small town toward the island center. Their route takes them by stunted acacia trees, the branches of which point in the trade wind direction. They have trouble following the faint trail and end up in the town of Fuentes, where Darwin observes a flock of shy guinea fowl taking wing. He compares them to partridge. When he finally comes into St. Domingo during an unexpected festival, black women dressed in white linen sing a song alongside the road. The visitors toss coins into their shawls, which the women have spread out on the ground. A small stream runs through the town, and allows green vegetation to grow relatively profusely, adding to the beauty.

Darwin comments on the island geology that, although mostly volcanic, has a band of chalk which must have formed in the ocean and been covered with basalt from the volcano. He notices places the chalk has been changed into limestone and a curious spotted mineral, possibly the result of high heat from the lava flows. The island has experienced no volcanic activity since it was settled.

Marine life observations include a sea slug that emits ink and secretes a stinging fluid all over its body, octopi that change color and blend in with their surroundings, and the cuttlefish. The cuttlefish also changes color to avoid detection, but in a way that does not necessarily blend into the background. It approaches Darwin as if curious, and then darts away in a cloud of ink. He keeps one in his cabin and sees it is somewhat phosphorescent.

The *Beagle* sets sail across the Atlantic, navigating close to St. Paul's Rocks, about 600 miles east of Brazil. Darwin notes the volcanic origins of the rocks and islets, their low height above sea level and the whiteness due to many years of bird guano deposits that turn very hard over time. He sees only two kinds of birds, the booby and noddy. The



booby, a type of gannet, lays eggs straight onto the rocks. The noddy, a tern, makes a nest out of seaweed, near which a caught flying fish often lies. Crabs steal the fishes when they can, which Darwin finds amusing, and also hatchlings. The only insects Darwin observes are spiders and parasites brought in with the birds.

The Beagle stops briefly at Fernando Noronha, a small island a few hundred miles off the coast of Brazil. The most notable feature of this island, also of volcanic origin, is a rocky, steep hill jutting about 1,000 feet into the sky. Darwin thinks this feature was formed when molten rock filled a space within softer material that eroded away over time.

The next stop is South America, the Brazilian state named Bahia. Darwin walks through a rain forest:

"Delight itself, however, is a weak term to express the feelings of a naturalist who, for the first time, has wandered by himself in a Brazilian forest. The elegance of the grasses, the novelty of the parasitical plants, the beauty of the flowers, the glossy green of the foliage, but above all the general luxuriance of the vegetation, filled me with admiration," (p. 21).

On his way back to the ship, a typical rain storm drenches the forest. Darwin marvels about it from under a tree, the rain running down the trunk like a little river. He comments on the size of Brazil's coastline, about 2,000 miles long, and how most of the rock formations are of granite. He notices the rocks around the mouths of the big rivers are coated with a shiny black substance, which he analyzes as consisting of manganese and iron oxides. Oddly, the thickness of the deposit is the same no matter what the river or location. He sees blowfish near the coast and their habits of puffing themselves up brings amusement. One of the defenses of the fish is a red secretion Darwin has heard can eat its way through the belly of a shark.

The Beagle sails away from Bahai southward and passes through several bands of colored water. Darwin investigates and discovers small interlocking organisms cause the discoloration. He relates this phenomenon to other discolorations he has observed during earlier voyages.

The author employs a language style of part scientific observation and part journal entry. He includes footnotes supporting his ideas when writing as a scientist, but while writing as a curious traveler, he lets his impressions out and tells unrelated stories of his experiences while in the field.



Chapter 2

Chapter 2 Summary and Analysis

Rio de Janeiro (River of January) is the Beagle's next port of call. Darwin meets an English landowner who invites the naturalist to his estate, 100 miles north of the city. Darwin and six others ride their horses through the interesting countryside with many butterflies flitting about. They pass a small village that reminds Darwin of the Hottentot villages of Southern Africa, and then an infamous hill where at one time runaway slaves hid. The party spends the night at a marshy site relatively devoid of life, to Darwin a miserable place.

Breaking camp before sunrise, the party follows the road through a sandy plain lying between the marshy land and the ocean. Succulent plants, egrets and cranes break the monotony. Some of the stunted trees support parasitical and fragrant orchids. The party takes their supper at the Mandetiba inn, which is one of the best Darwin experiences in his travels. The inn has no window glass and only dirt floors with boards laid out as beds.

The next morning they pass by both fresh and salt water lakes, and then enter pasture land with large conical ant hills dotting it. Darwin amazes at the hardiness of the Brazilian horses, which can endure the trail longer than English breeds and quickly recover from injuries. They arrive at Socego, the estate of Manuel Figuereda, a relative to one of the party members.

The house is simple but does contain furniture. The estate produces coffee and cassava, an important food source in Brazil, along with cattle. The surrounding forest teams with game. Darwin observes the estate slaves at work. They work for the estate five days out of the week, then for themselves over the remaining two. Darwin concludes the life is above tolerable for the slaves. He does witness a near atrocity when the owner of the slaves, miffed over some kind of lawsuit, threatens to split up the slave families and sell the male slaves at auction, but when the owner realizes this will end up costing more money than the spite is worth, he relents. Darwin addresses slavery:

"Indeed, I do not believe the inhumanity of separating thirty families, who had lived together for many years, even occurred to the owner. Yet I will pledge myself, that in humanity and good feeling he was superior to the common run of men. It may be said there exists no limit to the blindness of interest and selfish habit. I may mention one very trifling anecdote, which at the time struck me more forcibly than any story of cruelty. I was crossing a ferry with a negro, who was uncommonly stupid. In endeavoring to make him understand, I talked loud, and made signs, in doing which I passed my hand near his face. He, I suppose, thought I was in a passion, and was going to strike him; for instantly, with a frightened look and half-shut eyes, he dropped his hands. I shall never forget my feelings of surprise, disgust, and shame, at seeing a great powerful man



afraid even to ward off a blow, directed, as he thought, at his face. This man had been trained to a degradation lower than the slavery of the most helpless animal" (pp. 33-34).

Over his three-day stay at Socego, Darwin collects insects within the forest, which contains cabbage palms—trees with narrow trunks that grow 40 to 50 feet tall. They return to Rio de Janeiro by the same route they came. For the next few weeks, Darwin stays in a cottage on Botofogo Bay, which provides rich resources for the naturalist.

He finds many species of planaria (flatworms) in the waters and on land living beneath rotting wood. The planaria have powerful regenerating properties, where they can be cut into pieces and each piece regenerates a whole worm. While looking for the flatworms, Darwin accompanies an old Portuguese priest who hunts for anything at which he can shoot. The priest kills two bearded monkeys in a tree, but the monkeys cannot be shaken out due to the grip of their prehensile tails. Darwin and the priest chop down the tree to retrieve the priest's game.

Over the course of the days, Darwin studies the luminous insects in the district, mostly fireflies but also a beetle. He goes to the Botanic Garden where he encounters camphor, pepper, cinnamon and clove trees, along with bread fruit, jaca and mango. A trip to Gavia, also known as the topsail mountain, fills a day with lush vegetation, rich insect life and numerous hummingbirds. He finds a butterfly that uses its legs for running and alights with wings held straight out, rather than together and vertical. The butterflies also make a clicking noise, a unique trait for the species. He sees many small animals and lizards running away from a swarm of ants and a wasp that poisons spiders to feed to its young. Some of the many kinds of spiders have strange behaviors, such as feigning death when disturbed or stealing food from another spider's web. He witnesses a very small spider with an irregular web capturing a much larger wasp by wrapping it repeatedly in silk. Another type of spider gathers together in communities and share webs.



Chapter 3

Chapter 3 Summary and Analysis

While sailing away from Rio de Janeiro, Darwin sees a very large group of porpoises numbering in the hundreds. The Beagle enters the Plata estuary where seals and penguins surround the ship and make noises that resemble cattle. The water is very luminous. St. Elmo's fire, an atmospheric electrical phenomenon, makes the yardarms glow. Lightning flashes in the sky. Darwin notices in the daylight the muddy river water floats atop the denser salt water, creating interesting swirls of brown and blue as the ship passes through the mouth of the Plata River.

The author stays ten weeks in a small town named Maldonado at the mouth of the Plata River. The town is laid out with streets running at right angles and having a central square. The primary industries involve cattle, hides and blacksmithing for the surrounding districts. Horses, sheep and cows graze in green pastures around the town. Much of the land has not been cultivated. Darwin walks through the pasture grasses, kept short by the browsing cattle, and remarks about brightly plumed birds and low-growing scarlet flowers.

He rents a place for him and two companions, heavily armed as a precaution against bandits. The next day, he and his companions ride horses seventy miles to the north to the Polanco River. They spend the first night at a ranch, where the inhabitants take great interest in Darwin's compass and maps. He shows them phosphorous-tipped matches, which also draw interest. The people know very little about astronomy or geography. Darwin tries to patiently answer their many questions.

The next stop is the village of Las Minas. Here Darwin encounters the gauchos, who are the South American cowboys. Exceedingly polite, the gauchos love to drink alcohol and smoke cigars. Darwin respects their ethics, although he knows the gauchos could as easily slit his throat as share their drinks.

Darwin investigates marble outcroppings during the next day. He sees large flocks of ostriches roaming the land, up to 30 birds in some groups. The party spends the night at Don Juan Fuentes' house after performing a common ritual to ask for lodging, which is accepted. Fuente has three cows slaughtered for the evening meal, consisting of nothing but meat and water. Smoking and singing with guitar accompaniment follow the meal. The women keep to one corner of the room.

Two important tools of the gauchos are the lazo (lasso) and the bola. The lazo is a rope made of leather with a ring tied to one end. Passing the other rope end through the ring creates a loop, which the gauchos skillfully employ to catch cattle by the neck. The bola consists of two or three round weights made of stone, iron or wood encased in leather and attached together by leather rope. The gauchos use this tool to bring down animals—whether game, cattle, horses or humans—by the legs. They swing the bolas over



their heads in a circle, then let go. When the bola strikes a target such as the legs of an ostrich, the weights cause the rope to wind tightly around the legs and thus bring the large bird to the ground. When Darwin tries to use the bola while hunting, he ends up bringing his own horse down, much to the amusement of the onlooking gauchos.

On the return trip to Maldonado, Darwin notes trees do not naturally grow on much of the land, but imported fruit trees do well in the climate. Most of the firewood for Buenos Aires comes from peach trees. He also comments on the partridges and how easy they are to hunt, often standing still until someone snags them with a noose made out of an ostrich feather shaft and a stick.

Darwin collects many species of quadrupeds, birds, lizards and snakes. Deer are especially abundant, although the musk of the male deer is nauseating. He shoots a large rodent called the water hog, weighing in at 98 pounds. A much smaller rodent, the tucutuco, lives underground and makes a noise that sounds like its name. Of all the many bird species, the mocking bird creates the most interesting songs.

In sand hillocks a few miles from Maldonado, Darwin finds glass tubes formed by lightning hitting the hills and traversing through the sand. The circumference of the tubes varies from two to four inches, with the bore being an inch and a quarter. Lengths also vary, with some tubes being short and others yards long. The most interesting thing Darwin observes is that some of the tubes fork as the lightning splits up within the sand. He then describes the devastation he witnessed in a house hit by lightning—the walls singed and the gilding of a mirror frame fused into the surface of a glass medicine bottle.



Chapter 4

Chapter 4 Summary and Analysis

Darwin sails with the Beagle from Maldonado to the principle river in the area, the Rio Negro, about 300 miles to the south. He finds the land to be parched and inhospitable as he travels 18 miles up the river to a small settlement known either as El Carmen or Patagones. Having come upon the ruins of a few ranches, he asks a local what happened and learns wild natives attacked and destroyed the ranches. The local man was involved in one of the attacks. He barely escaped alive. He attributes this to a small cannon that delivered grape shot, decimating the attacking hoard and turning it away. The local is sure a massacre would have otherwise taken place because the ranchers' ammunition had almost run out.

About fifteen miles from the settlement, Darwin explores a large salt lake. Two and one half miles long and one mile wide, the salt lake has water in it during the winter but none in the summer. The thickness of the salt ranges from about five inches at the edges to three feet in the center and is mined for exportation. Other larger salt lakes exist nearby, affording the primary income for the settlement. However, the salt does not work as well as sea salt for preserving meat, and thus has half the value. Darwin points out the land salt is nearly pure, which surprisingly results in its inferiority as a preservative. Sea salt contains other chemicals that aid in preservation.

Very few organisms can live in the mud surrounding the salt, but Darwin finds a species of worm that thrives. He concludes life finds a way in the harshest of environments, an observation that holds true to this day. Flamingoes also inhabit the lake area and feed off the worms, which Darwin observes at other salt lake areas.

"Well may we affirm that every part of the world is habitable! Whether lakes of brine, or those subterranean ones hidden beneath volcanic mountains—warm mineral springs—the wide expanse and depths of the ocean—the upper regions of the atmosphere, and even the surface of perpetual snow—all support organic beings," (p. 74).

Darwin decides to travel by land all the way to Buenos Aries with the company of a guide and five gauchos. The landscape remains dry and the water brackish. The party comes across a famous tree, revered by the natives as an altar to a god called Walleechu. The natives tie various offerings to the tree, and if too poor to do anything else, wrap threads from their ponchos around the branches.

Upon reaching the Colorado River, the party finds a military encampment headed by General Rosas. They stay for two nights, during which time Darwin finds little else to do but observe the natives. He notices one of their industries is to make the round stones for the bolas, which involves two day's labor for one stone. General Rosas invites Darwin for a talk, which Darwin enjoys. Although the general has a tyrannical streak that



later gets him into political trouble, he is a masterful horseman and dresses like the gauchos. This makes him very popular.

Darwin's next destination is Bahia Blanca. The land changes from the harsh desert to the pampas grassland. The party spends the night at a military outpost commanded by a black lieutenant born in Africa. As they continue their journey the next morning, the party hears a warning shot that hostile natives are nearby, so they take to a saline marsh and hide. The natives turn out to be friendly. Bahia Blanca turns out to be a tiny settlement constantly under attack by hostile natives. Darwin wastes no time in obtaining permission to proceed to the harbor in which the Beagle is to set anchor. The ship having not yet arrived, Darwin's party explores the surrounding area. They spend the night at Punta Alta, where Darwin sees a skunk called a zorillo.



Chapter 5-6

Chapter 5-6 Summary and Analysis

When the Beagle arrives, Darwin decides to stay on in the area of Bahia Blanca. He finds the fossilized skeletons of huge animals, all within a 200 square yard area. He argues modern large animals live in Africa off of fairly sparse vegetation, and this may have been the conditions in ancient South America as well. An assumption has been made and passed from text to text that large animals need lush vegetation, but Darwin believes this to be wrong.

Darwin turns to the birds, starting with how the ostrich swims long distances. The ostrich generally lays eggs in a group, but sometimes single eggs can be found. These do not hatch. Male ostriches tend the nest and will attack men on horseback if they come too close. From the gauchos Darwin learns several females will lay their eggs in a single nest, thus accounting for the numbers found. He also hears of a smaller species of ostrich.

A small bird, the tinochorus rumicivorous, resembles quail in its habits and snipe in its looks. He notes several other related species inhabit South America. Another species, called the Casarita (little house builder) by the Spanish, digs long holes into its underground nest.

Darwin recounts three species of armadillos and several snakes. One snake resembles a rattlesnake, but makes the rattling noise in a wholly different way. A type of toad is pitch-black except for a bright red belly. A lizard feigns death, and if disturbed further, quickly borrows into the sand.

General Rosas and his troops fight the wild natives during Darwin's stay. The general's troops are very self-sufficient because they bring mares along with them to eat, as the attitude toward mares is they are only good for breeding. When attacking the natives, the troops kill both the men and women, and then keep the children to sell as slaves. Darwin thinks this inhumane, but the soldiers justify the strategy as preventing the wild natives from breeding. The settlers all support General Rosa's campaign of extermination.

The author hires a gaucho to accompany him on his 400-mile journey to Buenos Aries through sparsely settled territory. With the help of a military guide, Darwin and his gaucho companion ride to a mountain called the Sierra de la Ventana (mountain of the window). A desolate place, the party has difficulty finding water, and since no trees grow there, make their cooking fire with dry thistle stalks.

The next day Darwin climbs the mountain and discovers it is made of largely white quartz. He finds conglomerate masses that seem to have been eroded by an ancient lake or sea. Otherwise, the mountain yields very little interest. The view from the top is



unimpressive. The party leaves for the Sauce military outpost, and on the way they see many deer and a rare, for that area, guanaco, which is the wild version of the domesticated llama.

Darwin and his gaucho companion stay at Sauce for the night and hear stories about the battles between the army and natives. They ride to another outpost, where General Rosas tells Darwin a troop of his soldiers would soon be going to Buenos Aries, and Darwin should take advantage of the escort.

Moving from military outpost to outpost, Darwin and the soldiers make their way toward Buenos Aries. They come upon an outpost in which the wild natives have killed all five of the soldiers. Darwin comments on the hard lives of the soldiers in general, this group eating only what they can procure off the land and sleeping in very poor shelters. At the seventh outpost near Sierra Tapalguen, the soldiers tell of a fierce hailstorm the night before, in which both cattle and wild animals were killed by hailstones as large as apples.

At the outpost on the Tapalguen River, Darwin tastes puma meat for the first time, which he compares to veal. The party moves onward, passing by ranches and moving through a flooded plain to a pleasant town called Guardia del Monte. From there they travel the last miles to Buenos Aries with its streets and single-story houses, each with a courtyard around which the rooms are built. There he watches the open-air slaughter yard. It is a gory vision of horsemen, cattle and swords.



Chapter 7

Chapter 7 Summary and Analysis

Darwin heads toward St. Fe, about 300 miles north of Buenos Aires along the Parana River. Recent rains make the road very difficult, especially for the many carts with huge wheels. He passes by vast expanses of thistles where robbers hide and cattle can be lost in the labyrinth. Few wild animals inhabit the thistle fields except a rabbit-like creature called a bizcacha and a small owl. The gauchos tell Darwin the bizcacha feeds off the roots of the thistles and has a curious habit of collecting hard objects in a pile near the entry to its burrow. If a person loses something like a watch, it may be found by searching through bizcacha piles. Darwin has no idea why the animals do this.

The small owls feed on mice and snakes, which Darwin verifies by inspecting the contents of their stomachs. He relates that other owls he has examined in the same way feed on crabs, making the point that owls have diverse diets.

In the area of St. Fe, Darwin examines the geology and finds it similar to other coastal regions in South America. However, he finds the shell of a gigantic armadillo and a fossilized horse tooth. The tooth indicates horses may have lived and died out on the continent long before the Spanish arrived with their horses. This leads Darwin to think about the common species between the Old and New Worlds that have since become extinct in the New World, such as elephants, ruminants and horses. He reflects that at one time a land bridge existed across what is now the Bering Strait, thus allowing the migration of common animals. From stories Darwin has heard about a contemporary drought that killed thousands of cattle and horses, followed by a flood that covered the carcasses in mud, he speculates this may have caused the conglomerations of fossils he and others often encounter.

Darwin takes an excursion up the Parana River, which has many islands. He tries to explore the islands but finds too many signs of jaguar, causing him to spend most of his time watching out for the predators rather than examining the flora and fauna. He does encounter a bird with a scissor beak used to skim the water and catch small fish, a type of king fisher and a green parrot that catches insects like a swallow.

Upon returning to Buenos Aires, Darwin discovers a violent revolution is underway. He has trouble gaining passage through the city to the port, now his passport no longer carries much weight. However, his relationship with General Rosas smooths the way. He still needs to find some way to regain the Beagle, anchored at Monte Video in Uruguay.



Chapter 8

Chapter 8 Summary and Analysis

Taking passage on a packet boat, Darwin makes Monte Video and the Beagle, which is not to set sail for a time. He decides to ride into the countryside and witnesses a gaucho crossing a deep river with a reluctant horse. The gaucho slips behind the horse, hangs onto the tail and splashes water at the horse's face each time it tries to turn around. This method of crossing proves successful and amuses Darwin.

The people of Uruguay show Darwin hospitality, letting him stay at various outposts and ranches. He notices signs of the recent revolutions, such as a church used as a powder magazine and blown up when a bolt of lightning hit it. However, now the country has settled down for the time being and grows in prosperity.

Darwin learns at one ranch how shepherd dogs are trained for their task. When still a puppy and before weaning, the shepherd dog is put in with the sheep. It grows up believing it is a sheep too, and so its instincts to protect and herd kick in. The dogs are trained to move the sheep out to pasture and back to the ranch at particular times of the day. Once per day the dogs come to the ranch house for food and may encounter other dogs, but they never socialize.

Known for their horsemanship, the gauchos also break in horses by sheer will. They start by binding the front legs to limit the horse's movement, and then put a rope bridle on the animal. The horse tries to buck the rider off, but the gaucho hangs on until the horse finally breaks out in a gallop. At this point the horse is considered broken in and ready for training on the bit.

A gaucho on a well-trained horse can go around a post at full gallop while touching a finger to the post. He can turn the horse in several different ways, all developed while roping cattle to keep from becoming caught in the rope. Another skill they have is to step off a horse that is going down. They often purposefully bring their steeds down and dismount this way as a sport. The idea is for the gaucho to always come off standing, not thrown or prone.

Darwin returns to Monte Video and departs with the Beagle for Port Desire on the coast of Patagonia. Along the way, a swarm of butterflies and other flying insects surround the ship. Darwin assumes the butterflies have been blown out to sea rather than being on a migration due to the presence of beetles and flies in the swarm. His thoughts turn to spiders he has observed on the ship that let out silk into the wind and take flight over the ocean.

He collects sea life by letting out a fine net into the wake of the ship. Among the phosphorescent plankton, he catches a crab with a strange configuration of legs and claws that allow the crab, through suction cups similar to those on squid tentacles, to

attach itself to the bottom of floating objects. Darwin notes the areas of high and low phosphorescence in the water, speculating the higher glow is the result of organic decomposition.

The Beagle arrives at Port Desire and anchors across from the ruins of an old Spanish settlement. Darwin goes ashore and reasons the settlement was abandoned due to the dry conditions and native raids. Here the guanaco, rarely seen to the north, is abundant in mostly small herds. The animals have a natural curiosity that can be exploited to hunt them. If the hunter behaves in a strange manner, such as lying on his back and kicking his legs into the air, the guanaco comes to investigate and walks into easy shooting range.



Chapter 9-10

Chapter 9-10 Summary and Analysis

Captain Fitz Roy anchors the Beagle in the mouth of the Santa Cruz River and decides to take boats up the river as far as he can. He leaves with Darwin and 23 hands, a force big enough to ward off hostile natives. In three boats the party heads up the wide, deep river, but as the current is too strong, the men tie the boats together and pull them upstream from the river bank.

Darwin finds nothing new or of great interest along the river. He describes several varieties of mice and a small fox that hunts them. Puma tracks are common, and they come upon a few guanaco skeletons, obviously brought down by the cats. Ahead clouds form above a mountain range.

The river bed changes from the usual stones to black volcanic rock. The party comes upon the source, a huge lava flow Darwin estimates at 320 feet thick. He shoots a condor with over an eight-foot wingspan and comments on how the bird roosts on cliffs and lays her eggs on ledges, but does not build a nest. A social bird, it often soars to great heights with 20 or 30 others in search of carrion they detect mostly by smell.

As the party approaches the mountains, Darwin notices huge erratic boulders and speculates they have somehow been moved from the mountains to the plain by way of floating icebergs. Although the party sees signs of natives, they never encounter any. Captain Fitz Roy decides the river has become too difficult and turns back for the ship.

The Beagle anchors at East Falkland Island, which Darwin describes as a miserable place. The soil is always wet and boggy, the weather rainy with constant winds. He tours the island with two gauchos, finding only two kinds of birds, withered grass and a few varieties of low shrubs. The gauchos kill a wild cow and prepare a boneless roast with the hide still on the meat. They cook the roast over coals with the hide side down, creating a meal Darwin finds remarkably tasty.

Over the next few days, the party finds a herd of cattle and rabbits that had been introduced to the island. A wolf-like fox is an indigenous species and unique to the island. Darwin puzzles over a geological formation consisting of many whitish stones arranged as if it were a riverbed but without any sign of wear from running water. He observes many waterfowl along the shore of the island, including a quite aggressive penguin. One type of goose feeds on shellfish, using its sturdy beak and loggerhead to break the shells. Weary of the cold and stormy weather, the party returns to the ship.

The Beagle sails to an island named Tierra del Fuego and anchors in the Bay of Good Success. Primitive and impoverished natives shout at the ship, and in the morning the captain sends out a party to meet the natives. Their language consists of clicking and



clucking sounds. All the men and some of the women wear paint on their faces. The natives are mainly interested in obtaining knives from the seamen.

The ship carries with it three passengers native to the island and educated in England—York Minster, Jemmy Button and Fuegia Basket, a young woman with a knack for picking up languages. Captain Fitz Roy has brought them back to their homeland. He took the natives hostage for a stolen boat the last time he visited the island and paid for their educations.

Darwin collects plant samples on the mountainous island before the Beagle departs. The ship runs into storms that force it to take refuge in Wigwam Cove on the western side of Tierra del Fuego. Six days later another attempt is made to make for open ocean, but again the weather turns the ship back to the island at a point where Jemmy's family lives, a tribe known as the Tekenika. Jemmy reunites with his family but has lost much of the native language from his time in England. He stays on the island as the Beagle explores a channel named after the ship.

Reflecting on the character of the natives, Darwin relates how they constantly beg for gifts and steal from one another. He sees Jemmy a few days later and is convinced he would like to rejoin the ship, having lost most of his belongings to his brother. The natives beg with the word "yammerschooner," and the sound of it becomes bothersome to everyone on the ship. Darwin comes to the realization the natives barter among themselves, their only method of commerce.

Before leaving Tierra del Fuego, Jemmy comes alongside the ship in a primitive canoe. He has lost much weight and is nearly naked. He comes on board, receives new clothing and has dinner with the captain. He tells how York Minister married Fuegia Basket on the island, built a large canoe and journeyed to his own people with his new wife. Jemmy has taken a wife as well, so he leaves with many presents to continue his native life on the island.

With a nod toward his sponsor, the King of England, Darwin criticizes the primitive natives of Tierra del Fuego as not having the ability to improve their lives. This, according to Darwin, requires strong leadership, such as afforded by the King. Darwin believes the natives on Tierra del Fuego are intelligent enough to someday become civilized.



Chapter 11-12

Chapter 11-12 Summary and Analysis

Captain Fitz Roy attempts to sail through the Strait of Magellan for the second time and finds a calmer sea. He stops to talk with the Patagonians, a tribe of natives known for their tallness. Most are around six feet tall, which is not remarkable for the English but they do stand out among the natives. The captain takes three onboard for the journey northward along the southwestern coast of South America.

The Beagle makes it through the Strait by way of the Magdalen Channel, a fairly recent discovery, and out into the relatively calm Pacific Ocean. Darwin writes about some of his observations while on Tierra del Fuego. Besides the general gloominess of the island, he finds it astounding some of the natives have taken to eating a type of fungus that grows on the trees. He tries some and thinks it tastes slightly like mushrooms, but knows of no other people who eat tree fungus as a staple.

Anchoring in the bay of Valparaiso, the primary Chilean seaport, Darwin enjoys the clear, dry and warm weather after suffering so much on and around Tierra del Fuego. He sees the volcano of Aconcagua in the distance rising to 23,000 feet above sea level, according to the officers on the Beagle. He stays with Richard Corfield, whom Darwin met while in school.

Darwin rides a horse out into the countryside, which he finds especially picturesque near Valparaiso. Olive and orange trees crowd the valleys, which also support many varieties of vegetables, and mountains rise on both sides. Known as the Valley of Paradise, Darwin agrees with the title. He stays the night at a country estate called the Hacienda de San Isidro at the foot of Bell (Campana) Mountain.

The next morning the major-domo of the Hacienda provides Darwin with a fresh horse and a guide. They ride up the mountain and go through a forest of ugly palms that yield sweet sap from which syrup is made. They spend the night at a spring named the Aqua del Guanaco, although the wild llamas have long since left the area.

Darwin and his guide make the summit of Bell Mountain by early morning. They spend the day enjoying the glorious scenery. Darwin wonders at the forces that raise mountains and the other weathering forces that eventually wear them down. He notices old prospectors' holes dotting the mountain top, mining being a primary Chilean industry. They descend the mountain to the Hacienda de San Isidro, spend the night and go out exploring the valley the next morning.

Passing through more beautiful countryside, Darwin stops at the copper mines of Jajuel. He stays there for five days. The miners work hard, but they think this is better work than on the farms. The primary food consists of beans and bread, and the mine superintendent forces the miners to eat the beans. The miners prefer just bread but



from lack of protein their strength wanes over time, thus the requirement to eat the beans.

Taking an indirect path back to the Hacienda, Darwin and his guide must cross a suspension bridge made of rope and hide. The bridge swings disconcertingly as the men lead their horses across. They come across hot mineral springs that many people visit to bathe in the water for its purported health benefits. Again passing through scenic landscape, they come upon a gold mine and native ruins, then a lush district of green plains. Darwin describes the puma and larger birds, along with the tiny hummingbirds of Chile.



Chapter 13-14

Chapter 13-14 Summary and Analysis

The Beagle visits the island of Chiloe, another stormy place where the people raise pigs, potatoes and catch fish. The forests are impenetrable. Darwin accompanies an expedition to survey the eastern side of the island. He sees the volcano Orsono sending out smoke and another nearby steaming. The expedition sails fully around the island, but Darwin finds little to comment about, other than the bad weather, the poverty of the people and the impossibility of traveling through the forest due to its earth always being too wet to support horse or man.

On the island of San Pedro, Darwin and crew members walk on layers of logs several yards thick. The seamen call out soundings as a joke. Arriving at the Chonos Archipelago, a storm keeps the ship from moving onward for three days. When the weather breaks, Darwin discovers a bed in a cave on another island, apparently not made by a native. Later six sailors who ran away from a whaling ship show up at the Beagle. The captain takes them aboard.

Sailing again to Chiloe, Darwin witnesses the volcanic activity of mount Corcovado at night. Huge rocks spew out of the crater and the red glow of the lava reflects on the ocean. At the same time, other volcanoes become active along the same chain of mountains. Darwin postulates the eruptions correlate, along with his observed evidence that land masses have elevated thousands of feet above the ocean. His thinking is not that far off from the later developed theory of plate tectonics.

At Valdivia a massive earthquake shakes the land so much people have a hard time staying on their feet. Huge tsunamis result, causing massive destruction and taking many lives. This provides Darwin with more evidence of the relationships between volcanic activity and earthquakes. He feels greatly shocked over the violence in nature.

On the island of Quiriquina Darwin talks with the mayor-domo about the destruction from the earthquake. Wreckage is strewn over the coast, some if it recognizable as house roofs. Seventy villages have been destroyed and many ships sunk or seriously damaged. One crew sailed out toward the approaching tsunami and managed to navigate the swell before it broke into a wave. Darwin examines the fissures the earthquake left in the earth, some a yard wide, and all running from north to south. He correctly guesses the fissures run along the same direction as the earthquake fault line, although this theory has yet to develop in science.

At the town of Concepcion Darwin finds similar destruction, but very few people have been injured or killed. Here the earthquake was especially strong, probably near the epicenter. However, the houses, made of wood and sitting directly on the earth rather than upon rock foundations, flexed enough to remain standing, although damaged and crunched together. The inhabitants escaped into the open, where the earthquake

shocks passed by like great waves on an ocean. Darwin marvels about the solid ground becoming so fluid, a disconcerting experience that contradicts the very idea of solid ground.



Chapter 15

Chapter 15 Summary and Analysis

While anchored at Valparaiso, Darwin prepares to cross the Andes Mountains through the Portillo pass. Mariano Gonzales accompanies him and ten mules loaded down with extra supplies in case they become snowed in while crossing the mountains.

The rivers impress Darwin as being very fast and powerful, loosening and rolling rocks in the torrents. This action creates a distinctive clicking sound in the purple mountains. He reflects on the richness of mineral resources and how most mines are discovered by men who drive cattle into the mountains, simply by picking up stones and noticing the kinds of ore in them.

Views in the high and largely barren mountains are magnificent, but for Darwin's interest in plants and animals, almost no new species can be found. He speculates on how the geology develops on the mountain through snow melt percolating and loosening rocks. He spends the night among gypsum miners on a deposit he estimates to be 2,000 feet thick. He notes deposits of minerals containing fossilized sea shells exist upwards of 14,000 feet above sea level, sure proof the land can be raised to astounding heights from the sea.

While ascending Peuquenes ridge, the mules must stop regularly due to the thin air. Darwin feels tightness across his head and chest. At the summit he encounters red snow, tinted from what later shows up under his microscope as tiny spheres about a thousandth of an inch in diameter. The party spends the night on the other side of the summit at 11,000 feet. Water boils at a very low temperature at this altitude, which makes preparing food difficult. The potatoes never soften.

They continue through the mountains the next day. Darwin sees glaciers and frozen drizzle falls. At night he notices the brilliance of the stars and moon through the clear and thin mountain atmosphere. Other travelers whom they encounter always ask about the conditions on the trail, as heavy snow is the most dangerous situation during this part of the season. Darwin notes distances are difficult to estimate due to the different orientation while in the mountains. He also comments on the extreme dryness of the air, which causes a great deal of static electricity and shrinks the wooden shaft of his geological hammer.

Having crossed the mountains, the party finds pasture land and firewood. They decide to camp at Los Arenales, where Darwin sees plants and animals similar to what he saw on the plains of Patagonia. The wildlife is quite distinct from that on the Chilean side of the mountains.

At the Luxan River Darwin watches a reddish-brown cloud approach that turns out to be a destructive swarm of locusts. The locals can do nothing to stop the swarm from



destroying their crops, a periodic hazard of living on the plains. When the swarm arrives and alights on the green vegetation, the color changes to reddish-brown as far as the eye can see. Another type of insect, a flat black bug, sucks blood. A swarm of them attacks Darwin, much to his discomfort.

The party rides on to Mendoza, a much more pleasant area full of vineyards and fruit orchards. Irrigation supports the farming district, and the residents grow just enough for their own use. The people live there comfortably but have no ambition beyond that.

On the way back to Chile by way of the Uspallata pass north of Mendoza, Darwin finds silicified wood in the form of standing tree trunks turned to stone, the base rock being volcanic sandstone. The party later crosses passes that have shelf trails, sheer cliffs on one side and straight drop-offs on the other. He has heard about the extreme perils on these trails, but Darwin thinks the reports were exaggerated. The party makes its way down from the mountains on switchbacks and completes the journey at Santiago.

"My excursion only cost me twenty-four days, and never did I more deeply enjoy an equal space of time," (p. 340).



Chapter 16-17

Chapter 16-17 Summary and Analysis

Commencing a 420 mile journey up the coast of Chile toward Copiapo, Darwin rides his horse along a road that runs close to the ocean. Not finding much of interest along this route, he turns inland to a mining district.

The miners work hard and long. When they get paid, they spend all their money on drink and clothes, and then return to the mines penniless.

"The dress of the Chilian miner is peculiar and rather picturesque. He wears a very long shirt of some dark-coloured baize, with a leather apron; the whole being fastened round his waist by a bright-coloured sash. His trousers are very broad, and his small cap of scarlet cloth is made to fit the head closely," (p. 343).

The rest of the journey proves uninteresting. Darwin explores the northern part of Chile, but the area consists of mostly desert with a few mines of low quality here and there. He links up with the Beagle at a very poor port consisting of just a few shacks. From there the ship sails to the port of Iquique in Peru.

People in the port of Iquique must import everything—water, food, firewood and building materials. Peru is in a state of anarchy, but Darwin manages to arrange travel to a saltpeter mine. The route takes him through a desolate desert where he sees nothing but vultures. The town near the saltpeter mine is also desolate and seems out of place in the desert. He spends the night with one of the mine owners, examines the saltpeter deposit, and returns to the Beagle without having discovered anything remarkable.

Sailing to Lima and anchoring in the Bay of Callao, Darwin finds himself spending almost all his time aboard the ship due to the political unrest in Peru. He can safely visit only a small island that forms the harbor and only certain parts of Lima. While on a hunting trip with local merchants near the outskirts of town, Darwin examines the ruins of ancient native villages.

The Beagle next sails to the Galapagos archipelago and stops at Chatham Island. Huge tortoises weighing up to 200 pounds roam the barren volcanic island. People live on Charles Island in an inland settlement that has more vegetation. They cultivate sweet potatoes and bananas, and hunt wild pigs and goats. Primarily their meat comes from the tortoises, which are very easy to capture.

Darwin's primary interest in the Galapagos is how the natural inhabitants of each island differ in slight ways, even though they are of the same species. This observation later becomes part of his hypothesis on how species originate and develop, which in turn lays the foundation of the biological theory of evolution. For now he simply observes without making any conclusions on how the flora and fauna have diversified in a small area of the world. Also surprising, Darwin finds several species of fish and other sea



creatures unique to the Galapagos, possibly due to the currents running around the islands. The tortoises from each island also have their distinctive characteristics.

Although full of tortoises, lizards and birds, the islands have no species of frog. Darwin supposes the eggs of tortoises and lizards are better suited to the dry climate. He watches as a line of tortoises walk steadily toward a water source with their necks extended, while another line of satiated turtles walk away, noting the turtles store the water in their bladders. A unique kind of lizard feeds off of seaweed, something Darwin has never observed before.



Chapter 18

Chapter 18 Summary and Analysis

As the Beagle anchors in Matavai Bay, many canoes launch from Tahiti to greet the visitors. The ship has just sailed 3,200 miles from the Galapagos, during which time Darwin sees a formation of coral known as an atoll, where a ring of coral encloses a calm lagoon. Darwin first meets Mr. Wilson, the missionary for this part of Tahiti.

A ring of productive farmland encircles the island, on which oranges, coconuts, breadfruit, yams, sweet potatoes, sugar cane and pineapples grow. The Tahitians impress Darwin with their friendliness and good looks, despite their tattoos. Accompanied by a group of Tahitian men, Darwin explores the island.

The island is very mountainous, and the only ways into the interior are along river valleys. The party enters an interesting gorge. They later climb out of the valley, which requires the use of ropes at some points. The men create a structure thatched with banana leaves in a very short time, plus gather quite a feast from the surrounding forest and a nearby stream. They cook the food by wrapping it in leaves and burying it over hot rocks.

The next day they continue on Darwin's tour of the island, eventually ending up at Matavai. From there Darwin visits the queen of the island at Papiete, a short walk.

The Beagle then heads for New Zealand, where they receive a lackluster welcome from one canoe. Darwin finds the country to be impossible to explore due to thick growths of fern, and not very much of the land cleared for farming. He instead walks along the beach and comes across steep hills once used for defense.

In the evening he accompanies Captain Fitz Roy and one of the missionaries as they go to visit a village named Kororadika. Comparing the natives of New Zealand to those of Tahiti, Darwin finds the New Zealanders inferior in culture, much more warlike and unpleasant company.

Darwin reflects, while walking through the country on a road cut into the thick fern growth, on how at one time the land was covered with forests. The trees had since been clear-cut, leaving only the dense ferns. He comes upon a missionary settlement with all the trappings of an English farm, down to the barnyard animals and fruit trees. He spends the night. The next day he visits a surviving stand of the trees that once grew all over the land, the kauri pine.

Darwin notes he has been at sea and exploring places for four years. He looks forward to returning to England, but first the Beagle has a few more stops to make along the way.



"In the afternoon we stood out of the Bay of Islands, on our course to Sydney. I believe we were all glad to leave New Zealand. It is not a pleasant place. Amongst the natives there is absent the charming simplicity which is found in Tahiti; and the greater part of the English are the very refuse of society. Neither is the country itself attractive," (p. 434).



Chapter 19

Chapter 19 Summary and Analysis

The Beagle anchors in Sydney Cove, and that evening Darwin walks through the bustling city of Sydney, Australia. He at first reacts very positively and later modifies his reaction downward, but not too far. The effects of rapid growth include disadvantages, such as monetary inflation and a sense of personal anonymity.

Darwin rides into the interior toward a village named Bathurst. He notes the forced labor from convicted felons and how this gives an advantage to the Australian government in building the country so quickly. The countryside consists of open woodlands and sparse grasslands, with both trees and grasses having a pale-green color. A group of primitive natives come by, and for a shilling, they demonstrate their prowess with their spears launched with throwing sticks. Darwin comments on their reputation as excellent trackers.

He crosses the Nepean River in a ferryboat and attains the Blue Mountains, which turn out to actually be a raised plain about 3,000 feet above sea level, sloping toward the interior. He stays the night at an inn close to the seacoast and explores the surrounding area, which includes cliffs with magnificent views of a harbor. Farther along the coast he comes upon Govett's Leap, a similar overlooking cliff.

Descending from the high plateau, Darwin finds thicker forests and better pastures. He visits a sheepherding ranch and spends the night. The ranch also grows corn, which is in the process of being harvested. Convict labor keeps the ranch running, a situation Darwin sees as not quite right:

"The sunset of a fine day will generally cast an air of happy contentment on any scene; but here, at this retired farm-house, the brightest tints on the surrounding woods could not make me forget that forty hardened, profligate men were ceasing from their daily labours, like the slaves from Africa, yet without their holy claim for compassion," (p. 444).

The next morning, Darwin goes on a kangaroo hunt with the joint ranch superintendent. They see no kangaroos but do come across a kangaroo rat, which is the size of a rabbit but looks like a kangaroo. They enjoy the ride in the park-like countryside despite the poor hunting.

Arriving at Bathurst, the interior proves to be hot and dry. This is due to a long drought, and the locals tell Darwin the area is usually much nicer. He rides back to Sydney along a different route that takes him through hilly and pleasant landscapes. He then sails with the Beagle to Hobart Town on the island of Tasmania. There he stays for ten days and explores parts of the island. He finds fossil-rich deposits and evidence of a recent land elevation. Having a wetter climate, agriculture thrives on Tasmania. From Tasmania the



Beagle sails to King George's Sound on the southwestern corner of Australia. Darwin spends eight boring days here, finding nothing of interest.

"After several tedious delays from clouded weather, on the 14th of March, we gladly stood out of King George's Sound on our course to Keeling Island. Farewell, Australia! You are a rising child, and doubtless some day will reign a great princess in the South: but you are too great and ambitious for affection, yet not great enough for respect. I leave your shores without sorrow or regret," (p. 455).



Chapter 20

Chapter 20 Summary and Analysis

At Keeling Island, a coral atoll, Darwin sees very little flora diversity growing on the coral. Only coconut trees flourish, which is what feeds the inhabitants' pigs and a large kind of crab. Of greater interest is the coral itself. Some species give mild stings when touched. The main atoll is surrounded by linear coral islands, also with coconut trees. The Beagle sails through an opening in the coral ring of the main atoll and anchors in the shallow and calm waters of the lagoon. The image from within the atoll is one of deep blue sky, the surrounding trees, the ring of coral beach and the calm, deeply green water of the lagoon, while beyond the island the Pacific rolls and pitches.

On another island some miles away, Darwin learns fresh water wells exist, and in some unknown manner, the well water levels follow the tides. One local idea is the coral sand has an ability to remove salt from water. Darwin thinks rainfall drains downward into an aquifer, and the pressure of seawater pushes the fresh water upward at high tide. The freshwater, being less dense than seawater, would float and stay largely fresh, since the aquifer must keep wave action from mixing the two kinds of water together. He also sees many hermit crabs and gannets on the island.

Darwin watches a superstitious play put on by the natives, in which a large wooden spoon seems to dance to the rhythm of the music being played. He then learns how the islanders hunt sea turtles by first jumping onto the back of the turtle and riding it until the beast tires out. The islanders then cut off the shell and return the still living turtle to the ocean, where it will grow a new shell.

Darwin categorizes the coral reefs into three types—atoll, barrier and fringing. The atolls form islands like Keeling. The barrier reefs form a distance away from a continent, such as Australia, and also often surround volcanic islands as they do around Tahiti. The fringing reefs form closer to land.

One of the mysteries Darwin explains is how atolls form. His idea is that the reefs start forming around a volcanic island, and so gain a certain height. Then the volcano in the middle of the island sinks, which forms the lagoon. Meanwhile, the corals continue to grow, thus creating the atoll. This explanation is still considered good today, although others have brought forth theories that include sea level fluctuations during the last ice age. Darwin refers to his book on coral formations while putting forth his explanation.



Chapter 21

Chapter 21 Summary and Analysis

On the return trip to England, the Beagle stops at Mauritius, a large island off the eastern coast of Africa, known at the time as the Isle of France. The scenery strikes Darwin as elegant and harmonious. He walks around Port Louis. The town strikes Darwin as being more French than Paris, although many of the people are from India. He explores the coast north of town and describes it as being halfway between the harsh Galapagos and the pleasant Tahitian coastlines.

Captain Lloyd invites Darwin to stay at his country house with a beautiful view at 800 feet above sea level. The captain takes Darwin to a ravine that has interesting rocks. Along the way Darwin rides an elephant for the first time.

Sailing to St. Helens Island, Darwin takes lodging close to Napoleon's tomb. He finds several unique animal forms on the island, but the weather and general lay of the land reminds him of Wales. The island seems foreboding both from the ocean and while on land. Part of the reason for this is most of the trees have been cut down, leaving a sparse growth of vegetation. He comes upon lava bombs, which are rounded stones that are porous on the inside and more solid on the outside due to rapid cooling as the molten rock hit air and water.

The Beagle sails around an island chain near Brazil, and then makes its way toward the Cape de Verd Islands off of Africa, but the winds disallow this route. A few weeks later the winds change and Darwin finds himself again at Porto Praya. He reflects on his voyage at its end. The journey means giving up one's usual social circles and going off into unknown territories to meet unforeseen hardships. However, in the end the advantages far outweigh the disadvantages. Darwin recommends this experience for every naturalist sick of just reading about things, and anybody else looking for adventure. He gives a special nod to all the people who helped him along the way without expecting anything in return. One thing that bothers Darwin very much is the slavery he encountered, especially in Brazil. He calls for its abolition and argues against those who rationalize the practice of subjecting human beings to this kind of treatment.



Characters

Charles Darwin

Charles Darwin takes a voyage around the world on a ship named the Beagle, commanded by Captain Fitz Roy. Darwin is a naturalist commissioned by the King of England to take this five-year voyage and report back on his findings. Along with his written observations, Darwin collects specimens of wildlife, plants, fossils and minerals. He encounters many different kinds of people, from primitive natives to civilized landowners. The gauchos of Patagonia and the natives of Tahiti most impress him, the first with horsemanship and the second with friendliness.

The remarkable journey brings him to islands and continents, through the Strait of Magellen, to Australia and back to his starting point. He experiences the jungles of Brazil, the plains of Patagonia, the mountains of Tierra del Fuego and Chile, many river explorations, numerous human settlements, and the richness of life on the earth. His mind ponders all the mysteries of how the land has formed, the animals developed and human societies organized. Caught in a Brazilian revolution, he must escape to Uruguay to regain his ship. While in the Pacific he witnesses a volcanic eruption at night and the devastation of subsequent earthquakes. On the plains of Patagonia, Darwin discovers the best way to attract the wild llama is to lie on his back and kick his legs in the air, an odd sight the curious llama cannot resist.

The thoughts that lead to his other famous work, *The Origin of Species*, begin when he visits the Galapagos Islands and notices how differently the various species have developed, although separated by just a few miles. His ideas about geology still have some credence to this day, most notably his theory on how atolls form.

Captain Fitz Roy

Captain Fitz Roy commands the Beagle, the ship upon which Charles Darwin takes his trip around the world. While in the vicinity of the Strait of Magellen, Captain Fitz Roy returns three natives to their homes on Tierra del Fuego. He had, at his own expense, educated the natives while they stayed in England.

The Captain sometimes accompanies Darwin on his land excursions, but generally other officers and crewmembers do this. Darwin also takes land journeys with hired natives while Captain Fitz Roy sails the Beagle to some predetermined rendezvous.

Gauchos

The gauchos of Padagonia fascinate and impress Darwin. Known for their excellent horsemanship, the gauchos use lassos and bolas to capture not only cattle but all sorts of animals, including human beings. The bola consists of two or three balls of iron,



stone or wood encased in leather and tied together with lengths of leather rope. When thrown at the legs, the balls wind the leather rope tightly around the target.

Always polite, friendly and helpful, the gauchos can also be deadly in a knife fight. Darwin strives to stay on their good side and travels with them quite a bit. He learns a great deal from their expansive outdoors experience.

General Rosas

General Rosas is a popular military leader whom Darwin meets while in Patagonia. Rosas and Darwin get along famously, with the General inviting the naturalist to his camp and table. Rosas also helps Darwin by allowing him to accompany troops on the march through dangerous territory. A deadly war goes on between the European settlers and the wild natives.

Jemmy Button

Jemmy Button is a native of Tierra del Fuego who Captain Fitz Roy returns to his home island near the Strait of Magellan. Jemmy's people at first do not accept him because he has changed so much from his experience in England. He is finally accepted back into his family and decides to stay.

York Minster

York Minster is a native of Tierra del Fuego who Captain Fitz Roy returns to his home near the Strait of Magellan. York's people accept him more quickly than Jemmy's. He quickly reverts back to the native ways and takes Fuegia Basket as his wife.

Fuegia Basket

Fuegia Basket is a native of Tierra del Fuego who Captain Fitz Roy returns to her home near the Strait of Magellan. Darwin thinks she is an especially attractive young woman, notable in that she picks up languages easily. York ends up marrying her.

Chilean miners

Darwin observes two distinctive kinds of Chilean miners. The first works very hard for three weeks straight, and then receives two days off to spend with their families. The second kind works hard as well but spends all their money during the time off on clothes and drink. By today's standards, the miners are terribly exploited, but Darwin reports the men like the work better than farm work.



Tahitians

Of all the people Darwin meets, he likes the Tahitians the best. Living on a beautiful island that supports a wide diversity of fruits, vegetables and animals, the Tahitians are peaceful and friendly. They seem to have no enemies, no ambition to conquer and take to the missionary teachings very easily. The island provides plenty of food and other resources, both wild and domesticated.

Australians

Darwin finds the Australians to be in general pleasant people except for the forced labor of the convicted criminals. The country grows rapidly. Darwin sees the disadvantages in rapid growth, consisting mostly of land value inflation and a feeling of anonymity. The influence of the rough convicts makes Darwin concerned for the wellbeing of the children. He nevertheless has high hopes for Australia.



Objects/Places

The Beagle appears in non-fiction

The Beagle is the ship upon which Darwin circumnavigates the world over a five-year period. It is a vessel with two masts and a full compliment of officers and crew.

Islands appears in non-fiction

The islands Darwin visits range broadly between those created by volcanic action and those developed into atolls. The Galapagos Islands show him the wide diversity of life development that leads to his ideas on the origin of species, which in turn leads to the theory of evolution.

Mountains appears in non-fiction

Darwin visits the two major kinds of mountains to be found on the planet, those built from volcanoes and those resulting from the actions of plate tectonics. He crosses the Andes during a risky time of year when a blizzard could strand him for weeks.

Volcanoes appears in non-fiction

Darwin observes most Pacific islands have been formed by volcanic action. He sees much evidence of this in South America as well.

Plain appears in non-fiction

The major plain Darwin explores is Patagonia, a broad and long expanse lying mostly in modern Argentina. The strange creatures he encounters here include ostriches and wild llamas.

Deserts appears in non-fiction

On the western side of South America, Darwin encounters harsh deserts. He finds little diversity in the creatures but high numbers of locusts and a particularly nasty flat bug that sucks blood.

Land Formations appears in non-fiction

Darwin examines land formations very closely. While the local people have no curiosity, Darwin wants to know how the land was formed as it is.



Animal Life appears in non-fiction

The variety of animal life Darwin studies ranges from insects to birds and four-legged creatures. He often takes specimens, sometimes using his geological hammer to conk a bird on the head.

Plant Life appears in non-fiction

Plant life fascinates Darwin. Even in the roughest of country, he manages to find something of interest. He speculates on just how the seeds of plants migrate to distant islands.

Fossils appears in non-fiction

Darwin is fully aware of a fossil record that shows the extinction of species in the past. Many of these animals had been gigantic compared to their modern forms, and some appear to be out of place. He knows about ancient horses preceding the Spanish in South America.

Cape de Verd Islands appears in non-fiction

The Cape de Verd Islands are where Darwin begins and ends his voyage. They lie off the western coast of Africa.

St. Paul's Rocks appears in non-fiction

Darwin first encounters St. Paul's Rocks in the Atlantic Ocean after beginning his voyage. They are mostly barren structures with some interesting affects caused by roosting birds.

Brazil appears in non-fiction

Darwin walks in the jungle of Brazil and visits Rio de Janeiro. On his way back to England, he reflects on the negative side of slavery in Brazil.

Patagonia appears in non-fiction

Darwin spends a good portion of his time in Patagonia, a massive plain covering most of the lower part of South America. He meets gauchos and explores rivers while observing the behaviors of both people and animals.



Uruguay appears in non-fiction

When Brazil goes into a revolution, Darwin must flee to Uruguay and link up with the Beagle. With a little help from General Rosas, he succeeds in reuniting with the ship.

Tierra del Fuego appears in non-fiction

Tierra del Fuego is a set of islands near the Strait of Magellan, which is the southern passage from the Atlantic to the Pacific oceans. Darwin finds the natives here to be the most primitive people he meets on the voyage.

Strait of Magellan appears in non-fiction

Captain Fitz Roy navigates the very difficult Strait of Magellan. Storms commonly force him into safe harbors, but he finally makes it through a recently discovered channel.

Chile appears in non-fiction

Chile is a narrow and long country on the western side of South America. Darwin enjoys the good weather and refreshing landscape of the country after the gloomy time on and near Tierra del Fuego.

Peru appears in non-fiction

Peru does not impress Darwin. He finds the land boring and the wildlife sparse. However, he only visits the southern part of the country.

Galapagos Islands appears in non-fiction

Wildlife on the Galapagos Islands greatly inspires Darwin. Within this small area, life on each island develops along its own distinctive lines. The beaks of birds in the same species and the shells of tortoises differ notably.

Tahiti appears in non-fiction

Tahiti is a beautiful island in the South Pacific. The beauty of both the land and people attract Darwin, and he thinks the people are the most pleasant he meets on his voyage.



New Zealand appears in non-fiction

In contrast with Tahiti, New Zealand leaves Darwin less than impressed. He thinks the natives are too warlike and the country spoiled from exploitation, especially the clear-cutting of the forests.

Australia appears in non-fiction

Australia strikes Darwin as a dynamic place with much promise to become a major influence in the world. He has reservations about the convicted criminal population that serves time in forced labor.

Mauritius appears in non-fiction

The island of Mauritius off the eastern shore of Africa impresses Darwin as being more French than Paris. He finds the Indian population to be especially interesting.

St. Helens Island appears in non-fiction

Darwin visits St. Helens Island, famous as the last resting place of Napoleon. The island seems dark and foreboding from both the ocean and while on land.



Themes

Curiosity

Darwin possesses a strong curiosity about the natural world. He wants to know as much about it as he can and share his observations with other naturalists. The common people who do not have the same curiosity puzzle him because he cannot imagine just brushing away the observations with a blanket statement involving supernatural forces.

Many of the arguments against science are still in use today. Rather than species changing and evolving, some people still believe all life magically appeared at once. For Darwin and many others, this explanation is too simple and convenient. Nature obviously does magnificent things, like build mountains and islands in the middle of expansive oceans. It can be violent to the extreme, as when a series of earthquakes ravage the Pacific Islands and parts of South America. Yet life always finds a way to continue existing, and to Darwin this is a fascinating puzzle. He has no doubt reasonable explanations will be found.

An apparently unflappable and quiet man, Darwin still takes delight in getting to know his fellows. His curiosity has a purity of heart, lacking any negative form of judgment. He does not condemn the natives of Tierra del Fuego for being perhaps the most primitive people in the world. He may feel this dismal place becomes gloomier as a result, but he levies no blame upon the natives. Rather, he admires their abilities to survive in such harsh conditions. Darwin wants to understand everything about the world in the light of science.

Discovery

The strongest motivation in Charles Darwin is to discover something new. He has studied the discoveries of others in his field, which, during his time, encompasses just about everything to do with nature—biology, geology, and all the subcategories such as oceanography and meteorology. He often cites other explorers and compares what he finds to what they have written.

Darwin is on the brink of something that will shake the world—the theory of evolution. He takes the many bits and pieces of what he observes and analyzes them to the extent he can at this time. A special quality in his character allows this process to happen—an open mind and a clear vision without excessive prejudice. He in fact understands his own prejudices and mentions them often, especially when it comes to foreign cultures. This is important for the anthropological parts of the book, as they reveal fairly objective observations of cultures long since modernized. However, perhaps the most important observation involves the differentiation of species on the Galapagos Islands. How can animals be so different yet so close? Darwin wants to know.



Another very important impact this book has is how it stimulates people to explore their worlds. The work reveals a circumnavigation of the globe over a period of five years in a wind-powered sailing vessel—in itself is a worthy accomplishment. Yet Darwin must become intimate with the lands he visits. He is no tourist snapping photos that make little difference to anyone. Nor is he simply looking for a shipping route. What he looks for are the mysteries and the answers to them in this world we all call home, whether it be on stormy islands or pieces of paradise. Darwin makes his voyage of discovery and encourages us all to do likewise.

Courage

Darwin does not address his periods of anxiety directly. The reader can assume entering a jungle known to contain highly poisonous snakes and cannibals would take a good deal of courage, or perhaps the daring of youth. Pushing into a miserable land and coming up with very few worthwhile observations likely brings on an amount of depression. Darwin mentions a bout with seasickness at the outset of his journey and periods of illness during it, yet he endures and does what he must, although he also must have questioned the sanity of his adventure at times.

People tend to like Darwin in part because anybody willing to do what he does deserves respect. He seems to have little trouble finding lodging and companionship in his many excursions into the field. A sense of mission based on nerve and ability, or at least the capacity to learn from mistakes and a confidence of survival, keeps Darwin going even while blizzards in the Andes threaten or revolution in Brazil flares up.

The most courage he displays is taking the voyage in the first place. He refers to his thoughts about all the things that could go wrong, indicating he had his doubts. The inertia to stay in England and just study books in a warm, safe study must have been tremendous. Yet he assures his readers breaking the bond to a safe life is worth the effort, and what actually happens on the journey is never as bad as imagined. As his stories reveal, the experiences are often surprisingly satisfying and joyful.

Style

Perspective

Charles Darwin starts out as a well-read naturalist and becomes a well-experienced scientist and adventurer. He chronicles his five-year voyage aboard the Beagle and his many land excursions in detail for the benefit of both the scientific and casual reader. This results in long passages of detail that scientists can study and casual readers skim through on their way into the more interesting anecdotes of his journey.

The author uses very low-key humor at times. Drama tends to be implied. For example, when he visits a salt lake, he offhandedly mentions finding the skull of a murdered whaling ship captain. The effect is to emphasize the science over the adventure while including both in the book.

Darwin may overly praise the British Empire occasionally, but considering the King of England is his sponsor, the purpose is clear. Darwin maintains objectivity most of the time. Among his ideas that have held throughout the centuries is the way species develop and how an atoll forms.

Tone

Darwin writes in a distinctly British and classically trained voice. He favors long complex sentences mortared together with semicolons and colons, a habit he probably picked up in academia. The style makes the prose heavy and at sometimes obscure, with the meaning buried beneath verbiage. To the modern reader the book offers less entertainment value than to a 19th century reader, and thus requires more effort.

Dryness characterizes the scientific passages. The sense of droning as if giving a lecture comes through. Darwin seems at his best when talking about people, such as the gauchos, or an odd specimen. He also displays a mastery of descriptive narrative, such as painting the living picture of a volcano erupting or describing a Chilean miner at work.

Dialogue receives little attention, probably due to the focus on nature and possibly because conversation is mostly impossible with so many languages in the world. The effect of this is to tell the reader rather than showing, which works for a book written in a journal style. Including conversation would likely reduce the scientific value while bringing artificiality into the literature.

Structure

The Voyage of the Beagle consists of 21 chapters, all of about the same length. The chapters start with short summaries of the main points. Darwin uses dates for each chapter section, and so the overall structure is of a journal.

The use of footnotes lends a scientific quality to the book, although some notes are parenthetical and could have been included in the text. Considering the time period in which Darwin writes, the footnote was a more accepted form than it is today.

Darwin successfully maintains continuity throughout. The ship moves from one place to another in a particular order, and so do the chapters. The chapters tend to focus on a particular location, such as Chile or Australia. This, along with an index and the chapter summaries, makes the book more useful as a reference volume.



Quotes

"One day I was amused by watching the habits of the *Diodon antennatus*, which was caught swimming near the shore. This fish, with its flabby skin, is well known to possess the singular power of distending itself into a nearly spherical form. After having been taken out of water for a short time, and then again immersed in it, a considerable quantity both of water and air is absorbed by the mouth, and perhaps likewise by the branchial orifices . . . and the fish, in consequence, floats with its back downwards," (p. 23).

"On the first night we slept at a retired little country-house; and there I soon found out that I possessed two or three articles, especially a pocket compass, which created unbounded astonishment. In every house I was asked to show the compass, and by its aid, together with a map, to point out the direction of various places. It excited the liveliest admiration that I, a perfect stranger, should know the road (for direction and road are synonymous in this open country) to places where I had never been," (p. 49).

"Several of the men and women had their faces painted red, but I never saw the horizontal bands which are so common among the Feugians. Their chief pride consists in having everything made of silver; I have seen a cacique with his spurs, stirrups, handle of his knife, and bridle made of this metal; and to see a fiery steed wheeling about under the command of so light a chain, have to the horsemanship a remarkable character of elegance," (p. 79).

"The little hovel, built of thistle-stalks, in which they slept, neither kept out the wind nor rain; indeed in the latter case the only effect the roof had, was to condense it into larger drops. They had nothing to eat excepting what they could catch, such as ostriches, deer, armadillos, etc., and their only fuel was the dry stalks of a small plant, somewhat resembling an aloe. The sole luxury which these men enjoyed was smoking the little paper cigars, and sucking a mate. I used to think that the carrion vultures, man's constant attendants on these dreary plains, while seated on the little neighbouring cliffs seemed by their very patience to say, "Ah! When the Indians come we shall have a feast," (p. 118).

"During the last six months I have had an opportunity of seeing a little of the character of the inhabitants of these provinces. The Gauchos, or countrymen, are very superior to those who reside in the towns. The Gaucho is invariably most obliging, polite, and hospitable: I did not meet with even one instance of rudeness or inhospitality. He is modest, both respecting himself and country, but at the same time a spirited, bold fellow," (p. 161).

"Thus we find in South America three birds which use their wings for other purposes besides flight; the penguins as fins, the steamer as paddles, and the ostrich as sails: and the Apteryz of New Zealand, as well as its gigantic extinct prototype the *Deinornis*, possess only rudimentary representations of wings. The steamer is able to dive only to a very short distance. It feeds entirely on shell-fish from the kelp and tidal rocks: hence



the beak and head, for the purpose of breaking them, are surprisingly heavy and strong: the head is so strong that I have scarcely been able to fracture it with my geological hammer," (p. 205).

"The setting of the sun was glorious; the valleys being black whilst the snowy peaks of the Andes yet retained a ruby tint. When it was dark, we made a fire beneath a little arbour of bamboos, fried our charqui (or dried slips of beef), took our mate, and were quite comfortable. There is an inexpressible charm in thus living in the open air," (p. 261).

"On the night of the 19th the volcano of Osorno was in action. At midnight the sentry observed something like a large star, which gradually increased in size till about three o'clock, when it presented a very magnificent spectacle. By the aid of a glass, dark objects, in constant succession, were seen, in the midst of a great glare of red light, to be thrown up and to fall down," (p. 295).

"These men, excepting from accidents, are healthy, and appear cheerful. Their bodies are not very muscular. They rarely eat meat once a week, and never oftener, and then only the hard dry charqui. Although with a knowledge that the labour was voluntary, it was nevertheless quite revolting to see the state in which they reached the mouth of the mine; their bodies bent forward, leaning with their arms on the steps, their legs bowed, their muscles quivering, the perspiration streaming from their faces over their breasts, their nostrils distended, the corners of their mouth forcibly drawn back, and the expulsion of their breath most laborious. Each time they draw their breath, they utter and articulate cry of 'ay-ay,' which ends in a sound rising from deep in the chest, but shrill like the note of a fife. After staggering to the pile of ore, they emptied the 'carpacho;' in two or three seconds recovering their breath, they wiped the sweat from their brows, and apparently quite fresh descended the mine again at a quick pace," (p. 345).

"One day we accompanied a party of the Spaniards in their whaleboat to a salina, or lake from which salt is procured. After landing, we had a very rough walk over a rugged field of recent lava, which has almost surrounded a tuff-crater, at the bottom of which the salt-lake lies. The water is only three or four inches deep, and rests on a layer of beautifully crystallized, white salt. The lake is quite circular, and is fringed with a border of bright green succulent plants; the almost precipitous walls of the crater are clothed with wood, so that the scene was altogether both picturesque and curious. A few years since, the sailors belonging to a sealing-vessel murdered their captain in this quiet spot; and we saw his skull lying among the bushes," (p. 381).

"From the highest point which I attained, there was a good view of the distant island Eimeo, dependent on the same sovereign with Tahiti. On the lofty and broken pinnacles, white massive clouds were piled up, which formed an island in the blue sky, as Eimeo itself did in the blue ocean. The island, with the exception of one small gateway, is completely encircled by a reef. At this distance, a narrow but well-defined brilliantly white line was alone visible, where the waves first encountered the wall of coral. The mountains rose abruptly out of the glassy expanse of the lagoon, included within this



narrow white line, outside which the heaving waters of the ocean were dark-coloured. The view was striking: it may aptly be compared to a framed engraving, where the frame represents the breakers, the marginal paper the smooth lagoon, and the drawing the island itself," (p. 410).

"A few years since this country abounded with wild animals; but now the emu is banished to a long distance, and the kangaroo is become scarce; to both the English greyhound has been highly destructive. It may be long before these animals are altogether exterminated, but their doom is fixed. The aborigines are always anxious to borrow the dogs from the farm-houses: the use of them, the offal when an animal is killed, and some milk from the cows, are the peace-offerings of the settlers, who push farther and farther towards the interior. The thoughtless aboriginal, blinded by these trifling advantages, is delighted at the approach of the white man, who seems predestined to inherit the country of his children," (pp. 444-445).

"I have before alluded to a crab which lives on the cocoa-nuts; it is very common on all parts of the dry land, and grows to a monstrous size: it is closely allied or identical with the *Birgos latro*. The front pair of legs terminate in very strong and heavy pincers, and the last pair are fitted with others weaker and much narrower. It would at first be thought quite impossible for a crab to open a strong cocoa-nut covered with the husk; but Mr. Liesk assures me that he has repeatedly seen this effected. The crab begins tearing the husk, fibre by fibre, and always from the end under which the three eye-holes are situated; when this is completed, the crab commences hammering with its heavy claws on one of the eye-holes till an opening is made. Then turning round its body, by the aid of its posterior and narrow pair of pincers, it extracts the white albuminous substance. I think this is as curious a case of instinct as ever I heard of, and likewise of adaptation in structure between two objects apparently so remote from each other in the scheme of nature, as a crab and a cocoa-nut tree," (pp. 466-467).

"But I have too deeply enjoyed the voyage, not to recommend any naturalist, although he must not expect to be so fortunate in his companions as I have been, to take all chances, and to start, on travels by land if possible, if otherwise, on a long voyage. He may feel assured, he will meet with no difficulties or dangers, excepting in rare cases, nearly so bad as he beforehand anticipates. In a moral point of view, the effect ought to be, to teach him good-humoured patience, freedom from selfishness, the habit of acting for himself, and of making the best of every occurrence. In short, he ought to partake of the characteristic qualities of most sailors. Travelling ought also to teach him distrust; but at the same time he will discover, how many truly kind-hearted people there are, with whom he never before had, or ever again will have any further communication, who yet are ready to offer him the most disinterested assistance," (p. 509).



Topics for Discussion

What does Darwin find interesting in the Galapagos Islands?

Characterize the gauchos of Patagonia.

Describe Darwin's character as it comes across in his writing.

How are islands in the Pacific formed?

Where does Darwin find fossils?

Write a descriptive essay on Tahiti in the 19th century.

What does Darwin find unattractive about Australia?

How does Darwin feel about slavery?

What impact did Darwin's voyage have on future science?

How might Darwin answer the Intelligent Design advocates of today?