

The Climate Classroom

Volume II

Sample Chapters

Introduction

What if . . . ?

It began at a business school in India, where a group of students felt that even as they worked toward an international Masters degree in Business Administration, they—and their country—were laboring at a great disadvantage. Several of the students planned to work with Suzlon, one of the leading wind energy companies in the world. Others were interested in the multitude of solar companies blossoming in India. The demand for clean energy—in the crowded cities, in the growing towns and in the remote villages—was enormous. The domestic market could support both solar and wind for decades to come.

But even if all of India were powered by sustainable energy within twenty-five years, that was not enough. If other countries in the world continued to burn their oil, India would be parched by drought. The enormous progress made in agriculture throughout India during the past half-century would count for nothing if the fields turned to dust. The world's largest democracy, with a culture five thousand years old, would be devastated by famine and social chaos.

India had once struggled to break free from British imperialism. Now India needed to break free from oil imperialism. Gandhi had done battle with a single government in London. Today, a dozen different governments scattered around the world, as well as a dozen major oil corporations—which, in many cases, governed the governments—controlled the vast and complex economic network which made sure that the peoples of the world still needed to buy their oil.

What good were another ten thousand wind turbines in India, what good were another ten thousand solar farms, if the oil industry, flying the flags of a half-dozen nations, spent the next thirty years drilling for oil in the Arctic? Combine the massive pollution from burning all that oil with the vast amounts of methane which would surely be released from the thawing permafrost . . . and the entire planet would die of unrelenting heat waves and drought.

The students knew that the Indian School of Business in Hyderabad had been ranked by Forbes as the seventh best biz school in the world, and as number one in Asia. The students knew that their professors were providing them with a world-class education. But was it enough? The students understood with increasing clarity that they not only had to dump oil and coal into the dustbin of history, but equally important, they had to replace the old energy system, the old economic system, the old way of doing business, with an entirely new system which would enable India, and the rest of the world, to carry on for at least another five thousand years.

The students knew that they could not do it alone. Fortunately, their school worked with a growing network of business schools in countries around the world. Just recently, on September 6, 2019, the Indian School of Business (ISB) signed a “Cooperation Agreement” with the Moscow School of Management, SKOLKOVO. The two schools “have jointly agreed to develop educational modules for executive training, as well as other special programmes in the area of business education, with particular focus on the leading companies and corporate institutions in India, Russia and other countries.”

“Other special programmes.” “India, Russia and other countries.”

Could a group of Indian students find a group of Russian students who were interested in developing a business model for the 21st Century?

Did anyone in Moscow see the need for getting beyond the oil which keeps the oligarchs in power?

The sun and wind industries in Russia were still in their infancy. Were there students in Russia who would like to catch up with the rest of the world?

The India School of Business had also developed exchange programs with the Kellogg School of Management at Northwestern University, just north of Chicago in the state of Illinois, USA. And with the Wharton School at the University of Pennsylvania, with a sister school in Beijing. And with the MIT Sloan School of Management in Cambridge, Massachusetts. And with the Fletcher School of International Affairs in Medford, Massachusetts. And with the London Business School, located in Great Britain, a nation which had become one of the world’s leading pioneers in the booming development of offshore wind power.

Surely the students in India could find some like-minded students in Russia, in America, in Beijing, and in Great Britain. That would be a good start. They had to

build a global team, so that the international clean energy industry was no longer at the mercy of one American president who abruptly pulled out of the Paris Agreement.

In twenty years, the graduate students of today would be in their mid-forties, early fifties. The powerhouse years.

Yes, think what they could do, once they had cleared out the rubbish and began to build according to a planetary blueprint. ¹

On the historic Salt March in 1930, Gandhi invited both Hindus and Moslems to walk with him. He invited the wealthiest elite of India, as well as the lowly Untouchables, to walk with him. After a march of twenty-four days through dozens of villages, where he spoke to multitudes of people, Gandhi reached the sea at Dandi. In front of reporters from around the world, he stood on the beach at the edge of the waves, reached down and picked up a handful of salty sand, then he announced, "With this, I am shaking the foundations of the British Empire." ²

The students of business in India were tired of laboring at a great disadvantage. They were tired of the 1%, for whom the other 99% were Untouchables. They were tired of building their future on the wreckage of the past.

This time, they would not reach down for a handful of salty sand. This time they would reach up to harness the sun. This time they would reach up to harness the wind. They would shake the foundations of the Oil Empire, until it collapsed, and then they would build a network of energy, energy bestowed upon all of us, equally, by the sun that rises every morning . . . for the 100%.

That was the new bottom line.

* * * * *

Chapter Ten

The Rights of Mother Earth

We have looked at the multiple benefits that come from planting trees. Now let us examine a country where the trees are being chopped down and burned with a savagery that threatens the planet.

When Jair Bolsonaro became president of Brazil in January, 2019, he moved rapidly on two fronts. He dismantled the strict environmental regulations which had reduced the rate of deforestation in the Amazon rainforest during the previous fifteen years. At the same time, Bolsonaro signaled to ranchers and farmers living in the rainforest that they could expand the size, and thus the productivity, of their cattle ranches and soybean farms.

Ranchers transform rainforest jungle into pastures for livestock by cutting trees and burning the undergrowth, so that grass can grow on land that becomes a savanna. As the result of Bolsonaro's new policies, the number of fires in the Amazon increased greatly, especially during the dry season in July and August, 2019. The Brazilian National Institute for Space Research, which monitors the Amazon with satellites, "detected 39,194 fires this year in the world's largest rainforest, a 77% increase for the same period in 2018."¹ In terms of area, "from January to July, fires consumed 4.6 million acres of the Brazilian Amazon, a 62% increase compared to last year."²

The fires burned so brightly that a satellite image taken by Joshua Stevens of NASA in mid-August showed both the bright lights of South American cities, and the red sparks of a multitude of fires spread across the continent.³

Cattle ranching is responsible for as much as 80% of the deforestation in the Amazon. According to the Yale School of Forestry, "About 200 million heads of cattle are raised in Brazil, with an estimated 173,746 square miles of forest converted to cattle pasture over recent decades."⁴ An article in **The New York Times** stated, "Livestock farming generates more than \$6 billion in annual export revenues and about 360,000 jobs. Much of the exported beef goes to meet growing demand in China."⁵

Cattle ranching, soybean farming and gold mining are big business, in a country struggling with a recession which began in 2014. With clear support from President Bolsonaro, these industries are burning the forest with impunity, even within protected

reserves. The smoke, especially in July and August, spread across a huge area over South America. In response to international protest against this increased burning of the Amazon rainforest, Bolsonaro told a European journalist that outsiders should not criticize Brazilian policy. “The Amazon is ours, not yours.”⁶

Carlos Nobre, a scientist at the University of São Paulo and an international expert on climate change, warns that the Amazon may be reaching a tipping point. When 20 to 25% of the rainforest across the entire Amazon has been destroyed, the relationship between the forest and the weather may change. The forest will release less moisture into the air, and thus rainfall may decrease, causing drought and higher regional temperatures. The Amazon reaches into nine South American countries, which have not accurately measured how much forest has been destroyed. Research estimates that 17% of the Amazon rainforest has already been lost, while burning continues in several countries.

Carlos Nobre responded to the reduction of environmental regulations in the Amazon, “Law enforcement has reached its minimum effectiveness in a decade. . . . The environmental criminals feel more and more empowered.”

He summarizes, “The Amazon is completely lawless.”⁷

* * *

As President Bolsonaro fails to value the biological importance of the Amazon rainforest, so he refuses to recognize the rights of the indigenous peoples who live in the rainforest. The 1988 Brazilian Constitution created protected reserves for these indigenous peoples. While campaigning for the presidency, Bolsonaro stated that not “a square centimeter” of these reserves should belong to the people who live there.⁸

Indigenous people who attempt to protect their land against logging, burning and mining by outsiders have been killed in growing numbers. The violence against indigenous peoples, which began with Christopher Columbus, and has continued for centuries throughout the Americas, has been unleashed once again with the consent of the Brazilian government against the indigenous peoples of the Amazon. Emerging from the forests in which they have lived since long before the Europeans arrived, these courageous people now speak to the modern world at demonstrations and environmental conferences, with the hope of legal protection for their lands and for their lives.

* * *

President Bolsonaro tells the rest of the world that the Amazon rainforest belongs to Brazil, and that outsiders should mind their own business. But the Amazon is crucially important to maintaining the health of planet Earth. The vast area of tropical vegetation absorbs carbon dioxide from the atmosphere, and releases oxygen into the atmosphere, and thus helps to reduce the ravages of our carbon dioxide pollution. Further, the Amazon is a sanctuary for the extraordinary biodiversity of both animal and plant life, profoundly important at a time when climate change is steadily reducing the number of species in our warming world.

When we cut down the giant trees and burn the undergrowth of the rainforest in order to raise beef and grow soybeans and mine iron and gold, we are grabbing for short-term profits at the expense of our future chances for survival through centuries of climate catastrophes. Our ship is already sinking, so we take an axe and chop to pieces our life boats.

We knowingly burn the oil and thus drive the Arctic toward a major tipping point: the thawing of the permafrost and the release of unknown amounts of carbon dioxide and especially methane.

We knowingly burn the oil and thus drive the oceans toward several major tipping points: the warming of the oceans, the dying of the coral reefs, the altering of the currents, the melting of sea ice, and the unknown affects on marine life around the world.

And we knowingly burn the rainforests and thus drive them toward a major tipping point: the collapse of a lush and fruitful biosphere sustained by the flow of water—in the atmosphere and on the ground. We are in the process of turning the rainforest into a dry savanna that resembles the arid savannas of Africa.

In the words of Luis Rodriguez, who works on a ranch with 350 head of cattle, “We live off the trees and the weather is getting hotter because there are fewer trees. Even the cattle are suffering because it’s getting dryer.”⁹

And we knowingly allow the genocide of indigenous peoples to continue, killing the experts who know how to live with Mother Earth, while we pursue our unrelenting efforts *to profit* from Mother Earth.

One might ask: **Are there no laws against destroying the Cradle of Life?** Do artificial national boundaries protect the criminals working inside them? Do we wait for the global holocaust to devastate our modern civilizations . . . before we develop a system of laws which could have prevented our suicidal crimes?

Are we willing to develop a system of international laws which enable planet Earth to return to a state of flourishing health?

And are we willing to *enforce* those laws? Or will they be like all the “non-binding recommendations” which are proffered by smiling politicians at the tepid conclusion of decades of climate conferences?

* * *

What if . . . ?

What if law schools around the world made a determined effort to accept a growing number of indigenous students into their classrooms?

Educational programs at the grade school, high school, and college levels would be necessary to prepare bright and motivated students for the challenges of law school. As a teacher who has worked with indigenous students, I know that they are more than ready to tackle the challenges . . . the challenges not only of learning about our present (antiquated) legal system, but of developing a legal system which responds to the exigencies of the 21st century.

At a time when modern civilizations, with all of their noisy technology, have forgotten the importance of living in harmony with the natural world, we urgently need to learn from the indigenous people who live their lives completely within the nurturing embrace of nature. We desperately need their wisdom.

Law schools need to reach beyond property line disputes and national boundary confrontations, as they develop an unprecedented system of laws—legally binding and comprehensively enforced around the planet—which will *stop* the oil subsidies, which will *stop* the burning of the forests, which will *stop* the lies and prosecute the liars, and which will enable scientists to speak with voices that are respected.

We need an innovative system of laws which will guide us through the coming century of unprecedented challenges, including the challenge of our own survival. Our present legal system today is incomplete, based on resolving local squabbles, not

on sustaining life on planet Earth. Yes, we need a legal system powerful enough to protect the blessings of the Holocene period.

We need to ask: What are the rights of Mother Earth? What are the rights of the creatures who live in her sanctuaries?

The people who develop this new and urgently needed system of laws must not be limited to the wealthy elite, but must come from *all* of the cultures and biospheres around our planet. And, I believe, most of them should be young people, who both inherit the wreckage of the 20th Century . . . and shall live out their lives in the 21st Century. The young people should be able to design the home they will live in.

The time has come for the Founding Mothers to join the Founding Fathers, because the women of the world bring their special wisdom, which we urgently need. They are the people who bring new life into the world, and who devote much of their time to nurturing that new life. They, far more than the pirates of profit, should determine the guidelines of this new global Constitution.

Thus, while we develop our **Clean Energy Renaissance**, making a rapid and determined transformation from coal and oil to the sun and the wind . . . we must also develop a **Legal Renaissance**, as well as the third member of this trio, an **Economic Renaissance**, so that the clean energy engine can power our collective journey toward a civilization that honors the Earth, and encourages us to honor each other.

Yes, this may all sound very idealistic. But what if, within fifty years, our battered and starving grandchildren stand huddled in the wreckage of the plundered world, surrounded by smoke and nuclear radiation and the screams of the survivors?

Perhaps they will wonder why *we*, when we had the chance, never wrote a new set of commandments as we wandered in the spiritual wilderness.

* * * * *

Chapter Twenty-One

At the Brink of Extinction

On Monday morning, the students spent the first hour of class discussing the Climate Conference in Madrid. They had come prepared. Emily showed the video of Hindou Oumarou Ibrahim from Chad, which echoed their earlier lesson on the drought in Africa. Then she showed just a portion of Dr. Carter’s video, when he spoke about “the massive eruption of methane” in the Arctic, which echoed all of their discussions throughout the course about the Arctic.

Another student, Alexander, had put together a collage of pictures from the conference, pictures which showed both the orderly proceedings inside the conference hall, and the huge and vibrant demonstrations outside.

Genevieve had gathered responses in the media: she quoted several articles describing the hopes and the failures of the conference. Journalists from around the world pointed fingers of blame, and set their sights on the next Climate Conference, in Glasgow, Scotland on November 9-20, soon after the American presidential election on November 3, 2020.

By the end of the hour of presentations and discussions, the students who had spent a full semester studying the impending disasters which their generation had inherited . . . were silent, too filled with gloom and frustration and anger for any further discussion.

They took a ten-minute break, then the students gathered again in the classroom for the second hour of this special class. Now it was their teacher’s turn. She did something absolutely extraordinary.

She began by showing a picture on the screen—in a darkened room, with the lights off and the curtains closed—of “a humpback whale swimming in a lagoon near the island of Moorea, close to the island of Tahiti, in French Polynesia, a cluster of islands in the South Pacific. This extraordinary picture was taken by Gregory Lecoeur, an underwater photographer from France, who was honored by **National Geographic** magazine in 2016 as Nature Photographer of the Year.”¹ She paused, then she added, “Note the beams of sunlight shining down into the sea. This is truly a picture of a magnificent creature swimming in the Cradle of Life, lit by the light of a distant star.”



Humpback whale, photograph by Gregory Lecoer.

“Note the long pectoral fins, the longest of all the species of whales. The generic name of the humpback is ‘Megaptera’: from the Ancient Greek, ‘mega’ means ‘giant’, and ‘ptera’ means ‘wing’. This is the whale with giant wings.”

Again she paused, then she added, “The name of this species, in Latin, is “*novaeangliae*”, or New England, because so many of them lived in the sea off the coast of Massachusetts during the 1700s. Their true range is throughout the oceans of the world, from the ice sheets that fringe Antarctica . . . to 81° North, just below your old friend the Arctic ice cap. They feed in the cold polar regions during the winter, then migrate toward the equator during the summer to give birth to their calves.”

Now she showed the students a picture of a hilly green island fringed by a broad lagoon. Familiar with coral reefs, the students noted the outer reef where the pastel green water inside the shallow lagoon became the deep blue of the Pacific Ocean.

Their teacher told them, “As you can read in the caption, this is Moorea Island, part of French Polynesia, ‘the humpback whale nursery’.² The humpbacks swim all the way from Antarctica to Tahiti so that they can give birth to their calves in the warm, protected lagoon. This is truly, my friends, the Cradle of Life.”



Emily felt something that she had never before felt in her life. She was not sure what it was, for it was so unfamiliar. She knew only that a door had suddenly opened, and that she was going to travel to Moorea Island in the South Pacific. She wasn't sure why, except that she would find something there. Yes, she would find her destiny there. The real Emily—the Emily she really was—would swim in that lagoon with the humpback whales. And then the rest of her life would unfold . . . as if according to some extraordinary plan.

Now her teacher showed another picture from the blue underwater world.



Humpback whales, photograph by Michael Smith.

“This magnificent picture of a mother humpback with her calf was taken by Michael Smith, a nature photographer from Australia.³ After traveling thousands of kilometers from Antarctica, the whales arrive in the Moorea lagoon in early July. Pregnant females give birth to calves that are six meters long (20 feet). Because they are mammals, the mothers nurse their calves with milk for about six months. The adults do not feed during their time in the warm tropical waters; they live from the fat which they gained while eating krill in the cold Antarctic waters all summer.”

Emily stared, entranced. How peaceful they seemed, the mother and her calf.

Her teacher continued, “During their months in the lagoon, the humpbacks give birth to their calves, and they mate. The gestation period is eleven and a half months, so a female can become pregnant in September, and return to the lagoon the following July to give birth in August. She will make two enormous journeys while her child is developing inside her: from the lagoon near the equator to the fringe of ice near the South Pole, and then back to the warm waters near the equator. Thus her calf is a world traveler before it is even born.”

She paused, as her students learned with their minds, learned with their hearts.

“By late October, the calves are strong enough that the whales, traveling in a group called a pod, can begin their journey south toward the cold waters of the Antarctic, where they will feed on the abundant krill.”

She turned off the picture; the screen became black in the dark classroom.

“Now I would like to show you a video by the intrepid Brett Vercoe, also an Australian. This video, a little over five minutes long, was probably taken in Australian waters, rather than in French Polynesia. You will see mothers swimming with their calves, as well as adult whales swimming together. Brett, diving with just a snorkel, swims with his camera remarkably close to the whales.

“Note the eyes of the humpbacks, looking at *you* while you look at them.”

Now on the screen, the whales were swimming, graceful and majestic . . . while the students, enthralled, were swimming underwater with them in their blue world.

Though lively music played in the background, at one point, the students could hear the call of a whale.

<https://www.youtube.com/watch?v=l0qJUHXuLZ0>

Copyright Brett Vercoe⁴

At the end of the video, the teacher turned on the classroom lights and opened the curtains. She could see in the faces of her students that the joy of swimming with the whales had replaced their earlier gloom.

She would be gentle with them. She wanted them to keep that joy, as they focused on the years ahead.

She would not tell them about the exploding harpoons.

“As you know,” she said with her teacher’s voice, “whales have been hunted for both their oil, which was used in lamps, and for their meat. But you may not know how extensively they were hunted.”

She walked slowly across the front of the classroom. “Whalers first sailed on all the oceans around the world, but not at the bottom of the world. When they had killed so many whales that hunting became difficult, someone discovered that the whales gathered around the South Pole—around Antarctica—during summertime in the Southern Hemisphere, when the sun was shining. Beginning in 1904, whalers spent their Christmas plundering the whales that were feeding along the great sheets of ice. During the first half of the 20th Century, over 200,000 humpback whales were killed in the oceans around the world, leaving only 10% of the original population. The population of humpback whales in the North Atlantic dropped to about 700.”⁵

She paused.

“Remember, the humpback whale’s scientific name, in Latin, is *Megaptera novaeangliae*, the giant-winged whale of New England. At the time the humpback was first named by a Frenchman named Brisson in 1756, there were countless thousands of humpbacks in the North Atlantic. Half way through the 20th Century, there were roughly seven hundred.”

Now her voice became sharp with anger, “The humpback whale, like the blue whale and several other species of whales, was *at the brink of extinction*. From the Arctic to the Antarctic, whalers were determined to profit from every last whale they could find.

“In 1946, following the devastation of World War Two, the International Whaling Commission was founded, with the hope of controlling the whaling industry. But the Commission had no real powers of enforcement, and thus during the 1961/1962 whaling season, a peak of 66,000 whales were killed by ships from several nations in the waters of Antarctica. From an estimated pre-whaling population of 250,000 blue whales, only 2,300 now survived in the Southern Hemisphere.”⁶

She paused, then she repeated the phrase, “The whales were at *the brink of extinction.*”

The faces of her students—her beautiful young people—were somber.

“People, ordinary people, began to react. In 1961, the World Wildlife Fund was founded; part of its mission was to stop the rapid decline of whale populations. In 1972, the United Nations Conference on the Human Environment met in Stockholm; this Conference recommended a moratorium—a temporary halt—on commercial whaling. But again, the Commission had no real powers of enforcement.⁷

“Then, throughout the 1970s, a **Save the Whales** movement made people aware of the urgent need to protect the remaining whale populations.⁸ Roger Payne, an American environmentalist, worked with his wife Katy, and with an environmental author named Scott McVay, and with a Navy engineer named Frank Watlington, to record and study the calls—the “songs”—of the humpback whales. In 1970, they produced an album (a vinyl record) called **Songs of the Humpback Whales**, which sold over a hundred thousand copies and alerted many people to the fact that they shared this planet with an extraordinary creature with far more intelligence and social behavior than previously expected.⁹

“The great French oceanographer and filmmaker, Jacques Cousteau, created engaging programs for television called **The Undersea World of Jacques Cousteau**, shown on millions of televisions from 1968 to 1976. Narrating himself, Captain Cousteau took people, some of whom had never even seen the ocean, into an underwater world filled with life and adventure.¹⁰

“Environmental author Scott McVay wrote two important articles about the whales in popular magazines: in 1966, “The Last of the Great Whales” for *Scientific American*, and in 1968, “Can Leviathan Long Endure so Wide a Chase?” for *Natural History*. In 1975, *Audubon* published “Vanishing Giants”. In 1977, *National Geographic* produced a television program, “The Great Whales”.

“Some people took a major step forward with direct action against the whaling ships. In 1975, **Greenpeace** activists placed themselves, in a small rubber Zodiac boat, between a Soviet whaling ship and the whales which the whalers were hunting. The whalers fired their harpoons over the courageous Greenpeace protesters, and the killing continued, but Robert Hunter and Paul Watson filmed the encounter. Their documentation of whaling off the coast of California soon appeared on the evening news, where it was watched by millions of people.

“In 1977, an organization named **Sea Shepherd**, under the leadership of Paul Watson, pursued pirate whalers who were funded by hidden sources and who sold the whale products on the world market. In 1979, Watson, sailing the *Sea Shepherd*, found a pirate whaling ship named *Sierra* in the waters near Portugal. Watson rammed the *Sierra* with the concrete-reinforced bow of his ship, causing so much damage that the *Sierra* sailed into a Portuguese port for repairs. Sea Shepherd activists later attached limpet mines to the hull of the *Sierra*, sinking it in the Lisbon harbor.”

The teacher paused, then she asked, “What was the result of all of this public education and activism? How effective was the Save the Whales movement?”

“In 1979, at the end of this boisterous decade, the International Whaling Commission (IWC) established the Indian Ocean Whale Sanctuary—an enormous body of water reaching from the Asian continent down toward the waters of the Antarctic, bounded on the west by Africa and on the east by Australia—as a sanctuary for the endangered whales.¹¹

“In 1982, the IWC proclaimed a moratorium on commercial whaling, which would begin in 1986. That moratorium continues today, although Japan, Iceland and Norway still continue whaling on a limited scale. Since 1986, a total of over 39,000 whales have been killed by those three countries.¹²

“In 1994, the IWC created the Southern Ocean Whale Sanctuary in Antarctica. The Southern Ocean wraps around the entire continent of Antarctica, and thus the sanctuary of 50 million square kilometers is enormous. It reaches far enough north to connect with the Indian Ocean Whale Sanctuary, enabling whales to move from their feeding grounds to their breeding grounds.”

Now her voice became a bit brighter as she told her students, “Because of the moratorium on whaling, which most countries around the world now recognize, and because of the increasing number of sanctuaries which have been established, whale populations have been steadily growing. Not a single whale species became extinct. Today, roughly 18,000 humpback whales live in the North Pacific, 12,000 humpbacks live in the North Atlantic (up from 700), and over 50,000 humpback whales now live in the Southern Hemisphere, including those who visit the lagoons of French Polynesia. That is a total of over 80,000 humpback whales, brought back from the brink of extinction.”

She let her students savor that good news.

“I might add that whales have been swimming in the oceans of planet Earth for a very long time. The two branches of whales, the *baleen* whales which filter their food with bristles made of keratin, and the *toothed* whales which have rows of teeth, diverged from each other about 34 million years ago.¹³ We humans were building our fires in east Africa about three million years ago. The whales, I think, may have some priority in their claim as worthy inhabitants on planet Earth.”

Now she walked down the middle aisle of the classroom until she stood at the back of the room. Because she did this fairly often, the students turned in their seats to listen.

“All right,” she said, “let’s go a step further. We brought the whales back from the brink of extinction. It took education, it took activism, it took organizations with various methods of enforcement. But we did it. The whalers are no longer plundering the sea.

“However, other threats now endanger the whales. They become entangled in fishing nets. They are struck by ships. And of course, as the oceans warm and the ice in the polar regions continues to melt, conditions in the oceans can change drastically.

“One could say that although the whales are no longer at the brink of extinction, the coral reefs are definitely at the brink. Conditions in the Arctic, from the melting of the ice cap to the thawing of the tundra, are definitely at the brink. As temperatures rise on every continent, as droughts last for years and wildfires spread from Australia to Alaska, the forests and the farmland are definitely at the brink.

“Perhaps,” she looked at her students one by one, thus speaking to each one individually, “perhaps we need a generation which will write *new* laws, and develop *new* systems of enforcement, so that planet Earth herself—the entire planet—becomes a sanctuary.

“Perhaps we need law students who create an entirely new branch of legal activism. Perhaps they will work with their fellow students around the world to develop a sturdy legal system which will protect life—*life*—on this endangered planet.

“Perhaps we need students of economics who create an entirely new branch of economic activism. They will work with their fellow students around the world to develop a sturdy economic system which will protect *life* on this endangered planet.

“Of course, they will work with scientists as they develop their legal and economic strategies. And they will work with indigenous peoples, who learned ten thousand years ago not to plunder.

“Perhaps we need authors and filmmakers to document the story of our long human journey as we turn away—as we move in a new direction—from the brink of extinction.

“Perhaps . . . we could learn something from the humpback whales, ancient creatures which learned, a long time ago, to swim from a cold sea filled with krill . . . to a warm lagoon where the next generation could be born . . . and then back with unerring accuracy to that cold and abundant sea at the edge of the ice. Perhaps we could learn something from the coral reef which welcomes the whales and provides a nursery for their newborn calves. Perhaps we could learn something from the *success story* which has continued for millions of years, a story which we nearly brought to an end after a few shabby centuries.”

She walked to the front of the classroom. She had given them their homework assignment, which, for some of the students, would last a lifetime.

“Now, let’s finish our class together today . . . by going back to that blue underwater world where we can swim with our good friends the humpback whales.”

She turned off the lights while several of the students closed the curtains. Then she stood at one side of the room, toward the back, as a member of the audience, while the giant creatures swam gracefully with each other, called with their squeals and rumbles, and—as she could see on the faces of her beautiful young creatures—completely entranced her students.

Humpback Whales of the South West Pacific.

Copyright Brett Vercoe ¹⁴

<https://www.youtube.com/watch?v=ZV7Cv4I0Skg>

* * * * *