**DARWIN IN NEW ZEALAND SCRIPT**

**SLIDE 1: TITLE: CHARLES DARWIN IN NEW ZEALAND**

Thank you for inviting me here today to present a story about Darwin in New Zealand. Out of interest, were many of you aware of this fact? I can’t remember when I stumbled across this story but I do have a fascination about natural history and the 19th century scientists. I have a museum background, having worked as a museum educator, director and advisor, and seen some wonderful natural history specimens, such as those collected by Daniel Solander and Joseph Banks when on board the *HMS Endeavour* in Captain Cook’s first voyage to New Zealand from 1768-1771.

My background is in public history and my interest is in material culture and this has shaped today’s talk.

**SLIDE 2: READINGS**

**My methodological approach** was to scout out the most recent literature about Darwin in New Zealand – I went to key New Zealand historian, John Stenhouse, from Otago University who writes about anything about God & New Zealand. Then I went to the work by an Australian natural history historian, Patrick Armstrong who appears to have cornered the **Darwin Down Under market.** Naturally I wanted to find out if any controversies erupted in New Zealand over Darwin’s ideas. And finally I looked for some good digital resources. This included a website called *Te Ara Encyclopedia of New Zealand*, produced by government historians and another website that houses Charles Darwin’s correspondence. In this gathering together of material a number of things caught my attention and this is what has shaped today’s talk.

**SLIDE 3: OUTLINE**

I’ve structured the lecture around the theme of ‘Darwin in New Zealand’ and ‘Darwin’s Legacy’, which includes:

* The influence of his ideas on New Zealand colonial scientists, who were more receptive than the scientists in England.
* And a thing that surprised me was a controversy that erupted in New Zealand in the 1940s over Darwin’s theory of evolution.
* Then, as part of my wrap-up I wanted to find out how scientists today viewed Darwin’s theory of evolution.
* And this will leave us time for some discussion.

**So what was the first thing that caught my attention about Darwin in New Zealand?**

**SLIDE 4: DARWIN IN NZ: ‘HE DIDN’T LIKE IT MUCH’**

**Well,** he didn’t like New Zealand much. And then I found out that Darwin didn’t like Australia much either, which led me to start thinking about the four temperaments and wondering about what sort of personality Darwin may have been. Was he a melancholic and susceptible to depression and moodiness?

Further probing was required.

**SLIDE 5: DARWIN’S ILLNESS**

John Hayman, writing for the *Medical Journal of Australia* decided to take up the challenge of understanding Darwin’s illness. We learn that although Darwin was young, he suffered frequently from seasickness. This was recorded in his journal and in his letters to his sister, Caroline:

“There is no more Geology, but plenty of sea-sickness; hitherto the pleasures and pains have balanced each other: of the latter there is yet an abundance …”

John Hayman wrote that Darwin’s seasickness got worse as the voyage continued and was present even when the Beagle was in port.

But this had to be more than just seasickness.

We find out that prior to his 5-year sea journey we learn that Darwin had what was described as a ‘weak stomach’ – he experienced symptoms of dry lips; at times he felt ‘abnormally knocked up’ and had palpitations and chest pains. On the voyage he had headaches and episodes of weakness and faintness.

When he was NOT SICK, Darwin was a very fit young man.

**SLIDE 6:** **HAYMAN’S DIAGNOSIS OF DARWIN’S ILLNESS**

John Hayman then goes on to diagnose what Darwin’s illness was – he calls it cyclic vomiting syndrome (CVS), a little known but well defined disorder linked to abnormalities of mitochondrial DNA.

Now I’m going to stop there, as I’m way out of my area of expertise. But maybe someone in the audience can illuminate us.

**SLIDE 7: THE VOYAGE OF THE HMS BEAGLE**

Now let’s turn our attention to Darwin and the *Voyage of the Beagle*. At the age of 22 he sailed on the *HMS Beagle* as the **expedition’s naturalist** and as a **gentleman companion** to the captain, Robert Fitzroy. Fitzroy was later to become the second Governor of NZ, 1843-45.

The Voyage was planned for 3 years but it lasted 5. It departed in December 1831, and returned in October 1836.

It took Darwin around the world, allowing him to see, observe and compare many different animal species and geological features. And as has already been mentioned, Darwin was troubled by seasickness and as a youth had a ‘weak stomach.’

**SLIDE 8:** **HMS BEAGLE IN SYDNEY, PAINTED 1841**

Here’s a painting of the *HMS Beagle* berthed in Sydney. The painting is dated 1841.

**SLIDE 9: HISTORICAL CONTEXT: LATE 18TH AND EARLY 19TH CENTURY**

Now we’ll look at the historical context of the late 18th and early 19th century in order to understand why Darwin was on the *Beagle.*

**SLIDE 10: THE LAST COLONIAL OUTPOST**

Historians from J.C. Beaglehole (1939) to Anne Salmond (1991) describe the South Pacific as Europe’s last unexplored territory. From the 15th century through to the late 19th century the southern oceans became a geopolitical space of imperial expansion, trade and scientific discovery. The British, American, Russian, German, Dutch, Portuguese and French governments were searching for natural resources and to open up new trade networks around the globe. In the 15th century little was known of the geography of the Pacific and debate centred on as to whether the great southern continent, *Terra Australia Incognita*, existed. Seventeenth century European constructs of the southern watery world were still sketchy, not much was known of the islands that lay between Africa and South America. Both Beaglehole and Salmond stress that first European sightings of the New Zealand landscape were framed in terms of cartography – mapping and naming the world – and economic potential. The early navigators have been constructed as culture heroes.

**SLIDE 11: IMAGE OF ISAAC GILSEMANS**

Abel Janzsoon Tasman was the first European to sight New Zealand in 1642; he described the East Coast of the South Island as a ‘land uplifted high’ and this expression has been repeated throughout the generations of New Zealand historians from William Pember Reeves (1908), Beaglehole (1939), Keith Sinclair’s *A History of New Zealand* (1988), Salmond (1991) and others, cementing his ‘discovery of New Zealand for Europe’ into the national narrative. The image on this slide is of Murder’s Bay by Isaac Gilsemans 1642, hand-coloured engraving published in 1642 and a copy is in the Alexander Turnbull Library, Wellington. Art historians these are the first European sightings of New Zealand.

During the Voyages of Discovery the landscape was viewed as a ‘natural resource’ to be extracted for trade and commerce. Science historian W. Dawson in ‘Botany of the Early French Voyages’ (1993) points out that the early discovery voyages were confined to the shoreline; European exploration of the interior came at a later stage. The objectives of the French were similar to that of the British voyages – to collect, preserve and describe botanical specimens for the nation’s museums, gather scientific data for the emergent scientific organisations such as The Royal Society, and assess the land’s economic potential for commercial interests and settlement.

**SLIDE 12: IMAGE OF FLAX IN TE PAPA’S COLLECTION**

A number of botanical specimens are housed in the Museum of New Zealand, Te Papa Tonagarewa’s collection in Wellington and the Crown Research Institute, the Allan Herbarium at Lincoln. At the 1985 Banks Lecture, Nancy Adams, senior botanist at the then National Museum (now Te Papa) described their activities in terms of historical significance: “On the 8 October 1769, the day that Banks and Solander stepped ashore at Te Oneroa in Poverty Bay, New Zealand’s botanical history began.”[[1]](#endnote-1) The same can be said for Australian botanic history.

To Banks and Solander, and the Europeans who followed afterwards, New Zealand flora was rich in strange plants. Nearly every species was new to their 18th century eyes. During the first decades of the 1800s missionaries, sealers, whalers and forestry and flax workers tentatively set up stations in pockets along the New Zealand coastline. This is when Darwin enters the story.

**SLIDE 13: DARWIN IN NEW ZEALAND**

Charles Darwin, a young, educated English gentleman who was interested in natural history was on board HMS *Beagle*. The purpose of the voyage was to undertake a hydrographic survey of the outer regions of the expanding British Empire. In 1835 the HMS *Beagle* berthed at the Bay of Islands.

**SLIDE 14: WHAT DID DARWIN DO?**

What did Darwin do? Well he collected things. He collected rocks, insects, a gecko and plant specimens. He also collected fish. And later he compared things. Darwin was trying to understand what geologists call ‘deep time.’

**SLIDE 15: IMAGE OF RED GURNARD**

This red gurnard was collected by Darwin when visiting New Zealand.

**SLIDE 16: IMAGE OF ‘THE DROWNED CONTINENT’**

Darwin’s eyes read the landscape noting the geological formations; this was an attempt to perceive what geologists call ‘deep time.’ Science historian, Patrick Armstrong in *Darwin’s Other Islands* (2004), wrote that Darwin could see that New Zealand had once been a drowned continent. He had spotted accumulated mounds of sea shells which he believed indicated a rise in sea-level – the sea shell mounds were not left by ancient Maori as initially thought.

Theories about continental drift and the evolution of species first developed in the nineteenth century when science emerged as the dominant rationale for understanding the natural world rather than the ‘long-entrenched notion that God had created living creatures by special creative acts.’ Ideas about continental drift progressed throughout the early twentieth century into what is now known as plate tectonic theory and Darwin’s evolutionary theory has been widely accepted, although creationism is still popular in certain circles.

Geographical isolation is a significantly, unique factor about this historiography of the New Zealand landscape. In the 1930s J. C. Beaglehole, author of *New Zealand: a short history*, wrote about the country’s ‘geological exile’[[2]](#endnote-2) and colonial politician and historian, William Pember-Reeves, described New Zealand as a drowned continent.[[3]](#endnote-3)

**SLIDE 17: IMAGE OF HENRY WILLIAMS PASSING THROUGH A SWAMP**

Upon birthing at the Bay of Islands, Darwin then travelled inland 21 km from the Bay of Islands to Te Waimate, New Zealand’s first inland mission farm. The engraving on this slide illustrates what travelling in New Zealand was like in 1835. The subject is Henry Williams, of the Church Missionary Society passing through a swamp in New Zealand in 1836.

**SLIDE 18: TE WAIMATE STATION**

Te Waimate Station was part of Rev Samuel Marsden’s mission, which was based in Parammata, New South Wales. Marsden’s was motivated to improve the economic and spiritual well-being of an independent Christian Maori nation. He brought with him an ethos of ‘practical Christianity’ This involved:

* Teaching Maori agricultural, farming and domestic management skills;
* Literacy, which came before the Christian message.
* They also set up missionary schools, by 1840 over 130 schools in the North Island.

Significantly the **early** **missionaries transported a European microcosm onto the landscape,** importing livestock, seeds and plants, machinery, tools, furniture, utensils and the bible. Marsden’s mission farm in Paramatta Missionary, Australia supplied the stock.

So Darwin visited *Te Wiamate* in 1835. Over a cup of tea, against the backdrop of a game of cricket, Darwin saw grazing cattle, milkmaids, fields of wheat and Maori labourers working. Farming was also an attempt to demonstrate to Maori the advantages of European/Pakeha culture: namely new tools for agricultural production, new beasts for food and labour, and a new faith system.

The image on this slide is of Te Waimate today; the property is managed by the **New Zealand Historic Places Trust.**

**SLIDE 19: QUOTE ABOUT BEING HAPPY TO LEAVE NZ**

Reflecting the British Imperialistic views of his time Darwin wrote: “I believe we were all glad to leave New Zealand; amongst the natives there is absent that charming simplicity which is found in Tahiti. The NZ countryside was clothed in fern. “And of the English the greater part are the very refuse of society.” Te Waimate was one of the highlights: “I look back but to one bright spot and that is Waimate with its Christian inhabitants.”

**SLIDE 20: GEOLOGICALLY YOUNG**

New Zealand is an isolated archipelago in the South Pacific Ocean and coversa vast oceanic space from the volcanic Kermadec Islands at 29° south to the sub-Antarctic Islands at 50° south. **Bio-geographer George Gibbs** states that New Zealand is geologically young. Eighty million years ago it separated from Gondwana and over time the small landscape evolved. Initially it was swampy and geologically unstable; the islands sank, along with its primal flora and fauna. In Maori cosmology, culture hero Maui fished the North Island, Te Ika-a-Maui, from the sea. The South Island, Te Waka o-Maui, was Maui’s canoe.

Quite simply, Maori cosmology matches the geological story that the landscape emerged from the ocean. Colonial politician and historian, William Pember-Reeves in New Zealand (1908) described the landscape as like a ‘drowned continent’ and J. C. Beaglehole in New Zealand: a short history (1936) wrote about the country’s ‘geological exile.’

New Zealand’s geography has produced a distinct set of environmental histories. Its islands straddle the Pacific and Australian Plates. Where these two plates collide, the landmass moves vertically and horizontally, thrusting the land upwards and creating the mountainous contours of the South Island. Movement of molten rock under the earth’s surface forms the basis of the North Island’s volcanic and thermal activity.

**SLIDE 21: CHARLES LYELL**

Geology revolutionized thought and feeling in the early nineteenth century. It effects spread far beyond the scientific community, destroying established truths, and forcing ordinary men and women to realise that they, and everything they thought of as time and history, were a mere blip in the unimaginable millions of years of earth’s existence. Faced with these mind-blanking immensities, many found their religious faith ebbing away. Orthodox, Bible-based estimates of the earth’s age, such as the Archbishop Ussher, who had fixed the date of the creation of the world as 23 October 4004 BC, now seemed inadequate.

The manifesto of this new science came from Charles Lyall’s Principles of Geology, 1830-33. This book shattered the assumption that the earth – its oceans, land masses, and geological strata – had remained much the same since the Creation, or since an age of vast volcanic upheavals which, it was imagined, had taken place very early in its history. Lyall argued that the surface of the earth was continually changing. The agents that have changed the past are still active today though since they work very slowly we tend to overlook them. They are essentially two – water (tides, rivers etc) and subterranean fire (causing earthquakes and volcanoes). They work in opposite ways – water wearing down, and subterranean fire elevating the earth’s surface.

So fire and water shapes the story about the earth. The impact of natural hazards such as volcanic activity and earthquakes are a continual feature in early Maori and European accounts of living in New Zealand

**SLIDE 22: DARWIN’S LEGACY**

The strength of his work lay in his comparative analysis. Upon returning to the UK he began writing papers, mainly on geological topics, and conversing with leading scientists of the day. Darwin exchanged correspondence with British and colonial scientists e.g. Joseph Hooker at Kew Gardens and James Hector, Mr Science of Colonial NZ.

**SLIDE 23: BIRDS TOOK PLACE OF MAMMALS**

What he had observed in NZ was that essentially birds had taken place of mammals. As Darwin published accounts of his voyages and analyses of his various finds, he began to conceive of an idea that species are not “immutable”, that they could change over time. When Darwin’s fossils were reconstructed they revealed strange extinct creatures that no longer existed – such as a rodent the size of a rhinoceros and a sloth the size of an elephant. When his bird specimens from the Galapagos Islands were examined, it was revealed that on each island there was a different species of finch, each one modified in different ways.

When it came to writing his *On the Origin of Species* Darwin used many examples from New Zealand to bolster his arguments. In one chapter he discusses how islands only contain a sample of the species found on nearby continents, and where a group is absent; other creatures fill the role which that group would have performed.

**SLIDE 24: DARWIN’S CORRESPONDENCE**

In this critical time during the inception and development of Darwin’s theory of evolution, Darwin began to re-evaluate his views on New Zealand and its significance to natural history. Tied up with the evolutionary ideas that Darwin was considering was the **idea that species do not stay in one place** – **geographical separation** meant that they would experience different environmental pressures and be required to adapt in different ways. New Zealand, with its isolation, its lack of native land mammals and its unique collection of flora and fauna provided a powerful case study in examining these ideas. In a letter to the geologist Julius Von Haast, Darwin writes: “I really think there is hardly a point in the world so interesting with respect to geographical distribution as New Zealand.”

**SLIDE 25: 19TH CENTURY COLONIAL SCIENCE**

Now we’re going to quickly focus on what the reaction of colonial scientists were to Darwin’s ideas, which were on the whole receptive. I looked to the work of John Stenhouse from Otago University and he says that by 1885 the New Zealand’s main scientific, educational and religious institutions had integrated evolution into their views of the world. Opposition to evolution existed, but on the margins of mainstream culture. In fact, New Zealanders responded to Darwin with more ease, greater enthusiasm, and less social division than the inhabitants of any other region in the English-speaking world.

The churchmen were too busy in the young colony setting up their parish to bother about Darwin’s ideas, they were in fact more concerned with race relations. So the scientists of the Day, especially James Hector, embraced Darwinism, there was plenty of evidence in the New Zealand landscape to support his ideas.

Some years ago I interviewed George Gibbs and he was fascinated in the wealth of correspondence between James Hector, Director of the colonial Museum, Joesph Hooker, Director of Kew Gardens and Darwin. There were no protagonists in New Zealand like Sir Richard Owen of the British Museum or old, established elite organisations like the Royal Society to serve as gatekeepers to this radical new scientific knowledge.

**SLIDE 26: FROM NATURE 1881**

This is an extract from Nature published in Feb 1881 which shows the support of the New Zealand colonial scientists of the day. “We are glad that you have lived to see the almost universal acceptance of the great doctrince which it has been the work of your life to establish; it is hardly an exaggeration to say that every important Botanical or Zoological discovery of the last 21 years, has tended to fill up some gap in the evidence you had originally collected, and to make Evolution no longer a theory but an established doctrine of Science.

**SLIDE 27: FROM NATURE, 1881 CONT.**

The letter is signed by Hocker, Hutton and others.

**SLIDE 28: CONTROVERSY**

And now let’s move onto some controversy that erupted in the 1940s. A BBC radio series ‘How Things Began’ was broadcast on New Zealand radio in 1947 which was abruptly terminated by the Minister of Education. The series was broadcast to schools and covered the history of life on earth, including the evolutionary origin of humans. The New Zealand government was soon inundated with protests.

**SLIDE 29: IMAGE: HOW THINGS BEGAN**

Close to 50 letters of complaint were received from individuals and organisations barraging the Minister of Education to pull the series. Evolution should not be taught as ‘truth’ said on concerned mother, rather it is a ‘theory’ and for fairness she wanted ‘a bible explanation too.’

**SLIDE 30: CLERICAL ASSOCIATION OF NEW ZEALAND**

Due to public pressure the government pulled the radio broadcast.

The Clerical Association of New Zealand produced a booklet over this debate and their conclusions were that “the Church of England has no quarrel with the physical sciences in their own sphere; but it is fair to ask scientists to keep to that sphere and to clear up their ideas before they ask to have them taught to young school children with the authority of the State behind them. It is fair also to ask the educational authorities, in view of the fact that religion has no place in the ordinary work of the schools, to be careful not to introduce ideas into the teaching given that are in effect a substitute for Christian faith.

**SLIDE 31: THE DARWIN LECTURES ON NATIONAL RADIO**

Now we can appreciate that Darwin’s ideas were radical at the time, but there was plenty of evidence to support his argument. And on the whole his ideas have been accepted. And as part of my wrap-up I wanted to find out how scientists today viewed Darwin’s theory of evolution. **In 2008 Radio New Zealand National hosted the Darwin lectures.** And I’ve got a sound bite from the introduction of the series. I don’t have the name of the person who was speaking, but I liked what he said.

* He addresses the relationship between ‘god and science’ and ‘god and evolution.’ [play introduction]

 [Summary, only if sound bite doesn’t work: he says that god and evolution are not mutually exclusive. Evolution is not a theory it is observed facts. Natural selection is a theory – an explanation of that observation. Natural selection is not random.]

**SLIDE 32: YOUR QUESTIONS**

**SLIDE 33: FURTHER INFORMATION**

**END.**

1. Nancy M. Adams, National Museum of New Zealand, Wellington, The Banks Lecture 1985. [↑](#endnote-ref-1)
2. J. C. Beaglehole, *New Zealand: a short history* (London: Allen & Unwin, 1936), 158. [↑](#endnote-ref-2)
3. William Pember Reeves 1908: 6. [↑](#endnote-ref-3)