

Darwin's Brave New World

Based on *Darwin's Armada* by Iain McCalman

Starring Socratis Otto as Charles Darwin and Rick Jon Egan as Thomas Huxley,
and featuring appearances by
Richard Dawkins, David Suzuki, Jared Diamond and Iain McCalman

Three-part series filmed on location in
New Zealand, USA, England, Canada and Australia

Darwin's Brave New World is the story of how four young voyagers to the Southern Hemisphere changed our world, forever. The epic adventures of Charles Darwin, Joseph Hooker, Thomas Huxley and Alfred Russel Wallace revolutionized science, turned society on its head and gave birth to an extraordinary theory about the evolution of life on earth.

www.screenaustralia.gov.au/showcases/charlesdarwin

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Series Synopses

One line

Darwin's Brave New World is the story of how four young voyagers to the Southern Hemisphere – Charles Darwin, Joseph Hooker, Thomas Huxley and Alfred Russel Wallace – revolutionized science and gave birth to an extraordinary theory about the evolution of life on earth.

One paragraph

Darwin's Brave New World is the story of how four young voyagers to the Southern Hemisphere changed our world, forever. The epic adventures of Charles Darwin, Joseph Hooker, Thomas Huxley and Alfred Russel Wallace revolutionized science, turned society on its head and gave birth to an extraordinary theory about the evolution of life on earth. In this brilliant three-part dramatised series, we take a fresh look at Charles Darwin's oft-overlooked experiences in New Zealand, Australia and the Cocos & Keeling Islands and discover that these extraordinary places were crucial in formulating his radical theory of evolution. Australasia was also critical in forging the lives and careers of Darwin's greatest allies: Joseph Hooker, Thomas Huxley and Alfred Russel Wallace. These three men would support and defend Charles Darwin through years of illness, isolation, agonizing self-doubt and religious crisis. Without their courage and tenacity, Darwin may never have published *On the Origin of Species* – his great work about evolution and a book that changed the way we understand our world and our place in it.

One page

Darwin's Brave New World is the story of how four young voyagers to the Southern Hemisphere – Charles Darwin, Joseph Hooker, Thomas Huxley and Alfred Russel Wallace – revolutionized science and gave birth to an extraordinary theory about the evolution of life on earth.

Darwin's voyage to the Southern Hemisphere in the 1830s changed him from a directionless rich kid bound for a career in the Church, into one of the most incendiary thinkers of our age. This five-year voyage stunned and stimulated the young Darwin; the biodiversity, the exoticism, even the brutality, of the Southern Hemisphere, was in staggering comparison to the England he had just left – and it laid the foundations of his very 'dangerous idea': evolution by means of natural selection.

This series also explodes some myths. Received wisdom has it that Darwin had his 'eureka' moment on the Galapagos Islands; nothing could be further from the truth. Some of his greatest insights into evolution and natural selection came during the final and often-ignored leg of his voyage to New Zealand, Australia and the Cocos-Keeling Islands.

Back in England, Darwin turned his back on scientific orthodoxy to secretly work on his explosive theory. During this period, he destroyed his health, lost his faith and took himself to the brink of social ruin. His marriage to his devout cousin, Emma, was central to his life but also brought Darwin's struggle with his faith into painful focus. What emerges from this series is a portrait of Darwin as an ambitious and flawed man: one moment paranoid, bloody-minded and coolly manipulative; the next, courageous, compassionate and devoted. The drama features the people and the politics orbiting around Darwin as he moved cautiously towards publication of his masterpiece, *On the Origin of Species*. This series coincides with the 150th anniversary of its publication.

The southern voyage was a transformative experience for anyone who undertook it. And so it was for Charles Darwin and three of the most important men in his life: Joseph Hooker, Thomas Huxley and Alfred Russel Wallace. All three made this journey to the southern lands and oceans and it was this shared experience, this bonding 'of the salt' as they called it, which created their lifelong friendship with Darwin and each other. Without his 'fellow circumnavigators', Darwin's revolutionary theory might never have seen the light of day. Driven by ambition, friendship, even hatred, Hooker, Huxley and Wallace helped Darwin to formulate his theory, defend him from attack and eventually win the bitter public war for evolution.

Featuring a cast of Australian and Canadian actors and commentators such as controversial author and Oxford academic, Richard Dawkins, the renowned author and academic, Jared Diamond from the University of California at Los Angeles, the Canadian scientist and broadcaster, David Suzuki and Australian scholar and author, Iain McCalman, from the University of Sydney, this brilliant dramatised documentary tells the story of Charles Darwin's struggle to produce one of the greatest scientific theories of our age and the roles played by Hooker, Huxley and Wallace – Darwin's fellow voyagers to the Southern Hemisphere. It is a story of a group of young men who had a new and radical vision of the world and had the courage to pursue it.

Credits

Key Cast

Charles Darwin
Emma Darwin
Joseph Hooker
Alfred Wallace
Thomas Huxley
Charles Lyell
Richard Owen
Bishop Samuel Wilberforce
Professor Adam Sedgwick
Syms Covington
John Gould
Robert Fitzroy

SOCRATIS OTTO
KATIE FITCHETT
JOE MANNING
DAN SPIELMAN
RICK JON EGAN
PAUL GLEESON
ANTHONY SIMCOE
PAUL BERTRAM
JOHN GREGG
MATTHEW WATERS
SIMON BOSSELL
SIMON CORFIELD

Key Creatives

Series Producer
Producer (Australia)
Producer (Canada)
Series Director (Drama)
Series Director (Documentary)
Writer
Narrator
Historical Consultant
Music
Directors of Photography
Editors

Production Supervisor (Australia)
Field Producers (Canada)
Executive Producer for Screen Australia
Executive Producers for ScreenWorld
Executive Producer for Ferns Productions

MIKE BLUETT
SALLY REGAN
ANDREW FERNS
LISA MATTHEWS
JASON BOURQUE
KATHERINE THOMSON
WENDY HUGHES
PROFESSOR IAIN McCALMAN
TOBIN STOKES
PIETER STATHIS CSC, KIM MILES CSC
KARIN STEININGER, TIM STEEL,
DANY COOPER ASE
RENEE KENNEDY
DAVID SPRINGBETT, MARK GOODALL
MARK HAMLYN
SUE CLOTHIER, MARK HAMLYN
W. PATERSON FERNS, RUPERT MACNEE

Featuring interviews with

PROFESSOR IAIN McCALMAN
PROFESSOR RICHARD DAWKINS
PROFESSOR MICK CLOUT
OVE HOEGH-GULDBERG
PROFESSOR JANET BROWNE
PROFESSOR JAMES MOORE
PROFESSOR MIKE ARCHER
PROFESSOR JERRY COYNE
PROFESSOR JARED DIAMOND
PROFESSOR DAVID SUZUKI
PROFESSOR TOBY BRADSHAW
PROFESSOR MICHAEL RUSE
STEPHEN HOPPER

Historian, University of Sydney
Evolutionary Biologist, Oxford University
Biologist, Auckland University
Coral Biologist, University of Queensland
Historian, Harvard University
Historian, The Open University
Palaeontologist, University of NSW
Biologist, University of Chicago
Geologist, University of California
Geneticist, University of British Columbia
University of Washington
Philosopher, Florida State University
Director of the Royal Botanic Gardens, Kew

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Episode 1: *Origins* (1831–1844)
Sunday 8 November 2009 at 7:30pm on ABC1

One line synopsis

Twenty-one year-old Charles Darwin convinces his father to allow him a gap year before settling down – it turns into a miraculous five-year voyage of discovery across the Southern Hemisphere which transforms him and gives birth to a revolutionary scientific theory.

One paragraph synopsis

When 21-year-old Charles Darwin embarks on a five-year voyage to the Southern Hemisphere, it transforms him from a dilettante into a revolutionary and groundbreaking scientist. On the last and often-ignored leg of his voyage to New Zealand and Australia, Darwin goes further than ever before towards his radical theory of evolution: he witnesses the deadly competition between European settlers and the indigenous peoples, between the native animals and introduced species; in the coral islands of Cocos and Keeling off the Western Australian coast he discovers a world created through a struggle for survival, giving him an incredible insight into how life evolves. On his return to England in 1836, Darwin's dangerous idea grows into an obsession. If life did evolve by natural means, where did that leave God? What about humans? Are we just another sort of ape? Darwin knew that if he ever went public with these incendiary ideas, the religious and scientific establishment would destroy him. But this ambitious 27-year-old can't leave the idea alone. On the verge of dying from a mysterious disease, Darwin confides his work to two people: his devout wife, Emma, and a young botanist called Joseph Hooker who, like Darwin, has just returned from a voyage to the Southern Hemisphere.

Episode 2: *Evolutions* (1844–1857)
Sunday 15 November 2009 at 7:30pm on ABC1

One line synopsis

Desperately accumulating evidence to support his theory of evolution, Charles Darwin finds support from two men who have also voyaged to the Southern Hemisphere: Joseph Hooker and Thomas Huxley. He will need them, as he is devastated by his daughter's death and the arrival of a letter that threatens to destroy everything.

One paragraph synopsis

Darwin turns his back on scientific celebrity and becomes a virtual recluse, secretly gathering evidence for his theory of evolution. He is almost trumped by a rival book on evolution but finds a steadfast supporter in the young botanist, Joseph Hooker. Darwin's faith is shattered by the death of his beloved daughter Annie but he is buoyed up by the return from Australasia of one of his greatest allies: the young firebrand, Thomas Huxley. Darwin knows he has found the men he needs to help him when he goes public with his ideas. Hooker and Huxley push Darwin to publish but events overtake everyone when a letter arrives from Indonesia. An obscure collector called Alfred Russel Wallace has come up with an evolutionary theory almost identical to Darwin's own. Darwin is shattered and fears that twenty years of work has come to nothing.

Episode 3: *Publish and Be Damned* (1857–1864)
Sunday 22 November 2009 at 7:30pm on ABC1

One line synopsis

Charles Darwin is devastated when he receives a letter outlining an almost identical evolutionary theory to his own; he now has no choice but to publish his masterwork, *On the Origin of Species*.

One paragraph synopsis

After labouring in secret for twenty years, Charles Darwin is almost trumped by the obscure young naturalist, Alfred Russel Wallace, who has been in the southern world of Australasia for almost a decade. Shocked that someone else is drawing the same conclusions, Darwin knows that he must publish his own work post haste. Hooker helps to ensure that Darwin has priority over Wallace by arranging a joint reading of their theories, while Huxley sharpens his beak and claws in readiness to defend Darwin against the Church and scientific establishment. Wallace returns to England and immediately joins battle in defence of Darwin. *On the Origin of Species* is published to acclaim and attack and Darwin's allies embark on a bitter and brutal public battle for Darwin's idea and the future of science. The battle culminates with the legendary Oxford debate in which Hooker and Huxley go toe-to-toe with the reactionary forces of Church and the scientific establishment. Charles Darwin and his theory of evolution eventually triumph.

Interview with Professor Iain McCalman, University of Sydney Historian and author of *Darwin's Armada* which inspired the television series *Darwin's Brave New World*

For too long, Charles Darwin has existed as a somewhat dusty icon in the public imagination; something of a lone scientific genius pursuing a solitary struggle to fashion his theory of evolution. So Australian historian, Professor Iain McCalman decided that the 150th anniversary of the publication of Darwin's great work, *On the Origin of Species* was an apt moment to take a fresh look at the Darwin story. What he found was that Darwin's story was as much about the people around him as the man himself. As McCalman says, "It's nonsense to see Charles Darwin as a 'lone genius'. He absolutely needed the support and help of others to achieve what he did". Those 'others' were Joseph Hooker, Thomas Huxley and Alfred Russel Wallace. And what connected these men to Darwin was two things: a shared experience of epic voyages to the Southern Hemisphere and a youthful desire to create a new and revolutionary form of science.

Where once Hooker, Huxley and Wallace had been no more than 'background noise' in the Darwin story, they are now firmly in the foreground. What McCalman also does is to reassess these men's experiences in countries like New Zealand, Australia and Indonesia; experiences too often ignored by historians in the Northern Hemisphere. The result is a groundbreaking book, *Darwin's Armada* and a brilliant three-part television series inspired by it called *Darwin's Brave New World*.

McCalman's astute appraisal of the effect of the Southern Hemisphere on the young Darwin and his closest colleagues also made him a white-hot hit at the recent Darwin Festival in Cambridge. In front of an audience of leading academics, McCalman shared the podium with Janet Browne, the world's foremost authority on Darwin, who also contributed what he humbly refers to as "a nice blurb" for the US edition of *Darwin's Armada*.

With 40 new books about Darwin flooding the market, McCalman believes he has earned its edge because he's coming from a completely fresh new angle.

"Years ago I wrote a thesis about Huxley, who was a much more famous scientist in his day than Darwin", he recalls. "I knew that he and Darwin's best friend and collaborator Hooker were fellow circumnavigators bonded by the Antipodean experience. It was very clear that it was a huge influence on these three young men, and I knew it was a story I had to tell."

In fact, McCalman believes that Darwin would have benefited from a television series himself.

"What he needed were moving images to explain his theory," McCalman explains. "He was visually stunned by what he saw in the Southern Hemisphere. It knocked him out. Hooker and Huxley were actually quite accomplished painters, but Darwin was not, and it made him very inventive. He used a lot of pop culture, and especially photography, in his journals and stories, and if film had been around he may have been able to communicate the concepts even faster."

McCalman believes that Darwin's experiences in places like New Zealand and Australia, where he was literally able to see what was happening as new species were introduced, must have been completely exhilarating. Apart from the introduction of new animals by Europeans (rats from Captain Cook's ship had devastated New Zealand wildlife), there was also the devastating impact European settlers had on the indigenous Maori and Australian Aborigines. It set Darwin on a new path of thinking.

“The changes were much more dramatic than they seem now,” he points out, “and working in the field he could see that emotions are shared by animals and man, that beauty is not for pleasure but is a function of survival and reproduction, and that everything is interconnected. And it turned the whole concept of God endowing man with special attributes upside down.”

About Professor Iain McCalman

Professor Iain McCalman is a specialist in 18th century and early 19th century British and European history. He is a Fellow of the Royal Historical Society, a Fellow of the Academy of the Social Sciences in Australia, and a Fellow of the Australian Academy of the Humanities. He has held many Visiting Research Fellowships in Britain and the United States. In 1999 he published the *Oxford Companion to the Romantic Age*, followed by *The Seven Ordeals of Count Cagliostro* in 2003. He co-edited a new edition of Charles Dickens’ *Barnaby Rudge*, and is also general editor of *The Enlightenment World*. He has co-curated exhibitions such as *Gold. Lost Treasures, Hidden Histories* at the National Museum of Australia, and was curatorial adviser on *Cook and Omai: The Cult of the South Seas* at the National Library of Australia in 2001. He was an historical consultant and participant in the six-part BBC2 re-enactment series of Cook’s first voyage, entitled *The Ship* in 2002. His groundbreaking *Darwin’s Armada: How four voyagers to Australasia won the battle for evolution and changed the world* was published to great acclaim this year. He is also working on *The Life and Times of Philippe de Loutherbourg, who was an 18th century European artist, scientist, engineer and set-designer*.

Interview with actor Socratis Otto about playing Charles Darwin

To re-imagine Charles Darwin as a young and bold adventurer to the furthest edges of the globe, requires a bold and adventurous young lead. No better actor for the role than the Sydney-based, Socratis Otto. It would be an eye-opening journey.

Otto admits that he's always been a bit suspicious of the theory of evolution. Perhaps it was inevitable that playing Darwin would change that, but in fact Darwin he says, has changed his whole life.

"I see everything differently now," he says with a very Darwinian eagerness. "It's made me feel less judgemental because I see everything, even cockroaches and insects, are all part of the same system. It's taken away notions of prejudice, of us and them. It's changed my idea of what God is!"

Actors are used to thinking and feeling through the characters they take on, but for Otto the impact has clearly been profound, not least because he's found that Darwin the man bears almost no relation to "the dusty icon" he shied away from at school.

"Darwin was a very unwilling iconoclast," says Otto. "I mean he was not a revolutionary by nature, he just had to be true to himself. He was working on his theories for 30 years, but always his primary concern was 'how will this affect my wife and my children?'"

Otto believes Darwin would have been horrified to find himself embalmed as a great personage.

"He wasn't up himself. He was constantly battling uncertainty. And yet 150 years later his ideas are still resonating, and still needed, even more so in these cynical times. For me, getting to know Darwin has been about seeing what happens to people who really change things. His theories were frightening because they were challenging."

It certainly helped, as Otto dived into filming, that Darwin's journey begins with a thrilling adventure story, and continues because of the loyalty of his friends.

"The help he got from Huxley and Hooker and even Wallace, who understood what he was talking about, is a rare and beautiful thing," says Otto. "They were willing to risk everything for what they knew to be true, and he'd never have made it without them."

It shows something of the genius of this particular casting that Otto was able to play the scientist at several different stages of his life, often on the same day, with such enthusiasm. He was drastically sea sick during the shooting of the *Beagle* sequences, doused in cold water whenever Darwin took a health cure, and forced to spend hours examining barnacles amidst smelly specimen jars.

Yet despite the physical challenges Otto was so delighted with his role in *Darwin's Brave New World*, he says even the 'mutton chops' and other Victorian tortures contributed to the wonder of the experience.

"Of course I was very envious of some of the other actors who were able to grow full beards, when mine was so patchy and pathetic. But ironically all the hair and makeup made it easier to slip into character and I ended up loving all of it."

About the making of *Darwin's Brave New World*

Big ideas and big international business deals were the innovations driving *Darwin's Brave New World* from the start. Along with the conviction that an old bald guy who died 150 years ago could and should be brought to life as the excited and audacious fellow he really was – by Australians (who produced the dramatisations covering 30 years of Darwin's life) and Canadians (who filmed the scientific interviews with every one from David Suzuki to Janet Browne and Richard Dawkins).

"I was sick of turning on the television to see yet another BBC interpretation of history," says the Australian drama director, Lisa Matthews. "Everyone who worked on this felt we had something fresh and authentic to offer – an Australian perspective that could be more lively and free."

Executive producer of the series, Mark Hamlyn, concurs.

"A young spunky Darwin with a lovely wife and passionate intellectual colleagues just hadn't been done before," he says. "And we had something completely new to build a series on – the fact that Darwin would never have made it over the line if it hadn't been for his experience in the Southern Hemisphere. That gave us exotic locations and boys' own adventure. A big *Master and Commander* feel to sugar-coat the history pill."

By pivoting the series on Darwin's thrilling five year circumnavigation of the globe on HMS *Beagle*, the series livened up the bulk of Darwin's career afterwards, "when he basically goes to the country and throws up for 30 years," as Hamlyn puts it.

"We knew Iain McCalman's book, *Darwin's Armada*, really nailed something unique by looking at Darwin's life and work through the lens of the Antipodes," adds the series producer, Mike Bluett. "And that gave us a unique insight into the way science is made, through chance and timing and the interplay of personalities."

Another key to the series, which uses CGI special effects to show how Darwin's mind worked, was Darwin's vivid imagination, says Bluett.

"He could look at a mountain and imagine how it must have been 100 million years ago. He could see that we were all once molluscs and sea shells, or apes. He could appreciate that humans share their DNA with every other living thing on the earth. That was truly radical thinking in an era when man was supposed to have been made directly by God."

"That's why we didn't want to make 'classic' Victorian Darwin, but a riff on Darwin – something rich and unpredictable," says Hamlyn.

In fact far from being stuffy and dull, British society was undergoing a major transformation in the late 1800s, which *Darwin's Brave New World* readily captures with a colour-saturated palette and an English countryside that is all glowing greens rather than damp grey skies.

"Britain was becoming more democratic and the power of the church was being wound back," says Bluett. "And here was young Darwin in the colonies seeing how the ex-convicts were turning the social hierarchy upside down; observing the effects of colonisation not just on flora and fauna but on indigenous people like the Maori and the Australian Aborigines."

“We all fell in love with Darwin,” Lisa Matthews explains, “because he was such a gentle, humane and compassionate man. He always said his greatest achievement was his family. We were honestly inspired by him.”

Fellow Director, Jason Bourque, who handled the scientific interviews and distant locations quotes Darwin, ‘those who learned to collaborate and improvise effectively have prevailed’, it felt apt when recalling this ambitious series. “It was a huge collaboration of very talented people and a process that was constantly evolving. Ideas died off; new ones sprang up and it was difficult to tell how our mix of documentary and drama was finally going to gel. In the end we prevailed. It was a project and journey I feel honoured to have been a part of.”

Shooting the maritime sequences to recreate Darwin’s voyage on HMS *Beagle* also redoubled the cast and crew’s admiration for the man, who spent five years at sea.

“Everyone, except me, the DOP and the First AD, was horrendously sea-sick as we sailed out to the ocean through Sydney’s heads,” Matthews recalls with a shudder. “Socratis was throwing up the entire time. It was very funny, but only in retrospect.”

Then there was the makeup, which was incredibly time-consuming, compounded by the fact that Socratis was playing Darwin, and Katie Fitchett was playing his wife Emma, at several different stages of their lives, each day.

“It was ridiculous!” admits Matthews. “But we had a fantastic cast and crew. It sounds clichéd but we all really believed in what we were trying to do, and I think that infected the series with a certain verve and spirit of excitement.”

“The road to making *Darwin’s Brave New World* was full of bumps and turns”, Producer Andrew Ferns says, “from hunting obscure locations to high-profile interview subjects around the globe, but the result is lush, poignant, and also looks fantastic, which is the best reward after a challenging and hard-fought campaign.”

Certainly this vivacious quality was something the producers demanded from the series as a whole, as Executive Producer Pat Ferns comments, “The integration of drama and documentary elements is seamless and innovative. What excites me about *Darwin’s Brave New World* is its freshness and originality, both in content and style. The series provides a new take on Darwin, thanks to Iain McCalman’s book, and it shows us both Darwin the man, and the impact of the Southern Hemisphere on his thinking.”

“The aim wasn’t just to bring Darwin and his era alive,” concludes Mark Hamlyn, “but to show just how big the intellectual and emotional leap he made really was.”

Charles Darwin Timeline

1809 Charles Darwin is born in Shrewsbury in Shropshire, UK.

1817 Darwin's mother Susannah dies.

1822 Darwin sets up a chemistry lab in the garden toolshed with his older brother Erasmus.

1825 Darwin's father removes him from grammar school, worried by his bad grades and preference for larking about with dogs and horses. Darwin is apprenticed to his father's medical practice before attending Edinburgh University.

1826 Darwin begins to neglect his medical studies in favour of natural history. Learns taxidermy from John Edmonstone, a freed black slave from Guyana, who fires his imagination with tales of South America. He becomes an avid bird watcher.

1827 Darwin learns about the classification of plants and becomes a close friend of Robert Grant, a Scottish zoologist who introduces him to the idea of evolution.

1828 Darwin's father is worried his son is becoming an "idle gentleman" and sends him to Christ's College to study for the Anglican clergy. Darwin prefers riding, hunting, and going to dinner parties, although he discovers botany and begins to think of a career in natural sciences.

1929 Darwin has doubts about religion, and spends more time collecting beetles.

1830 Darwin's botany lecturer Professor Henslow takes a special interest in him and believes he is a gifted student.

1831 Darwin graduates, dreams of travelling to South America, becomes addicted to geology, and after being offered the position of gentleman naturalist on board the HMS *Beagle*, persuades his father to allow him to leave on a two year journey to the Southern Hemisphere.

1831-36 Darwin travels for five years, collects fossils, plants and animals from the coast of Africa, South America, Australia, New Zealand and keeps a record of his travels which is later published as an influential journal which in turn inspires Hooker, Huxley and Wallace.

1836 Darwin arrives in Sydney and hikes inland to Bathurst. His compassion is aroused by the indigenous people whose culture has been seriously disrupted by colonisation. The *Beagle* continues to Tasmania and Perth before heading for Africa and then England. Darwin makes a surprise visit to his family, and discovers his geological papers have established him as a scientific celebrity. He is taken up by the scientific establishment and influential men such as Charles Lyell and Richard Owen.

1837 Darwin nervously presents his ideas to the Geological Society, and sets to work on several books, but ill-health forces him to the country for rest where he meets up with his cousin Emma.

1838 Darwin has already conceived *On the Origin of Species* but decides to work on it in secret. He accepts the position of Secretary of the Geological Society, and proposes to Emma.

1939 Darwin marries Emma, is elected a fellow of The Royal Society and becomes a successful author.

1842 Darwin tells Lyell of his theories, and moves the family to Down House in Kent.

1843 Darwin becomes friends with Joseph Dalton Hooker.

1844 Darwin tells Hooker about his transmutation theories. Fearing he could die before completing his work, Darwin writes a letter to Emma with instructions on how to publish his work posthumously, if the need arises.

1846 Darwin finishes his third geological book *Geological Observations on South America* and begins to study barnacles which obsess him for the next eight years.

1847 Hooker reads Darwin's "Essay" on natural selection, and with some reservations pledges his support.

1849 Darwin's health worsens, and he consults a hydrotherapist and homeopath. He is surprised when they appear to help.

1851 Darwin's cherished daughter Annie dies.

1853 Darwin meets Thomas Huxley at the Geological Society in London, and they become friends. Darwin wins the Royal Medal.

1857 Darwin's book *On the Origin of Species* is 65 per cent complete.

1858 Darwin receives a letter from Wallace outlining a similar theory. He is shocked, but eventually the two men jointly present the theory of natural selection at a meeting of the Linnean Society in London. Darwin is devastated by the loss his youngest son to Scarlet fever.

1859 *On the Origin of Species* is published and becomes an unexpected bestseller.

1860 A famous debate on natural selection occurs at Oxford; Darwin's chief critics are Archbishop Wilberforce and Richard Owen with whom Huxley has a series of heated arguments about our ape-like ancestors.

1862 Darwin publishes *On the Various Contrivances by which British and Foreign Orchids are Fertilized by Insects*. Orchids are his latest obsession.

1864 Darwin is awarded the prestigious Copley Medal, by the Royal Society.

1867 Darwin splits his latest work into two books, *Descent of Man* and *Selection in Relation to Sex*.

1868 Darwin publishes *The Variations of Animals and Plants under Domestication*.

1869 Huxley coins the term *agnostic*.

1870 Huxley and Hooker found the journal *Nature* which becomes one of the most respected scientific journals in the world.

1871 Darwin publishes *Descent of Man*, and *On the Origin of Species* goes into its 6th edition.

1872 Darwin's latest tome, *The Expression of the Emotions in Man and Animals* becomes a best seller.

1875 Darwin publishes *Insectivorous Plants* which outsells *On the Origin of Species*.

1876 Darwin finishes his autobiography and becomes a grandfather. He publishes *The Effects of Cross and Self Fertilization in the Vegetable Kingdom*.

1877 Darwin receives an honorary Doctorate of Law from Cambridge University.

1878 Darwin publishes a biography of his grandfather Erasmus Darwin.

1879 Darwin finishes *The Movement and Habits of Climbing Plants*.

1881 *The Formation of Vegetable Mould, through the Actions of Worms, with Observations on their Habits* is published. Darwin experiences bad chest pain.

1882 Darwin dies at Down House surrounded by his family. He is buried at Westminster Abbey, which is the highest honour in the land.

About the Key Actors and Historical Figures

Socratis Otto (as Charles Darwin)

Socratis Otto brings his own natural curiosity to the role of gentle, but indefatigably driven Charles Darwin in *Darwin's Brave New World*, an experience which he says "changed my whole life, even my idea of God." Since graduating from NIDA in 2000 Socratis has distinguished himself in film, television and theatre. His numerous film credits include *Beautiful*, *The Matrix Reloaded*, *The Rage in Placid Lake*, *Macbeth*, *Monkey Puzzle*, *X-Men Origins: Wolverine* and yet to be released independent feature film *Anyone You Want*. He has appeared in some of Australia's best-loved television series including *All Saints*, *Home & Away* and *Young Lions*. Socratis appeared in the UK/Australian co-production of the telemovie *False Witness* and Steven Spielberg's US mini-series *The Pacific*. On stage Socratis has worked with directors such as Jim Sharman, Neil Armfield, Marion Potts, Kate Gaul, Benedict Andrews and Michael Kantor and his theatre credits include the lead role in Company B's *Peribanez*, STC's *Wonderful World of Dissocia*, Jim Sharman's festival success *Three Furies* and as the title character in Malthouse Theatre's production of *Woyzeck*.

Charles Darwin, 1809–1882

Charles Darwin was nothing like the stuffy bald Victorian most people envisage when they think of the father of evolution. As a youth Darwin loved animals, hiking, hunting and collecting. He was prone to enthusiasms but easily distracted and often bored by study. His father worried he lacked ambition and application. After dropping out of medical studies and ricocheting across the natural sciences in the course of a BA, it looked as if Darwin was bound for a simple life as an Anglican clergyman. At the age of 21, however, he persuaded his father to allow him an adventure on the HMS *Beagle* as a gentleman naturalist. The journey, which took five years, and circumnavigated the world, proved a potent stimulant, turning him from a dilettante into a disciplined and observant scientist, and ultimately a thinker of extraordinary imagination and originality. On returning to England Darwin found himself accepted into the scientific establishment, began a prolific writing career which resulted in many bestsellers, and married his cousin Emma Wedgwood with whom he shared a long, productive, and happy marriage. Often plagued by ill-health, and devastated by the deaths of three of his 10 children, Darwin made the family home the centre of his existence, using the garden as a laboratory which facilitated his research on the theory of natural selection. He was a playful father and considered his family to be his greatest achievement. He also forged cast iron friendships with other equally audacious young scientists Wallace, Hooker and Huxley, who had travelled through the Southern Hemisphere, and through their agency and support was finally able to publish *On the Origin of Species* in 1859. The book immediately became a bestseller. While it also attracted its share of negative reviews, within ten years Darwin's theories about evolution had been popularised, and he was recognised as the great scientist of his time. He was showered with distinction and wrote several more groundbreaking books and bestsellers before dying in his sleep, surrounded by his family, at the age of 73.

Katie Fitchett (as Emma Darwin)

Katie is a graduate of the Victorian College of the Arts, and recently starred in the acclaimed Ensemble Theatre production of *Little Nell* as the actress who intoxicated Charles Dickens, and as Ismene in Company B's production of *Antigone*. She also worked with *Darwin's Brave New World* director Lisa Matthews on *Rogue Nation* in which she played Eliza Darling, and is well known for her television and film performances, including *All Saints*, and the feature film *Hating Alison Ashley*.

Emma Darwin, 1808–1896

Emma was a member of the famous Wedgewood family. She was well educated, studied piano in France under Chopin, and excelled in archery. She turned down several propositions of marriage and took on the care of invalid relatives in her late twenties, but accepted her cousin Charles' proposal in 1838 when she was 30. It was a match of minds as well as feelings. Although she was a devout Anglican, Emma was also open-minded enough to discuss Christianity and science with her husband throughout their lives together. While bearing 10 children, she nursed Darwin through years of illness with remarkable resilience and loyalty, and together they enjoyed a rich family life. Emma was also active in her local community, ministering to the poor and sick. She buried three children but saw the others grow up to be successful and happy. Emma survived her husband by 14 years.

Joe Manning (as Joseph Hooker)

Since graduating from the Victorian College of the Arts in 1999 Joe has distinguished himself on stage for Australia's premier theatre companies, working with top directors from Neil Armfield and John Bell to Gale Edwards and Benedict Andrew. His television appearances include the cult hit *The Secret Life of Us*, as well as *All Saints*, *Stingers* and *Xena Warrior Princess*, as well as English director Julien Temple's televisionary opera *Eternity Man*. His film credits include the Wachowski brothers' *Matrix 2* and *3*, *Stealth* directed by Rob Cohen and *Queen of the Damned*, directed by Michael Rymer. Joe has also featured in the mini-series *Heroes' Mountain* and *The Farm*. In 1997 Joe was nominated for Best Actor at the New Zealand Film and Television Awards for his role in *Repeat Performance*.

Joseph Hooker, 1817–1911

A zealous botanist since childhood, Joseph Dalton Hooker took Darwin as his hero when he made his first hair-raising expeditions to the Southern Hemisphere as a green 20-year-old, with a copy of Darwin's *Beagle* journal in hand. Later Darwin returned the compliment, calling Hooker his "public and my judge", and confiding in him his theory of evolution when he had told no-one else. Hooker's botanical expertise was critical to his friend's understanding of plant evolution, while his religious views were close to the agnosticism of their mutual friend Thomas Henry Huxley. His preoccupations were taxonomy, botany, and like Darwin, his children. He followed Darwin's lead in administering chloroform to his wife during labour, and having experienced a similar grief, comforted him when Darwin's daughter Annie died. In 1865 Hooker succeeded his father as director of Kew Gardens. Although Richard Owen pursued a vendetta against him he was unable to affect Hooker's career. By this time he was a highly-regarded botanist with a world-wide reputation. He received numerous honorary degrees and awards, and died in his sleep at the age of 94.

Dan Spielman (as Alfred Wallace)

Dan Spielman has established a reputation as one of Australia's leading theatre, film and television actors. His film credits include *Tom White* and *One Perfect Day*, for which Dan received two 2004 AFI Nominations. Dan also received the 2004 Film Critics Circle of Australia Award for Best Supporting Actor for *Tom White*. He has appeared in some of Australia's leading television shows including *Raw FM*, *Blue Heelers*, *Farscape*, *Stingers*, *The Secret Life of Us*, *Satisfaction*, the ABC series *My Place*. Dan's theatre credits include *Season at Sarsaparilla*, *Lost Echo* and *A Midsummer Night's Dream* as a founding member of The Sydney Theatre Company's Actors Company; *Ham Funeral* and *Journal of the Plague Year* for Malthouse Theatre, and over a dozen productions with the Keene/Taylor Theatre Project from 1998-2002. In 2009 Dan performed in Malthouse Theatre's production of *Knives in Hens*.

Alfred Wallace, 1823–1913

Alfred Russel Wallace was a brilliant British naturalist, explorer, geographer, anthropologist and biologist who never achieved the recognition he probably deserved after years of tramping through the Amazon, the Malay Archipelago and Indonesia. His insights into the process of natural selection nearly trumped Darwin's 30 years of secret research, but he was persuaded by Hooker and Huxley to defer to the older man, and they became good friends. His commitment to social reform, including women's suffrage, and spiritualism, put him into conflict with the scientific establishment and he was never able to secure a tenured position. He struggled to support his wife and family, but through Darwin's intervention he was eventually granted a government pension for his lifetime of contributions to science. When he died at 90, *The New York Times* described him as "one of the giants" of 19th century science, along with Darwin, Huxley, Spencer, Lyell and Owen.

Paul Gleeson (as Charles Lyell)

Paul Gleeson has worked with many of Australia's top directors, appearing in films such as *Men's Group*, *Somersault* and *Idiot Box*. He has also worked in America and has appeared in *Komodo*, the television sci-fi *Virtual Nightmare*, the series *Starter Wife* and *Nightmares & Dreamscapes*.

Charles Lyell, 1797–1875

This eminent Oxford-educated Victorian, a geologist, lawyer and successful author, published his first and most influential book, *Principles of Geology* in 1830. A pioneer of field studies, who specialized in volcanoes and geological dynamics, he also popularized the concept of *uniformitarianism*, which predated the more complex theory of evolution, positing that the earth was in the process of constant incremental change. He was Professor of Geology at King's College in London throughout the 1830s, and a mentor to young Darwin, whose life-changing journey on the *Beagle* he engineered and inspired. They became close friends on Darwin's return to England, but Lyell did not fully endorse Darwin's theory of evolution until after the publication of *On the Origin of Species* – a devout Christian he had trouble reconciling the principles of natural selection with his religious beliefs.

Anthony Simcoe (as Richard Owen)

An actor, a musician and a NIDA graduate, Simcoe was most famous for his performance in the feature film *The Castle* and the role of Ka D'Argo in the sci-fi television series *Farscape*, until his work in the recent hit series *Underbelly*. Simcoe's other television work includes *Rogue Nation*, *The Alice*, *Water Rats*, *Stingers* and *A Country Practice*. On stage he has worked for some of Australia's best theatre companies. He is also a director, corporate trainer, and has taught at NIDA for the past 10 years.

Richard Owen, 1804–1892

Owen's brilliant career as a biologist, palaeontologist and an expert comparative anatomist was marred by a viciously competitive streak and a willingness to overlook evidence he didn't agree with. At the height of his career he was accused of plagiarism for a Royal Medal winning paper he wrote in 1846, which failed to credit the work of an amateur biologist. His interest in prehistoric animals led him to coin the word *dinosaur*, and he had several life-size sculptures of them built and exhibited at the Crystal Palace. He was an early supporter of Darwin but disputed the idea of transmutation which he believed would "bestialise" humankind. He ended up at loggerheads with Darwin and his colleagues (particularly Hooker), famously announcing "I cannot swallow Man (being that) distinct from a chimpanzee." He saw Darwin's work as a caricature of creationism and is now mainly remembered for his vitriolic campaign against Hooker's and Darwin's theories on the origin of species. He was the first director of the Natural History Museum in London, and has been described as spiteful, jealous and malignant – "a most deceitful and odious man."

Rick Jon Egan (as Thomas Huxley)

Rick Jon Egan is a Toronto-based actor and a recent graduate of the George Brown Theatre School (2007). Highlights at George Brown included the roles of Prince Bolkonsky in *War and Peace* (directed by Jeannette Lambermont), and Leontes in *The Winter's Tale* (directed by Joseph Ziegler). Other stage credits include: *This is a Play* and *For Whom the Southern Belle Tolls* (Actors Without Equity); *A Memory*, *A Monologue*, *A Rant and a Prayer* (VDay Toronto); *Beautiful Lady*, *Tell Me* (4th Line Theatre); *The Crackwalker* (Staged and Confused). Rick also works with TheatrePeace, performing in various mask and mime workshops and presentations to elementary and high school students. Rick's previous film and television work includes starring roles in the independent feature films *David* and *The Life of Charlie* and the popular docudrama *Cold Blood*.

Thomas Huxley, 1825–1895

Born into poverty, Huxley's fierce pride and fiery intellect saw him rise to scientific eminence without compromising his contempt for the British class system. In fact he referred to himself in later life as "Darwin's bulldog", and is regarded by Professor Iain McCalman, as "the Tony Soprano of his day". Apprenticed as a surgeon's assistant, he won a scholarship to study medicine in 1842 at Charing Cross Hospital where he quickly became a star. Crippled by debt he went to sea, travelling for four years as assistant surgeon on HMS *Rattlesnake*. Like Darwin before him, he was appalled by the slave trade, fascinated by jellyfish, and on landing in Sydney described it as "a maelstrom of crime and drunkenness, brutality, bigotry and snobbery". Returning after many escapades to England in 1851, Huxley published twenty-three scientific papers before his twenty-ninth birthday, and became a fellow of the Royal Society. Reviewing his friend Darwin's *On the Origin of Species* no less than four times, he coined the word Darwinism. Soon after he caused a scandal by announcing that that he would prefer to descend from an ape than from a human being like Archbishop Wilberforce.

About the Filmmakers

Mike Bluett – Series Producer

Mike Bluett knows television from the ground up, having worked his way through assistant directing second unit to directing gigs in British television in the early 1990s. He produced his first history film, *England My England* in 1995 and spent the next 10 years producing various series for television. In 2005 he began producing television in Australia for Becker Entertainment (*Outback Cowboys: The Great Australian Cattle Drive, One Step Beyond*,) before starting work on *Darwin's Brave New World*. With a global shoot to organize, and dozens of interviews to balance with dramatised sequences, Bluett prepped by totally immersing himself in the literature. He enjoyed countless stimulating conversations with Professor Iain McCalman as he was working on his groundbreaking new work *Darwin's Armada*, which inspired the television series. Darwin, says Bluett, is one of the most fascinating and misrepresented characters he's ever worked on. "He could appreciate that humans share their DNA with every other living thing on the earth. That was truly radical thinking in an era when man was supposed to have been made directly by God."

Sally Regan – Producer (Australia)

A graduate of the Australian Film Television and Radio School, and winner of the Kenneth Myer Fellowship, Sally has worked as a producer in Australia, Europe, Asia and America on a wide range of film and television productions for over 15 years. Her documentary, *First Look*, won the Fuji Award, and her short film, *Swerve*, opened the Berlin Film Festival. In 1997 Sally won the AFC Distinctly Australian Script Editing award. From 1999 to 2003 Sally was Business Affairs Manager of Documentary Production at Film Australia – Australia's leading documentary agency. Since then, she has co-produced the international Russell Crowe-narrated series *Colour of War—The Anzacs*, and produced *National Treasures, Korean Anzac, Peter Berner's Loaded Brush* and *Road to Tokyo*. Since producing Anna Broinowski's award-winning feature-documentary *Forbidden Lies* Sally has been developing a number of projects, including the feature film *Axe Fall*, as well as working on *Darwin's Brave New World*.

Andrew Ferns – Producer (Canada)

Vice President of Production of Toronto-based Ferns Productions, Andrew brings a diverse background of practical experience to *Darwin's Brave New World*. He was Production Manager and Line Producer for Vancouver's Insight Film Studios and Shavick Entertainment, and his dramatic credits include: *Pursued, Zolar, Snowman's Pass, Killer Bash, Fatal Reunion, Deadly Skies, Brotherhood IV, Criminal Intent, Captive Hearts* and *Canes*. In documentary some of his credits include the award-winning *Secret Files of the Inquisition* mini-series for Vision TV/PBS, the Discovery Channel Canada series *Human Wildlife: The Life That Lives On Us*, and the four-part Australia/Canada co-production *Captain Cook-Obsession and Discovery* in association for History Television, ABC Television, New Zealand On Air and ZDF in co-operation with Arte. For his own production supervision company, Watched Entertainment, Andrew is developing *The Dark Ones*, a feature film he also co-wrote. The road to making *Darwin's Brave New World* was full of bumps and turns, he says, hunting obscure locations and high-profile interview subjects around the globe, but the result is "lush and poignant, and also looks fantastic, which is the best reward after a challenging and hard-fought campaign."

Lisa Matthews – Australian Director (Drama)

Lisa Matthews has worked in the film and television industry in Australia and Britain for 20 years. She has produced, written and directed several award-winning short dramas and documentaries including *The Shadow of Mary Poppins*, *Ten Pound Poms*, *In Search of Bony* and *Rosie's Secret*. Her passion in film is unearthing untold stories from Australia's past. Several of her films have screened in local and international festivals and broadcasters include ABC Television, SBS Television, Channel Nine and the Comedy Channel in Australia; RTE Ireland, BBC London, Artsworld UK, CBC Canada and AVRO The Netherlands. She also previously collaborated with *Darwin's Brave New World* writer Katherine Thomson on the two-part dramatised history series *Rogue Nation* (ABC Television).

Jason Bourque – Canadian Director (Documentary)

Prolific Canadian director, writer, producer Jason Bourque has a CV crowded with TV movies, series and documentaries, as well as over 60 commercials, short films and music videos, including *Terminator Point*, *Dark Storm*, *Beyond Loch Ness*, *Billing Block* and the multi-award winning *Shadow Company*. Charles Darwin once said "those who learned to collaborate and improvise effectively have prevailed", and Bourque says this quote applies to this very ambitious series. "It was a huge collaboration of very talented people and a process that was constantly evolving. Ideas died off; new ones sprang up and it was difficult to tell how our mix of documentary and drama was finally going to gel. In the end we prevailed. It was a project and journey I feel honoured to have been a part of."

Katherine Thomson – Writer

Katherine Thomson began in the theatre as an actor, going on to win acclaim as a playwright with *Harbour*, *Navigating*, *Diving for Pearls*, *Barmaids*, *Mavis Goes to Timor* and *Wonderlands*. She has also written extensively for television where her credits include *Grass Roots*, *Blackjack*, *Wildside*, *Fallen Angels*, *Halifax fp*, *GP*, *Something in the Air* and the dramatised history documentary series *Rogue Nation*. She has been nominated for five NSW Premier's Literary Awards, winning for *Harbour* and three Australian Film Institute Awards and has won multiple AWGIEs — three in 2006 alone, two as co-writer of the television series *Answered by Fire* and a third for her screenplay for the film *Unfolding Florence-The Many Lives of Florence Broadhurst*. She has been Vice-President of the Australian Writers' Guild and President of Sydney PEN. In 2005 she received the ANPC Award for her contribution to the Australian theatre industry. "I was absolutely delighted to work on *Darwin's Brave New World*," she says. "It was challenging and fascinating."

Mark Hamlyn – Executive Producer for ScreenWorld

Leading Australian television producer Mark Hamlyn was appointed to the newly-created position, Head of Specialist Factual Television, at ScreenWorld, in 2009. Hamlyn was previously Director of Commissioned Production at Screen Australia, and Head of Production at Film Australia. After a meteoric career as a television journalist, and producer, he has racked up more than 30 years experience in commissioning, producing, writing and directing factual television documentaries, both for Australian and overseas markets. His many credits include *The Floating Brothel*, *The Hunt for HMAS Sydney*, Gillian Armstrong's award-winning *Unfolding Florence-The Many Lives of Florence Broadhurst*, *Menzies and Churchill at War*, the dramatised history documentary series *Rogue Nation*, *Air Australia* and *Captain Cook-Obsession and Discovery* (winner of the 2008 NSW Premier's History Awards, nominated for the 2008 Prime Minister's

Prize for Australian History and winner of the 2007 Manning Clark House National Cultural Award).

Sue Clothier – Executive Producer for ScreenWorld

Sue Clothier is recognized as one of Australia’s leading documentary production executives and creative producers with a great depth of experience in production logistics and the management of large creative production teams. Clothier produced with Charles Hannah the acclaimed feature docu-drama directed by Gillian Armstrong *Unfolding Florence-The Many Lives of Florence Broadhurst*, which screened in competition at the 2006 Sundance Film Festival. Other honours given to programs Sue has produced include a Silver World Medal (New York Film Festival), Special Jury Award (The Explorers Club Documentary Film Festival), Silver Award (Omni Intermedia Awards) and a Bronze World Medal (New York Festival 2003).

Pat Ferns – Executive Producer for Ferns Productions

Pat Ferns has produced some of Canada’s finest award-winning programming and the world’s leading media events. Called “the father of independent production”, he was recently awarded the Order of Canada. Ferns is a principal in the International Institute for Television Leadership, providing executive training and strategic consultation around the world, and consultant to the Guangzhou International Documentary Film Festival and has produced the Banff Television Festival, the World Congress of Science Producers, the World Congress of History Producers, the World Congress of Arts Producers & Performance, The International New Media Festival, News World International and the Alliance Atlantis Banff Television Executive Program. “What excites me about *Darwin’s Brave New World* is its freshness and originality, both in content and style. The series provides a new take on Darwin and the impact of the Southern Hemisphere on his thinking and the integration of drama and documentary elements is seamless and innovative.”

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