



REVIEWS

Edited by Kate Arneman

INTERVIEW

WADE DAVIS Botanist, explorer, best-selling author, photographer

WADE DAVIS LIVES the life that most of us dreamed about as children while watching documentaries and reading *National Geographic*. The ethnobotanist has spent his career travelling the world, exploring exotic locations, making documentaries, writing books, living with secluded indigenous cultures and fighting to protect the environment.

A best-selling author, *National Geographic* explorer-in-residence, photographer, scientist and environmentalist, Davis delivered the Thomas Conservation Oration at the Australian Museum in Sydney in September 2011 on the importance of protecting diversity – both in the environment and human culture. An inspired **Fiona MacDonald** caught up with Davis the following morning to find out about his next book, how he feels about coming home and how he stays hopeful.

FM: What's next for you?

WD: My next book is *Into the Silence* – on the surface it seems like a departure from what I usually do, but it's something I've been



Canadian ethnobotanist and author Wade Davis spent three years in the Amazon and the Andes, living with indigenous tribes and collecting around 6,000 botanical specimens.

it's not that these men were cavalier about being alive, but that death had no hold on them.

You fight to preserve indigenous cultures – do you think technology is a threat to cultural diversity?

I think that the Internet actually emerges as a tool of cultural survival in an amazing way, because people are not feeling isolated. Part of what was always an infliction for cultures was that, when they faced dominant forces, they felt hopeless. If you were in the forest of the Penang and suddenly there were five bulldozers at your door, what could you do? The Penang can now get online and can talk to people in Brazil who've gone through the same thing. It's a powerful new set of tools for indigenous populations, the Internet is a liberation.

Do you ever feel hopeless with the state of the world?

I never feel hopeless; pessimism is an indulgence. Pessimism is to imply that there's an endpoint where everything is great. If I inherited one thing from my Christian upbringing, it's that you can be on the side of good or the side of bad – you just put your shoulder to the wheel of good and do your bit.

How do you cope with coming back to regular society after spending time in such exotic locations?

I take great delight in the simple pleasures of being home. Seeing my wife, seeing my kids, spending the afternoon on the couch watching a football game. The truth is, it's a joke, I'm such a workaholic that you wouldn't find me on the couch watching a football game [laughs]. I don't really have a separation between work and life. I just try to find the simple pleasures; it's all about curiosity.

How did you go from botanist to explorer/author?

People are going to go against you if you change your path. It's important to realise that that's going to happen. People said to me: "You're a botanist, but you're going to study voodoo?" "You have written two books and now you're going to go and be an environmental activist?" "Wait a minute, you're telling me now you want to make documentary films?" "You're a scientist, how can you write about the First World War?"

Just ignore all that and do what you need to do. What links everything I do together is a passion for human justice and righting wrong without being too heavy-handed about it. The most important thing about being a writer is having something to say that people need to hear.

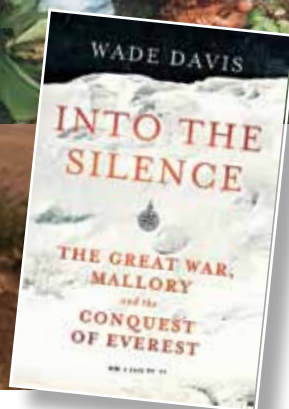
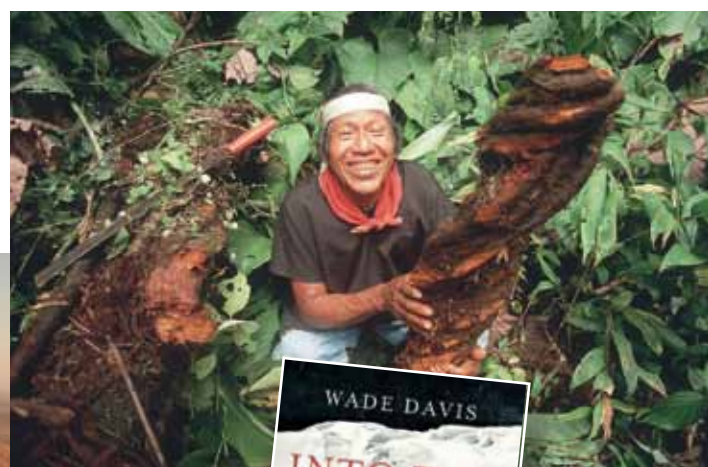
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working on for 12 years. It's about the early British efforts to conquer Mount Everest. But it's as much about the Great War as it is about Everest. I found out what happened to the men on the Western Front, I looked at the history of the Raj, I looked at that entire period of history through this event. The book is really all about how Everest became a mission of national pride for the British.

What inspired you to write on such a different subject?

I was in Tibet when the [1996 Everest] disaster happened. I was intrigued by the story and started talking to my friend Dan Taylor about the early British expeditions. I wasn't so intrigued about whether Mallory got to the top when he disappeared, but why he just wandered off to his death. After the Great War,

Right: A Kofan with the Ayahuasca vine. Below: A Dogan elder in Mali.



NON-FICTION

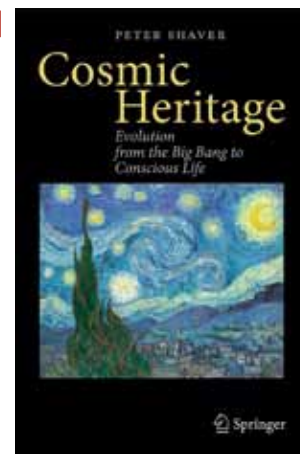
COSMIC HERITAGE

by Peter Shaver, Springer (2011), \$76.99

WHAT DOES an astrophysicist do when he retires? Keep exploring the universe, of course.

Canadian-born Shaver spent his career peering out into the universe, much of it based at the European Southern Observatory. But it must have left him with a sense of tunnel vision. So he reset his sights to scan other dimensions. *Cosmic Heritage* is the result.

The author takes us along on his magical mystery tour, a kaleidoscope of all that enthralls him. His voracious appetite covers the origins of the universe and of life, sex, ageing, consciousness, death and the search for alien life.



universe (and others) is mathematics, a product of our apish brain.

Will this apish brain discover other universes? Shaver doubts it, but concludes, "... science always seems to have a way of surprising."

– Elizabeth Finkel

NON-FICTION

THE GENOME GENERATION

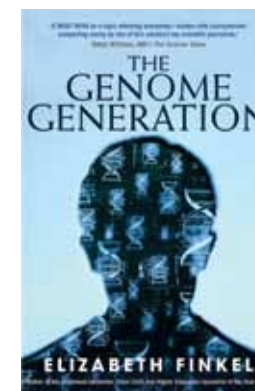
by Elizabeth Finkel, Melbourne University Press (2012), \$26.99

ON THE UNVEILING of the first map of the human genome, then-President Bill Clinton commented, "Today we are learning the language in which God created life." A palpable sense of promise coursed through the world science community. The mystery of disease was about to be unravelled. Now, 10 years into the brave new revolution, it's time for a first accounting.

If you are shrewd enough to read Elizabeth Finkel's thrilling new book, you will learn that God apparently has a sense of humour, for the lexicon of life often reads like hieroglyphics. This book

is your translator and guide, filled with tales of disappointment and discovery about what it means to be human – the drama of science.

Most impressively, as we move into the heart of the genomic revolution, Finkel provides a guide as to where the human race is headed. This book is an accomplished work of scientific literacy. – Jon Entine



COSMOS LOVES

♥ **DAYS LIKE** 22 September 2011, when news of neutrinos reportedly breaking the speed of light set the scientific community abuzz.

♥ **SERENDIPITOUSLY** discovering, in the midst of the QANTAS industrial fracas, that there is a dinosaur named for the iconic airline: *Qantassaurus intrepidus*. <http://australianmuseum.com/Qantassaurus-intrepidus>

♥ **BRIAN SCHMIDT'S** tweets about his dogs! Nice to know that even Nobel Laureates have a softer side.

♥ **THIS CLEVER** representation of space exploration in one graphic: <http://i.imgur.com/1yTaX.jpg>

♥ **THE SLIME-SECRETING** hagfish or snot eel. Words fail us, so here's a close-up portrait. <http://tiny.cc/atv09>

♥ **A MESMERISING** compilation of time-lapse footage of Earth, as seen from the International Space Station. Spacey music too. <http://youtube.com/watch?v=430ykbW1zqA>

♥ **THIS ANSWER** to the seemingly inane question, "How much does the Internet weigh?" <http://youtube.com/watch?v=WaUzu-iksi8>

WHAT'S HOT

NON-FICTION

1. The Believing Brain

by Michael Shermer, Times Books, \$34.95

2. The Better Angels of our Nature

by Steven Pinker, Allen Lane, \$32.95

3. Quantum Man

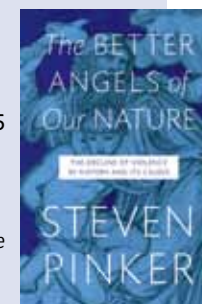
by Lawrence Krauss, WW Norton & Co, \$32.95

4. Packing for Mars

by Mary Roach, Newworld Publications, \$24.95

5. The Magic of Reality

by Richard Dawkins, Bantam Press, \$39.95



List supplied by Embiggen Books, 197-203 Little Lonsdale St, Melbourne. embiggenbooks.com

SCIENCE FICTION

1. Horus Heresy - Outcast Dead

by Graham McNeill, Games Workshop, \$23.95

2. Gaunt's Ghosts: Salvation's Reach

by Dan Abnett, Games Workshop, \$55.95

3. Star Kingdom: A Beautiful Friendship

by David Weber, Baen Books, \$42.95

4. Halo:

Glasslands

by Karen Traviss, Tor Books, \$38.95

5. Safehold:

How Firm a Foundation

by David Weber, Tor Books, \$62.95



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BOOKMARK

In October 2011, **Brian Schmidt's** work with fellow researchers Adam Riess and Saul Perlmutter was recognised with a Nobel Prize in Physics. The U.S.-born, Australian-based astronomer is the scientific leader at the SkyMapper telescope and Southern Sky Survey.

The book I'm reading right now:
Building on Kyoto: Towards a Realistic Global Climate Agreement (2008)
by **Warwick McKibbin and Peter J. Wilcoxon**

I want to know more about the economics of climate change, and I was at Warwick's house last week and he handed me this book. Interesting read for the interested.

My most influential books:
The Atlas of the Universe (1970)
by **Patrick Moore**
My first book in astronomy.

Far From the Madding Crowd
by **Thomas Hardy (1874)**
I loved this book when I was in high school. I emotionally connected to it for whatever reason.

The Making of the Atomic Bomb
by **Richard Rhodes (1986)**
Simply the best science book ever written. This is the book that appeals to both physicists and non-physicists alike – because it is written on multiple levels – and has made it very hard for me to ever contemplate writing a book because it is just so good.

The book I want to read next:
Cloudstreet (1991)
by **Tim Winton**
It was recommended to me by a friend whose judgement I trust.

NON-FICTION

THE GRAND DESIGN

by *Stephen Hawking and Leonard Mlodinow, Random House (2010), reprinted by Transworld books (2011), \$24.95*

WHAT IS THE nature of reality? How can we understand the laws of the universe? How did it all begin? And is there such a thing as a miracle? In this aptly-named book, two great physicists and thinkers set out to understand the questions humanity has been asking since about age three. Delving through history and into philosophy (is the universe of a goldfish in a bowl as real to them as our universe is to us?), this thought-provoking book is a slippery dip into the astounding ways in which the new physics explains the world.

Not all of it is particularly accessible – the writing is clear and entertaining, but in explaining the universe and the existence of life, Hawking and Mlodinow's physics leaves behind not just religion, but concepts of the soul, and even personal identity.

"If a theory called the holographic principle is correct, we and our four dimensional world may be shadows on the boundary of a larger, five-dimensional space-time. In that case, our status in the universe is analogous to that of the goldfish." Strong stuff, but even so, this book is indubitably elegant, filling you in on the current *modus operandi* of physicists and the intricacies of M-theory while explaining the kind of questions you may have forgotten in your daily grind. Plus it has comics, which are an essential tool – even for physicists – for taking your daily philosophy with a big pinch of salt. Recommended for every three-year-old and over who has wondered about the universe and how it came to have us in it. – *Heather Catchpole*



SCIENCE FICTION

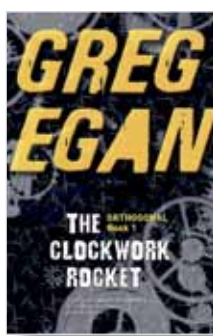
THE CLOCKWORK ROCKET

by *Greg Egan, Gollancz (2011), \$29.99*

YALDA WAS born on a farm, but had the chance of a university education. When a series of strange meteors enter the planetary system, she and her colleagues have to come up with an audacious solution to the pending threat. This might sound like a familiar plot, but since Greg Egan's writing it, there's got to be a twist. Yalda is a member of a shape-shifting alien species, living in a universe where light has mass and no universal speed. And her solution will take millennia to complete.

Naturally society and its prejudices are working against her, but there's another twist: in order to reproduce, a mother divides herself into four new life forms – usually two twin pairs – and dies in the process. Yalda is considered a freak as she was born without a twin (and future reproductive partner). She is forced to take drugs to prevent involuntary reproduction and argue against others, including her own family, who think a woman's role is to bear children and that wishing you could meet your mother is like wishing you could fly.

The Clockwork Rocket will probably appeal more to those with a good understanding of physics, as Yalda and the other characters spend a lot of time discussing the varying speeds of light and infinite velocity, with diagrams. But for those who only have a rudimentary grasp of physics, like me, the rest of the story is still worth reading for both the characters and the underlying issues in their society. – *Laura Boness*

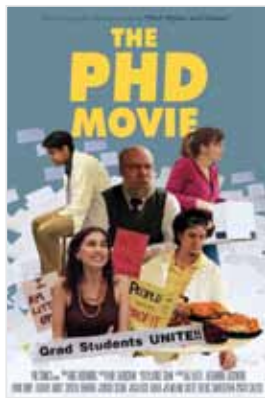


FILM

PHD: THE MOVIE

directed by *Vahe Gabuchian, PhD Comics (2011)*

JORGE CHAM began his cartoon strip *Piled Higher and Deeper (PhD)* in 1997, when he was himself a postgraduate (or in American parlance, grad) student at Stanford University. The ruefully comic portrayal of the trials and tribulations of the four main characters navigating their way through academic limbo gained a cult following, possibly due to the power of procrastination. Today the online comic strip boasts 10,000 subscribers and seven million



unique visitors a year. Cham is now a full-time cartoonist and public speaker on the university circuit.

PhD: The Movie is a live-action adaptation that should please fans of the comic. Featuring a script by Cham, a cast and crew comprised of grad students and researchers and slick production, the film was shot at Caltech, where Cham once worked on neural prosthetics in an earlier incarnation as a research assistant.

Campus screenings of *PhD: The Movie* are being held at universities around the world. If you'd like to arrange one for long-suffering postgrads near you, check out the website. – *Kate Arman*

NON-FICTION

EARTH IN 100 GROUNDBREAKING DISCOVERIES

by *Douglas Palmer, Quercus (2011), \$34.99*

THIS BOOK IS a journey through Earth's history, from the birth of a planet to the present. Palmer describes major discoveries about Earth's structure and abundant life. We learn about the processes that drive plate tectonics and volcanic activity, the evolution of the diversity of life and the ways humans are affecting the environment.

Each chapter introduces a new finding and gives a quick summary of the key breakthrough and its importance, before delving into more detail, in which Palmer explores how each breakthrough has shaped our understanding of the world. For example, studies of the 1960 eruption of Mount St Helens in Washington, U.S., helped scientists predict future volcanic activity.

The varied and colourful pictures, such as the fossilised glimpses of early life, add value to the text. I am left with a new appreciation for our fascinating planet. – *Carolyn Herbert*



SCIENCE FICTION

READY PLAYER ONE

by *Ernest Cline, Random House (2011), \$32.95*

IN THE YEAR 2044, humanity escapes the depressing reality of a planet gone wrong by logging into the OASIS, a virtual universe. For years, people have been trying to decode the riddles left behind by James Halliday – legendary deceased creator of OASIS and ultimate 1980s geek – that led to his fortune. No one comes close until teenager Wade Watts finds the first key and unlocks a race against corporations hell-bent on obtaining Halliday's multibillion-dollar inheritance. Pop culture references come thick and fast and the action never stops as Wade overcomes each obstacle in his path. While the nostalgia factor can sometimes feel a little forced, it doesn't detract from the fun of accompanying the characters on their epic quest. If you pine for the days when teen movies were wholesome and video games could still be coin-operated, then you're going to love this novel. – *Phillip English*



TECH: APP

SCIENCE360

By the *National Science Foundation (2011)*, free for iPad, available on iTunes

THIS DAZZLING app from U.S. National Science Foundation is a dizzying 360-degree panorama of tap-and-learn science. The free tool looks sensational and it's perfect for those who love discovering the science behind everything, from the way mathematicians help create new engineering programs by studying a snake's slither to the striking patterns that coloured gecko feet make when suctioned to glass by the van der Waals force. A mosaic of beautiful thumbnails entices you to drag-and-select to your heart's content.

In the virtual discovery chamber, you can tap on videos or high-resolution photos for a more in-depth explanation. Or search keywords if you already have a category in mind. Other features include informative tabs accompanying the hundreds of photos and an 'in-app' newsfeed of breaking science discoveries. A limitless educational tool, Science360 will appeal to curious minds of all ages and backgrounds. – *Mara Flannery*



We've arranged a civilization in which most crucial elements profoundly depend on science and technology. We have also arranged things so that almost no one understands science and technology. This is a prescription for disaster. We might get away with it for a while, but sooner or later this combustible mixture of ignorance and power is going to blow up in our faces — *Carl Sagan*



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