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Shortlist for 2020 Royal Society Science Book Prize revealed

- Six game-changing reads for curious minds are shortlisted for prestigious prize for popular science writing.
- Previous winners **Bill Bryson** and **Gaia Vince** and former shortlistee **Jim Al-Khalili** join three newcomers with books that take readers on a journey of self-discovery and social awareness.
- “These books make science intriguing, accessible and exciting. Some raise awareness of the scientific process, and of our understanding that scientists are humans too. Others are a call to arms, asking us to consider our place in the universe and what we can bring to humanity in our various ways.” – Professor Anne Osbourn FRS, 2020 Chair of Judges.

The Royal Society today, Tuesday 22nd September, reveals the shortlist for the Royal Society Science Book Prize 2020, sponsored by Insight Investment. This year’s shortlisted books, chosen from over 172 submissions, represent the very best in popular science writing from around the world for a non-specialist audience.

Postdoctoral scientist and debut author, **Dr Camilla Pang**, is joined on the 2020 shortlist by Oxford scholar and expert in women’s economic empowerment, **Linda Scott**, who is nominated for her first solo book. Also joining the list for the first time is journalist and author **Susannah Cahalan**. These three newcomers are up against two previous winners, author **Bill Bryson OBE FRS** (*A Short History of Nearly Everything*, 2004) and **Gaia Vince**, science writer and broadcaster (*Adventures in the Anthropocene*, 2015) and previously shortlisted author and physicist, **Jim Al-Khalili** (*Life on the Edge: The Coming of Age of Quantum Biology*, written with Johnjoe McFadden, 2015).

The full 2020 shortlist is (in order of author surname):

- *The World According to Physics* by Jim Al-Khalili (Princeton University Press)
- *The Body: A Guide for Occupants* by Bill Bryson (Transworld Publishers)
- *The Great Pretender: The Undercover Mission That Changed Our Understanding of Madness* by Susannah Cahalan (Canongate Books)
- *Explaining Humans: What Science Can Teach Us about Life, Love and Relationships* by Camilla Pang (Viking)
- *The Double X Economy: The Epic Power of Empowering Women* by Linda Scott (Faber & Faber)
- *Transcendence: How Humans Evolved through Fire, Language, Beauty, and Time* by Gaia Vince (Allen Lane)

The judges praised the six authors on the rigorous scientific content of their books conveyed through engaging storytelling. They reflected that each book showed a unique perspective on a well-known subject or uncovered little known truths about everyday interactions in an accessible way for lay readers.

Chair of this year's judging panel, **Professor Anne Osbourn** FRS, Group Leader at the John Innes Centre and Director of the Norwich Research Park Industrial Biotechnology Alliance, comments:

"This year's shortlisted books represent carefully crafted explorations of the worlds both around and within us: the physical laws of the universe and the search for ultimate simplicity; the innermost workings of the human body (and its ultimate demise); an instruction manual for interpreting human behaviour; the complex area of diagnosing and defining mental health; the subordination and exclusion of women in developed and developing countries around the world, and the potential for unleashing women's economic power for the greater good, and the evolution and potential fragility of the human super-organism *Homo omnis*, likened to a differentiating slime mould trying to ensure its survival by escaping an unfavourable soil environment.

"These books make science intriguing, accessible and exciting. Some raise awareness of the scientific process, and of our understanding that scientists are humans too. Others are a call to arms, asking us to consider our place in the universe and what we can bring to humanity in our various ways. There is darkness, revelation and hope. There is inspiration."

Four books on the shortlist explore the layered intricacies of what it means to be human. These books present unique perspectives and facts on the human body, providing illuminating insights on the history of psychiatry, human evolution, and navigating social norms.

In *Explaining Humans*, **Dr Camilla Pang** - diagnosed with Autism Spectrum Disorder at the age of eight - examines life's everyday interactions through a set of scientific principles, showing how thinking differently can be a superpower instead of a disability. Meanwhile, **Bill Bryson's** *The Body*, explores the human anatomy, how it functions and its remarkable ability to heal itself. The book is packed with surprising facts, including the revelation that we blink so many times in a day that our eyes are shut for 23 minutes every day.

The Great Pretender by **Susannah Cahalan** follows up on her debut, *Brain on Fire*, in which she described her experience of being misdiagnosed with schizophrenia. In this new book, Cahalan investigates the troubled history of psychiatry, using psychologist David Rosenhan's famous experiment – *On Being Sane in Insane Places* – as a case study. Cahalan questions whether this famous experiment is deeply flawed and, if so, what this means for our understanding of mental illness. In search of how humans came to be the dominant species, **Gaia Vince's** *Transcendence* takes a fresh look at evolution and argues that the delicate combination of our genes, environments and cultures makes us smart. Vince shows how today we are all part of an unfolding social project leading us to a new chapter in our evolution.

Linda Scott coined the term 'Double X Economy' to describe the global economy of women. In *The Double X Economy*, Scott looks at the systemic nature of women's economic exclusion, from the

villages of Africa and the slums of Asia, to the boardrooms of London and the universities of the United States. Finally, **Jim Al-Khalili** appears on the shortlist for the second time with *The World According to Physics*. In this insightful book, Al-Khalili argues that the wonders of the universe should be appreciated by everyone, and that physics gives us the tools to better understand the universe and ourselves.

Half of the books on the shortlist come from independent publishers. Penguin Random House has titles from three imprints (Transworld, Viking and Allen Lane).

Founded in 1988, the Royal Society Science Book Prize exists to promote the accessibility and joy of popular science books to the public. For 32 years, the Prize has celebrated some of the very best in science writing, with topical subjects tackled by the Prize winners ranging from gender stereotyping (*Invisible Women* by Caroline Criado-Perez, 2019, and *Testosterone Rex* by Cordelia Fine, 2017) to works exploring humanity's impact on the environment (*Adventures in the Anthropocene* by Gaia Vince, 2015, and *Six Degrees* by Mark Lynas, 2008). At a time when science communication forms a central part of our daily discourse, the aim of the Prize is more relevant than ever.

Alongside Professor Anne Osbourn, the 2020 judging panel comprises: Blackwell's Trade Buying Manager, Katharine Fry; journalist, Katy Guest; Royal Society University Research Fellow, Dr Kartic Subr, and actress and author Sophie Ward.

The winner of the 2020 Prize will be announced via a virtual awards ceremony streamed on the Royal Society website on 3rd November 2020. The winner will receive a cheque for £25,000, with £2,500 awarded to each of the five shortlisted authors.

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THE SHORTLIST

1. *The World According to Physics* by Jim Al-Khalili (Princeton University Press)

Shining a light on the most profound insights revealed by modern physics, *The World According to Physics* invites us all to understand what this crucially important science tells us about the universe and the nature of reality itself. Physics is revealed as an intrepid human quest for ever more foundational principles that accurately explain the natural world we see around us, guided by core values such as honesty and doubt in the search for truth. The knowledge discovered by physics both empowers and humbles us, and still physics continues to delve valiantly into the unknown.

Jim Al-Khalili hosts 'The Life Scientific' on BBC Radio 4 and has presented numerous BBC television documentaries. He is Professor of Theoretical Physics and Chair in the Public Engagement in Science at the University of Surrey, a *New York Times* bestselling author, and a fellow of the Royal Society. He is the author of numerous books, including *Quantum: A Guide*

for the Perplexed; The House of Wisdom: How Arabic Science Saved Ancient Knowledge and Gave Us the Renaissance; and Life on the Edge: The Coming of Age of Quantum Biology.

'Many distinguished physicists have set out to explain their weird and wonderful world to lay readers but few have done so with the simple elegance of Al-Khalili, a physics professor at the University of Surrey best known for his radio and television programmes about science. He calls this book 'an ode to physics'; it is also an ode to joy in science.' - Clive Cookson, *Financial Times*

2. *The Body: A Guide for Occupants* by Bill Bryson (Transworld Publishers)

Bill Bryson sets off to explore the human body, how it functions and its remarkable ability to heal itself. Full of extraordinary facts and astonishing stories *The Body: A Guide for Occupants* is a brilliant, often very funny attempt to understand the miracle of our physical and neurological make up. A wonderful successor to *A Short History of Nearly Everything*, this new book is an instant classic. It will have readers marvelling at the form you occupy, and celebrating the genius of your existence, time and time again.

Bill Bryson was born in Des Moines, Iowa, in 1951. His bestselling books include *The Road to Little Dribbling*, *Notes from a Small Island*, *A Walk in the Woods*, *One Summer* and *The Life and Times of the Thunderbolt Kid*. His acclaimed work of popular science, *A Short History of Nearly Everything*, won the Aventis Prize and the Descartes Prize, and was the biggest selling non-fiction book of its decade in the UK. Bill Bryson was Chancellor of Durham University 2005–2011. He is an Honorary Fellow of the Royal Society. He lives in England.

'Remarkable ... Every page is dense with scientific facts written as vividly as a thriller, as well as answers to conundrums such as why we don't fall out of bed when we are asleep ... It is woven through with the kind of human stories that Bryson has made his trademark.' - *Mail on Sunday*.

3. *The Great Pretender: The Undercover Mission That Changed Our Understanding of Madness* by Susannah Cahalan (Canongate Books)

In the early 1970s, Stanford professor Dr Rosenhan conducted an experiment, sending sane patients into psychiatric wards; the result of which was a damning paper about psychiatric practises. The ripple effects of this paper helped bring the field of psychiatry to its knees, closing down institutions and changing mental health diagnosis forever. But what if that ground-breaking and now-famous experiment was itself deeply flawed? And what does that mean for our understanding of mental illness today? These are the questions Susannah Cahalan asks in her completely engrossing investigation into this staggering case, where nothing is quite as it seems.

Susannah Cahalan is the award-winning, New York Times bestselling author of *Brain on Fire: My Month of Madness*, a memoir about her struggle with a rare autoimmune disease of the brain. She lives in Brooklyn.

'A fascinating piece of detection . . . passionate [and] a warning against easy answers.' - *Sunday Times*.

4. *Explaining Humans: What Science Can Teach Us about Life, Love and Relationships* by Camilla Pang (Viking)

Diagnosed with Autism Spectrum Disorder at the age of eight, Dr Camilla Pang struggled to understand the world around her. Desperate for a solution, Camilla asked her mother if there was an instruction manual for humans that she could consult. But, without the blueprint to life she was hoping for, Camilla began to create her own. Now armed with a PhD in biochemistry, Camilla dismantles our obscure social customs and identifies what it really means to be human using her unique expertise and a language she knows best: science. *Explaining Humans* is an original and incisive exploration of human nature and the strangeness of social norms, written from the outside looking in.

Dr Camilla Pang holds a PhD in Biochemistry from University College London and is a Postdoctoral Scientist specialising in Translational Bioinformatics. At the age of eight, Camilla was diagnosed with Autistic Spectrum Disorder (ASD), and ADHD at 26-years-old. Her career and studies have been heavily influenced by her diagnosis and she is driven by her passion for understanding humans, our behaviours and how we work.

'Whether neurodiverse or neurotypical, Pang's witty account is a must-read for anyone who wants to broaden their understanding of life beyond what society defines as the 'norm'.' - *Dazed*.

5. *The Double X Economy: The Epic Power of Empowering Women* by Linda Scott (Faber & Faber)

Linda Scott coined the term 'Double X Economy' to describe the global economy of women – not just as consumers or workers, but as investors, donors and entrepreneurs. This book reveals how economic subordination and exclusion are systemic for women in the developing and the developed worlds; from elite business schools in the US to remote villages in Ghana, the same mechanisms are at work, preventing women from becoming equal participants in the economy. The effects are far-reaching, not only checking economic growth, stifling opportunities and keeping people poor, but damaging both the environment and human wellbeing.

Linda Scott is an internationally renowned expert on women's economic development, and Emeritus DP World Professor for Entrepreneurship and Innovation at the University of Oxford. She is founder of the Power Shift Forum for Women in the World Economy, which brings together leaders from across sectors, and founder and senior advisor of the Global Business Coalition for Women's Economic Empowerment, a consortium of major multinationals working to empower women in developing countries. She was formerly Senior Consulting Fellow at Chatham House and a frequent consultant to the World Bank Group on gender economics.

‘Linda Scott shines a light on women’s essential and often invisible contributions to our global economy – while combining insight, analysis and interdisciplinary data to make a compelling and actionable case for unleashing women’s economic power.’ - Melinda Gates (author of *The Moment How Empowering Women of Lift: Changes the World*).

6. *Transcendence: How Humans Evolved through Fire, Language, Beauty, and Time* by Gaia Vince (Allen Lane)

An entirely fresh view of the human story, Vince makes the convincing case that it is the combination of our genes, environments and cultures, working in rich feedback-loops over deep millennia, that have boot-strapped this weak ape’s unlikely dominance and success. Drawing on new insights from cutting edge science, Vince shows how it is our collective human culture, rather than individual intelligence, that makes us smart.

Gaia Vince is a science writer and broadcaster interested in the interplay between humans and the planetary environment. She has held senior editorial posts at *Nature* and *New Scientist*, and writes and presents science programmes for radio and television. In 2015, she became the first woman to win the Royal Society Science Book of the Year Prize solo for her debut, *Adventures in the Anthropocene: A Journey to the Heart of the Planet We Made*.

‘Beautifully written... At her best Vince takes dizzying leaps, making connections between archaeology, anthropology, genetics and psychology. She is especially good on the delicate interplay between genes, environment and culture. Vince steps with lightness.’ - Tom Whipple, *The Times*.

NOTES TO EDITORS

1. About the Royal Society:

The Royal Society is a self-governing Fellowship of many of the world’s most distinguished scientists drawn from all areas of science, engineering, and medicine. The Society’s fundamental purpose, reflected in its founding Charters of the 1660s, is to recognise, promote, and support excellence in science and to encourage the development and use of science for the benefit of humanity.

Follow the Royal Society on Twitter (@royalsociety) or on Facebook ([facebook.com/theroyalsociety](https://www.facebook.com/theroyalsociety)).

2. About the sponsor:

Insight Investment is a leading global investment manager, founded in [2002](#) and headquartered in London. Insight primarily manages money for pension schemes by providing liability-driven investment strategies and investing in fixed income and currency and multi-asset. [Insight takes responsible investment seriously](#). It was a founding signatory to the Principles for Responsible Investment (PRI) and has been integrating environmental, social and governance (ESG) considerations into decision-making processes for more than a decade. Insight’s approach is underpinned by the belief that ESG issues are important drivers of investment value. In [2020](#), Insight was awarded A+ ratings by the PRI for strategy and governance, and for the integration of responsible investment-related issues across our fixed income business.

More information about Insight Investment can be found at: www.insightinvestment.com

3. About the prize:

Set up in 1988 as the "Science Book Prizes", The Royal Society Science Book Prize sponsored by Insight Investment, was named the Rhône-Poulenc Prizes for Science Books from 1990 - 2000, the Aventis Prizes for Science Books from 2001 – 2006, the Royal Society Prize for Science Books from 2007 – 2010 and the Royal Society Winton Prize for Science Books from 2011 – 2015.

4. Complete list of past winners of the Prize:

- 2019: *Invisible Women: Exposing Data Bias in a World Designed for Men* by Caroline Criado Perez
- 2018: *Inventing Ourselves* by Sarah-Jayne Blakemore
- 2017: *Testosterone Rex* by Cordelia Fine
- 2016: *The Invention of Nature* by Andrea Wulf
- 2015: *Adventures in the Anthropocene* by Gaia Vince
- 2014: *Stuff* by Mark Miodownik
- 2013: *The Particle at the End of the Universe* by Sean Carroll
- 2012: *The Information* by James Gleick
- 2011: *The Wavewatcher's Companion* by Gavin Pretor-Pinney
- 2010: *Life Ascending* by Nick Lane
- 2009: *The Age of Wonder* by Richard Holmes
- 2008: *Six Degrees* by Mark Lynas
- 2007: *Stumbling on Happiness* by Daniel Gilbert
- 2006: *Electric Universe* by David Bodanis
- 2005: *Critical Mass* by Philip Ball
- 2004: *A Short History of Nearly Everything* by Bill Bryson
- 2003: *Right Hand, Left Hand* by Chris McManus
- 2002: *The Universe in a Nutshell* by Stephen Hawking
- 2001: *Mapping the Deep* by Robert Kunzig
- 2000: *The Elegant Universe* by Brian Greene
- 1999: *The Man Who Loved Only Numbers* by Paul Hoffman
- 1998: *Guns, Germs and Steel* by Jared Diamond
- 1997: *The Wisdom of Bones* by Alan Walker and Pat Shipman
- 1996: *Plague's Progress* by Arno Karlen
- 1995: *The Consumer's Good Chemical Guide* by John Emsley
- 1994: *The Language of the Genes* by Steve Jones
- 1993: *The Making of Memory* by Steven Rose
- 1992: *The Rise and Fall of the Third Chimpanzee* by Jared Diamond
- 1991: *Wonderful Life* by Stephen Jay Gould
- 1990: *The Emperor's New Mind* by Roger Penrose
- 1989: *Bones of Contention* by Roger Lewin
- 1988: *Living with Risk* by the British Medical Association Board of Science