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SHORTLIST FOR 2021 ROYAL SOCIETY SCIENCE BOOK PRIZE REVEALED

#SCIBOOKS

- Six titles providing fresh insights on major global issues and illuminating little-known, remarkable subjects are shortlisted for the prestigious prize for popular science writing.
- Two books tackle bias in science, joining a runaway bestseller on the surreal world of mushrooms and an account of the life of a modern-day astronomer. A detective story into extraordinary 'mystery' illnesses and an eye-opening look at the lost art of breathing complete the list.
- Two debut authors feature on the list in journalist James Nestor and science and culture journalist, Jessica Nordell.
- “This year’s shortlist reflects more than ever the huge strength and diversity of topics evident in science writing. Every book is very accessible to all, and each in its own way is quite remarkable.” – Professor Luke O’Neill FRS, 2021 Chair of Judges.

The Royal Society today, Wednesday 29th September, reveals the shortlist for the Royal Society Science Book Prize 2021, sponsored by Insight Investment. This year’s shortlisted books, chosen from a record number of 267 submissions, demonstrate the breadth, depth, accessibility, and joy of the best popular science writing from all over the world.

Two debut authors make the 2021 shortlist in journalist **James Nestor** and science and culture journalist, **Jessica Nordell**. They are joined by astronomer **Emily Levesque** and neurologist **Suzanne O’Sullivan**. Psychologist **Dr Stuart Ritchie** and biologist and writer **Merlin Sheldrake** complete the six-strong list, from which a winner will be chosen in November.

The full 2021 shortlist is (in order of author surname):

- *The Last Stargazers: The Enduring Story of Astronomy’s Vanishing Explorers* by Emily Levesque (Oneworld)
- *Breath: The New Science of a Lost Art* by James Nestor (Penguin Life)
- *The End of Bias: How We Change Our Minds* by Jessica Nordell (Granta Books)
- *The Sleeping Beauties: And Other Stories of Mystery Illness* by Suzanne O’Sullivan (Picador)
- *Science Fictions: Exposing Fraud, Bias, Negligence and Hype in Science* by Stuart Ritchie (Bodley Head)

- *Entangled Life: How Fungi Make Our Worlds, Change Our Minds and Shape Our Futures* by Merlin Sheldrake (Bodley Head)

Chair of the 2021 judging panel, **Professor Luke O'Neill Osbourn** FRS, Professor of Biochemistry in the School of Biochemistry and Immunology, Trinity Biomedical Sciences Institute at Trinity College Dublin, Ireland, comments:

“This year’s shortlist reflects more than ever the huge strength and diversity of topics evident in science writing. Every book is very accessible to all, and each in its own way is quite remarkable. The topics range from an account of what it’s like to be a woman in the field of astronomy (which also conveys the enduring fascination we have with the stars), why breathing optimally is so important for our health and well-being, the scientific basis of why we are so biased when it comes to our views, the related topic of fraud and bias in science, mystery illnesses and, finally, the fascinating world of fungi.

“Each is important and compelling, conveying the wonder of science but also highlighting issues that we should all be concerned about. Important, accessible science writing is certainly alive and well with this enthralling list of titles.”

Two books take a closer look at the worlds beneath our feet and beyond Earth’s atmosphere. In *The Last Stargazers*, **Emily Levesque** reveals the hidden world of stargazing, celebrating the ingenuity and curiosity of the profession, instilling cosmic awe in the reader. In **Merlin Sheldrake’s** *Entangled Life*, our perspective shifts from the galactic to the fungal, taking the reader on a guided tour of the hidden world that supports and sustains nearly all living systems.

A further two books deal with the human body, its remarkable systems but also its endless mysteries. *Breath* by **James Nestor** explores one of biology’s most basic functions, upending what we think we know about breathing and demonstrating how over thousands of years we have learned to do it wrong, with devastating consequences. In *Sleeping Beauties*, **Suzanne O’Sullivan** investigates a series of disparate diagnostic mysteries: psychosomatic illnesses, or medical disorders apparently caused as much by factors of the mind as by the body.

The final two titles set their sights on the limitations and fallibility of scientific practice, highlighting how these can impact our societies and imagining how we might improve them. *Science Fictions* by **Stuart Ritchie** reveals how bias, mistakes and even outright forgery can influence everything from austerity economics to anti-vaccination movements, proposing vital remedies. In *The End of Bias*, **Jessica Nordell** delves into the cognitive science and social psychology underpinning efforts to create change, and meets some of the pioneers developing new practices, from mindfulness-adopting police to lawyers and educators striving to embed quality from the playroom to the boardroom.

A third of the books on the shortlist come from independent publishers, while Penguin Random House has three nominated titles.

For 33 years, the Prize has promoted the accessibility and joy of popular science writing. It has celebrated some truly game-changing reads: books that offer fresh insights on the things that affect the lives we lead and the decisions we make, from neurodiverse perspectives on everyday living

(*Explaining Humans* by Dr Camilla Pang, 2020) to gender bias (*Invisible Women* by Caroline Criado Perez, 2019) and the harms humans are wreaking on the planet (*Adventures in the Anthropocene* by Gaia Vince, 2015, and *Six Degrees* by Mark Lynas, 2008). In 2021, the judges renew their search for the most compelling science writing of the last year, at a time when the power of effective science communication is valued more highly than ever before.

Alongside **Professor Luke O’Neill FRS**, the 2021 judging panel comprises: television presenter, **Ortis Deley**; mathematician and Dorothy Hodgkin Royal Society Fellow, **Dr Anastasia Kisil**; author and creative writing lecturer, **Christy Lefteri**, and journalist, writer and film maker, **Clive Myrie**.

The winner of the 2021 Royal Society Science Book Prize, sponsored by Insight Investment, will be revealed at a ceremony in London on 29th November. They 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 Last Stargazers: The Enduring Story of Astronomy’s Vanishing Explorers* by Emily Levesque (Oneworld)

To be an astronomer is to journey to some of the most inaccessible parts of the globe, braving mountain passes, sub-zero temperatures, and hostile flora and fauna. Not to mention the stress of handling equipment worth millions. It is a life of unique delights and absurdities... and one that may be drawing to a close. In *The Last Stargazers*, Emily Levesque reveals the hidden world of the professional astronomer. She celebrates an era of ingenuity and curiosity, and asks us to think twice before we cast aside our sense of wonder at the universe.

Emily Levesque is an astronomy professor at the University of Washington. She has won the American Astronomical Society’s Annie Jump Cannon Prize and been named an Alfred P. Sloan Research Fellow in Physics. She is the author of two academic works on astrophysics and has written for *Physics Today*. She lives in Seattle.

‘*The Last Stargazers* is perfect for anyone who has ever wondered what it’s like to actually be an astronomer, or who has dreamt of staring up at the stars. Amidst the stories of mishaps and mistakes is a surprisingly romantic view of the glory of exploration, taken one dark night at a time.’
– Dr Chris Lintott, BBC Four - *The Sky at Night*

2. *Breath: The New Science of a Lost Art* by James Nestor (Penguin Life)

There is nothing more essential to our health and well-being than breathing: take air in, let it out, repeat twenty-five thousand times a day. Yet, as a species, humans have lost the ability to breathe correctly, with grave consequences. Drawing on thousands of years of medical texts and recent

cutting-edge studies in pulmonology, psychology, biochemistry, and human physiology, *Breath* turns the conventional wisdom of what we thought we knew about our most basic biological function on its head.

James Nestor has written for *Scientific American*, *Outside Magazine*, *Men's Journal*, National Public Radio, *The New York Times*, and more. His book, *Deep: Freediving, Renegade Science, and What The Ocean Tells Us About Ourselves*, was a finalist for the PEN American Center Best Sports Book of the Year and a BBC Radio 4 Book of the Week. Nestor has appeared on dozens of national radio and television shows, including ABC's Nightline, the CBS Morning News and NPR. He lives and breathes in San Francisco.

'A fascinating scientific, cultural, spiritual and evolutionary history of the way humans breathe — and how we've all been doing it wrong for a long, long time.' – Elizabeth Gilbert, author of *Big Magic* and *Eat Pray Love*

3. ***The End of Bias: How We Change Our Minds* by Jessica Nordell (Granta Books)**

Drawing on 10 years' immersion in the topic of unconscious bias, Jessica Nordell digs deep into the cognitive science and social psychology that underpin efforts to create change, and introduces us to the people who are practising a range of promising methods: the police using mindfulness to regulate high-stress situations; the doctors whose diagnostic checklists help eliminate bias in treatment; the lawyers and educators striving to embed equality all the way from the early-years playroom to the boardroom.

Jessica Nordell is an American science and culture journalist. A former writer for public radio and producer for American Public Media, she studied physics at Harvard University and poetry at the University of Wisconsin. She has been researching and writing on unconscious bias for almost a decade and her work has appeared in the *Atlantic*, *New Republic* and *New York Times*, among other publications. She lives in Minneapolis, Minnesota. *The End of Bias* is her first book.

'Despite revolutions in our understanding of bias, we're still much better at documenting the problem than solving it. When it comes to prevention and cure, Jessica Nordell's powerful book is a breakthrough. With state-of-the-art science and gripping narratives, she reveals steps that individuals, groups, and institutions can take to fight prejudice.' – Adam Grant, author of *Think Again*

4. ***The Sleeping Beauties: And Other Stories of Mystery Illness* by Suzanne O'Sullivan (Picador)**

Inspired by a poignant encounter with the mysterious sleeping refugee children of Sweden, Suzanne O'Sullivan travels the world to visit other communities who have also been subject to outbreaks of so-called 'mystery' illnesses. O'Sullivan hears remarkable stories from a fascinating array of people, and attempts to unravel their complex meaning while asking the question: who gets to define what is and what isn't an illness?

Dr Suzanne O'Sullivan has been a consultant in neurology since 2004, first working at the Royal London Hospital and now as a consultant in clinical neurophysiology and neurology at the National Hospital for Neurology and Neurosurgery. She specializes in the investigation of complex epilepsy

and also has an active interest in psychogenic disorders. Suzanne's first book, *It's All in Your Head*, won both the Wellcome Book Prize and the Royal Society of Biology Book Prize and her critically acclaimed *Brainstorm* was published in 2018. She lives in London.

'O'Sullivan travels the world collecting fascinating stories of culture-bound syndromes, which she relays with nuance and sensitivity.' – Alice Robb, *New Statesman*

5. *Science Fictions: Exposing Fraud, Bias, Negligence and Hype in Science* by Stuart Ritchie (Bodley Head)

Science is how we understand the world. Yet failures in peer review and mistakes in statistics have rendered a shocking number of scientific studies useless – or, worse, badly misleading. Such errors have distorted our knowledge in fields as wide-ranging as medicine, physics, nutrition, education, genetics, economics, and the search for extraterrestrial life. As *Science Fictions* makes clear, the current system of research funding and publication not only fails to safeguard us from blunders but actively encourages bad science – with sometimes deadly consequences.

Dr Stuart Ritchie is a Lecturer at the Institute of Psychiatry, Psychology and Neuroscience at King's College London and winner of the 2015 'Rising Star' award from the Association for Psychological Science. He has written for *The Times*, *Spectator*, *Washington Post*, *Wired*, *Literary Review* and *Aeon*, and has appeared on BBC Radio 4 programmes *The Infinite Monkey Cage*, *More or Less* and *Bringing Up Britain*. He lives in London.

'We should listen to this warning about how neophilia and hype is ruining research... Ritchie has a gift for turning boring statistical processes into thrilling detective stories.' – *The Times*

6. *Entangled Life: How Fungi Make Our Worlds, Change Our Minds and Shape Our Futures* by Merlin Sheldrake (Bodley Head)

The more we learn about fungi, the less makes sense without them. They can change our minds, heal our bodies and even help us avoid environmental disaster; they are metabolic masters, earth-makers and key players in most of nature's processes. In *Entangled Life*, Merlin Sheldrake takes us on a mind-altering journey into their spectacular world and reveals how these extraordinary organisms transform our understanding of our planet and life itself.

Merlin Sheldrake is a biologist and a writer. He received a Ph.D. in Tropical Ecology from Cambridge University for his work on underground fungal networks in tropical forests in Panama, where he was a predoctoral research fellow of the Smithsonian Tropical Research Institute. He is a musician and keen fermenter. *Entangled Life* is his first book. He lives in London.

'Reads like an adventure story ... wondrous ... beguilingly weaves together lived experience and scientific research' – *Sunday 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 and believes that ESG issues are important drivers of investment value. A founding signatory to the UN Principles for Responsible Investment (PRI) in 2006, in 2020 Insight achieved A+ ratings across all the relevant categories in the PRI survey, reflecting our ongoing commitment to integrating responsible investment practices across all aspects of our business.

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

3. About the judges (in alphabetical order by surname):

Ortis Deley

Ortis Deley is in his ninth year of hosting Channel 5's *The Gadget Show*. As well as appearing on our screens weekly on *The Gadget Show*, Ortis has also been part of Channel 5's *Police Interceptors* team, presenting specials both alone and alongside Rick Edwards. He also contributed to *Ancient Top 10* for the History Channel, a programme which looked at the origins of technology.

Having started his career on Trouble TV as a main anchor, Deley then moved across to CBBC as the anchor on the very popular *Short Change*. Quickly becoming part of the CBBC family, he went on to present *Why 5*, *X-perimental*, *Making It*, *Xchange* and *Live & Kicking*, all for CBBC. Deley's love of science and technology began when he was a child who was very much into sci-fi and comic books. He also has an honours degree in Pharmacy and is a qualified personal trainer.

Anastasia Kisil

Dr Anastasia Kisil is a Dorothy Hodgkin Royal Society Fellow, working on mathematical methods in acoustics and metamaterials. Her research interest is motivated by the need to find new ways to decrease noise pollution. She is particularly interested in looking at adaptations found in nature, for example, in silent flight of owls. She previously briefly held the Dame Kathleen Ollerenshaw Fellowships also at University of Manchester. Prior to that she was awarded a stipendiary three-year Research Fellowship at Corpus Christi College, University of Cambridge. Dr Kisil has obtained her master's and PhD degree from Trinity College, Cambridge. She regularly organises and leads networking events and conferences supported by major scientific bodies, such as a one-month Isaac Newton Institute programme, ICMS webinars and BIRS scientific program. Additionally, she is leading a special interest group in EPSRC UK Acoustics Network and the newly established EPSRC UK Metamaterials Network.

Christy Lefteri

Brought up in London, Christy Lefteri is the child of Cypriot refugees. She is a lecturer in creative writing at Brunel University. Her novel, *The Beekeeper of Aleppo*, is an international bestseller, selling well over a million copies worldwide and published in over 40 countries. *The Beekeeper of Aleppo* won The Aspen Literary Prize (for an influential work of fiction that illuminates a vital contemporary issue and demonstrates the transformative power of literature on thought and culture). It was the runner up for The Dayton Literary Prize and won the Prix de l'Union Interalliée for Best Foreign novel in France. Lefteri's new novel, *Songbirds*, was published in the UK on 6th July 2021.

Clive Myrie

Clive Myrie is a multi-award-winning journalist, writer and film maker, and one of the BBC's most experienced foreign affairs correspondents, having served as Asia, Africa, Washington and Europe Correspondent. He is now a regular presenter of the One, Six and Ten O'Clock News bulletins on BBC One, and of news shows on the BBC News Channel. As well as making domestic and foreign affairs features for BBC News, he also makes programmes for Radio 4 and *Panorama*. His numerous awards include three Royal Television Society Awards, including this year both Journalist of the Year and Presenter of the Year. Myrie was born in Bolton, Lancashire and studied law at the University of Sussex.

Luke O'Neill (Chair)

Luke O'Neill is Professor of Biochemistry in the School of Biochemistry and Immunology, Trinity Biomedical Sciences Institute at Trinity College Dublin, Ireland. He is a world expert on innate immunity and inflammation. He is listed by Thompson Reuters/Clarivates in the top 1% of immunologists in the world, based on citations per paper. He is a member of the Royal Irish Academy, EMBO (European Molecular Biology Organisation) and a Fellow of the Royal Society.

His awards include the Royal Dublin Society / *Irish Times* Boyle Medal for scientific excellence, the Royal Irish Academy Gold Medal for Life Sciences, The Society for Leukocyte Biology (SLB) Dolph O. Adams award and the European Federation of Immunology Societies Medal.

Luke also has a passion for communicating science to the public. He has a weekly radio slot on *The Pat Kenny Show* on Newstalk in Ireland. He has published 3 best-selling books with Gill Publishers: *Humanology: a scientist's guide to our amazing existence*; *The Great Irish Science Book*; and *Never Mind the B#ll*cks Here's the Science*, which was a winner at the Irish Book Awards in 2020.

4. 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.

5. Complete list of past winners of the Prize:

- 2020: *Explaining Humans: What Science Can Teach Us about Life, Love and Relationships* by Camilla Pang

- 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