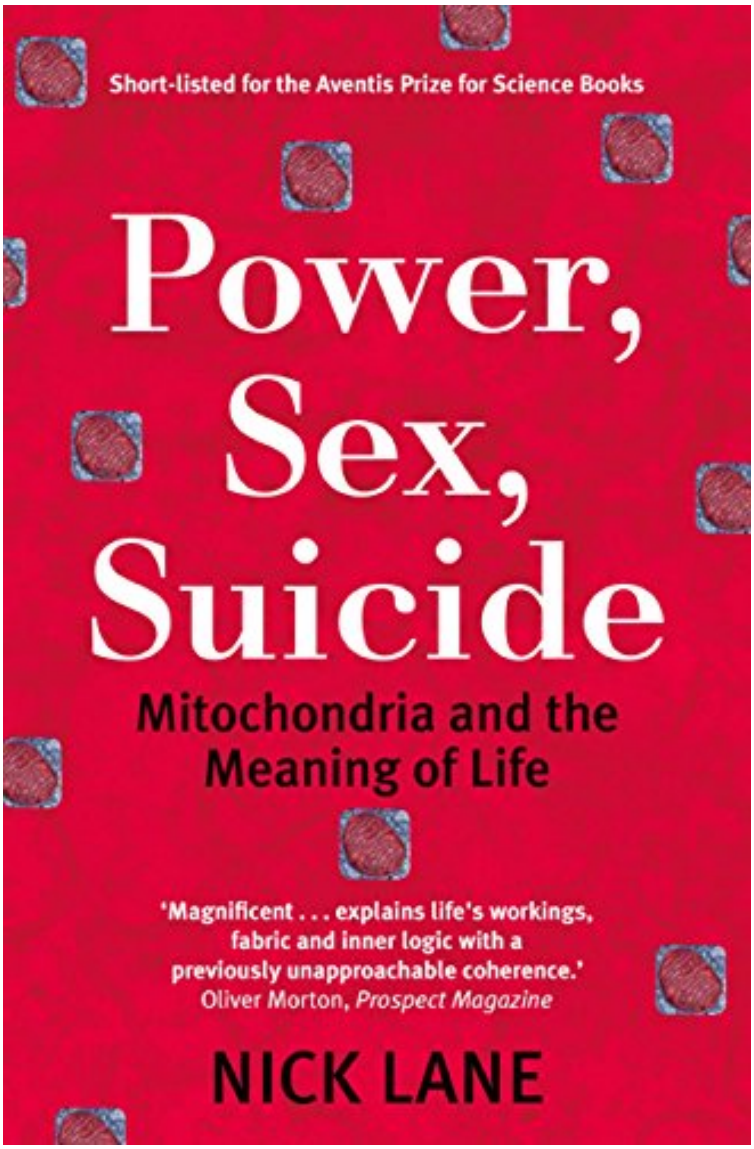
Power, Sex, Suicide: Mitochondria and the meaning of life



Par Nick Lane
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[Free and download] Power, Sex, Suicide: Mitochondria and the meaning of life

Par Nick Lane : Power, Sex, Suicide: Mitochondria and the meaning of life before purchasing it in order to gage whether or not it would be worth my time, and all praised Power, Sex, Suicide: Mitochondria and the meaning of life:

Description : Description du produitIf it weren't for mitochondria, scientists argue, we'd all still be single-celled bacteria. Indeed, these tiny structures inside our cells are important beyond imagining. Without mitochondria, we would have no cell suicide, no sculpting of embryonic shape, no sexes, no menopause, no aging. In this fascinating and thought-provoking book, Nick Lane brings together the latest research in this exciting field to show how our growing insight into mitochondria has shed light on how complex life evolved, why sex arose (why don't we just bud?), and why we age and die. These findings are of fundamental importance, both in understanding life on Earth, but also in controlling our own illnesses, and delaying our degeneration and death. Readers learn that two billion years ago, mitochondria were probably

bacteria living independent lives and that their capture within larger cells was a turning point in the evolution of life, enabling the development of complex organisms. Lane describes how mitochondria have their own DNA and that its genes mutate much faster than those in the nucleus. This high mutation rate lies behind our aging and certain congenital diseases. The latest research suggests that mitochondria play a key role in degenerative diseases such as cancer. We also discover that mitochondrial DNA is passed down almost exclusively via the female line. That's why it has been used by some researchers to trace human ancestry daughter-to-mother, to "Mitochondrial Eve," giving us vital information about our evolutionary history. Written by Nick Lane, a rising star in popular science, Power, Sex, Suicide is the first book for general readers on the nature and function of these tiny, yet fascinating structures.

Prsentation de l'diteurMitochondria are tiny structures located inside our cells that carry out the essential task of producing energy for the cell. They are found in all complex living things, and in that sense, they are fundamental for driving complex life on the planet. But there is much more to them than that. Mitochondria have their own DNA, with their own small collection of genes, separate from those in the cell nucleus. It is thought that they were once bacteria living independentlives. Their enslavement within the larger cell was a turning point in the evolution of life, enabling the development of complex organisms and, closely related, the origin of two sexes. Unlike the DNA in the nucleus, mitochondrial DNA is passed down exclusively (or almost exclusively) via the femaleline. That's why it has been used by some researchers to trace human ancestry daughter-to-mother, to 'Mitochondrial Eve'. Mitochondria give us important information about our evolutionary history. And that's not all. Mitochondrial genes mutate much faster than those in the nucleus because of the free radicals produced in their energy-generating role. This high mutation rate lies behind our ageing and certain congenital diseases. The latest research suggests that mitochondria play a key role indegenerative diseases such as cancer, through their involvement in precipitating cell suicide.Mitochondria, then, are pivotal in power, sex, and suicide. In this fascinating and thought-provoking book, Nick Lane brings together the latest research findings in this exciting field to show how our growing understanding of mitochondria is shedding light on how complex life evolved, why sex arose (why don't we just bud?), and why we age and die. This understanding is of fundamental importance, both in understanding how we and all other complex life came to be, but also in order to be able tocontrol our own illnesses, and delay our degeneration and death.'An extraordinary account of groundbreaking modern science... The book abounds with interesting and important ideas.'Mark Ridley, Department of Zoology, University of OxfordRevue de presseChallenging, but rewarding. (Vanessa Thorpe, Observer)Its the most interesting and significant addendum to Darwin's theory I think I've come across since Richard Dawkins explained how genes are the mechanism for evolution. (Independent on Sunday,)An enthralling account...The author has accomplished something quite breathtaking... Moreover, he brings the science alive...he is always accessible lively , thought provoking and informative. Every Biologist should read this bookPrsentation de l'diteurMitochondria are tiny structures located inside our cells that carry out the essential task of producing energy for the cell. They are found in all complex living things, and in that sense, they are fundamental for driving complex life on the planet. But there is much more to them than that. Mitochondria have their own DNA, with their own small collection of genes, separate from those in the cell nucleus. It is thought that they were once bacteria living independentlives. Their enslavement within the larger cell was a turning point in the evolution of life, enabling the development of complex organisms and, closely related, the origin of two sexes. Unlike the DNA in the nucleus, mitochondrial DNA is passed down exclusively (or almost exclusively) via the femaleline. That's why it has been used by some researchers to trace human ancestry daughter-to-mother, to 'Mitochondrial Eve'. Mitochondria give us important information about our evolutionary history. And that's not all. Mitochondrial genes mutate much faster than those in the nucleus because of the free radicals produced in their energy-generating role. This high mutation rate lies behind our ageing and certain congenital diseases. The latest research suggests that mitochondria play a key role indegenerative diseases such as cancer, through their involvement in precipitating cell suicide.Mitochondria, then, are pivotal in power, sex, and suicide. In this fascinating and thought-provoking book, Nick Lane brings together the latest research findings in this exciting field to show how our growing understanding of mitochondria is shedding light on how complex life evolved, why sex arose (why don't we just bud?), and why we age and die. This understanding is of fundamental importance, both in understanding how we and all other complex life came to be, but also in order to be able tocontrol our own illnesses, and delay our degeneration and death.'An extraordinary account of groundbreaking modern science... The book abounds

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