Virolution

Frank Ryan
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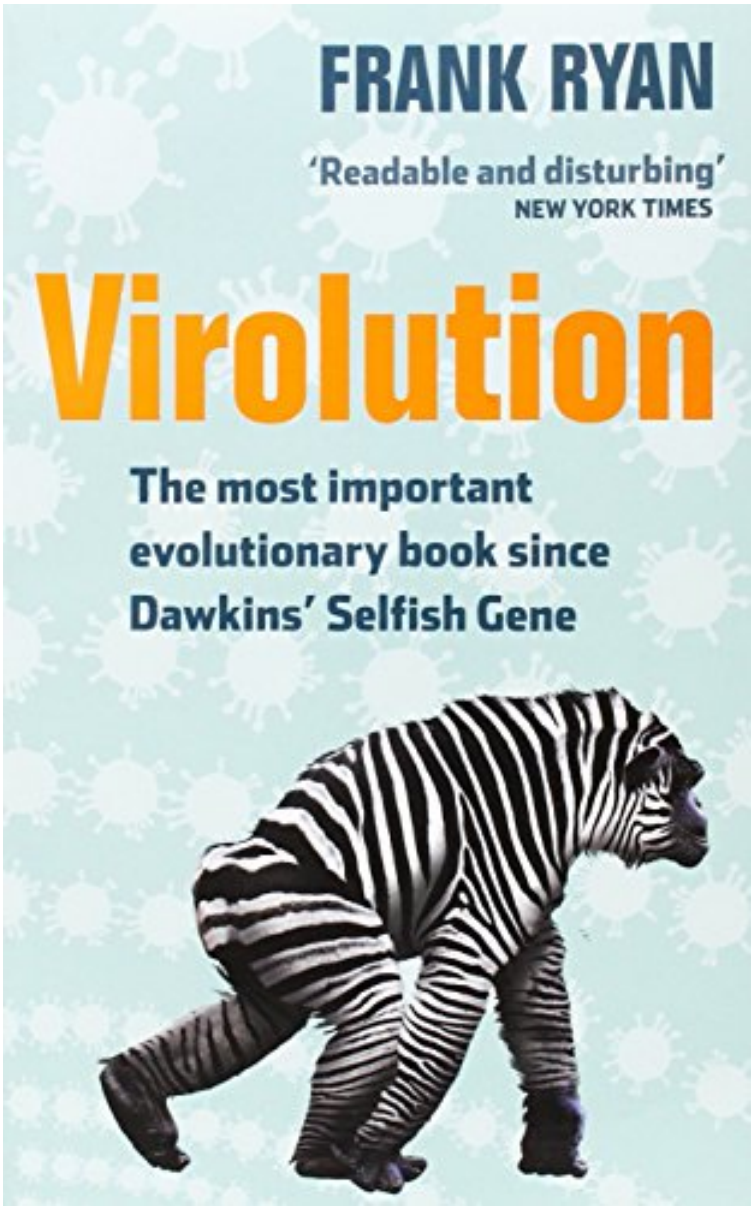

#1374934 in Books 2009-06-25 2009-06-25Original language:EnglishPDF # 1 8.50 x 1.20 x 5.50l, .95 #File Name: 0007315120400 pages | File size: 16.Mb

Frank Ryan : Virolution before purchasing it in order to gage whether or not it would be worth my time, and all praised Virolution:

1 of 1 people found the following review helpful. Astrobiology. Panspermia and VirolutionBy William E. SmithIt is with huge regret that I report I left my copy on the Explorer of the Seas as we disembarked at Cape Liberty, NYC last

week Oct 2014. I had read it once before the cruise but decided a read read would enhance my understanding and impart even more pleasure.This book has changed my whole perception of life, especially viruses and bacteria. I now have come to the conclusion heavily influenced by Frank Ryan that humans are simply host to the most successful life forms in the cosmos - viruses and bacteria.I also see now how this book complements the great works of Sir Fred Hoyle and Professor Chandra Wickramasinghe who first hypothesized that "Life is a Cosmic Phenomenon". Although their book "Viruses from Space" was written many years ago, Frank Ryan now provides the keys to why it is possible "long period" comets (100,000 years) likely have delivered viruses and bacteria inside the watery centres of the comets.Next month Rosetta lands on Comet 67P/C-G but the experiments Philae will perform will alas not give us virus or bacterial detection which is what is ideal and needed. Perhaps the advanced ALMA spectroscopy will surprise us.It is unlikely we can land on a long period comet like Comet ISON (last year) which is much more likely to carry inbound viruses from adjacent stars. NASA experts like Chris McKay now accept that Panspermia is mainstream science and the new NASA overall mission is moving from the "Search for Water" to "Starting the difficult endeavor of seeking the signs of life".Remote detection of viruses is an important skill we need to perfect. We have the work of Milton Wainwright in the stratosphere, work of the Russians on the outside of the ISS, and all the planned missions to Mars, Enceladus and Europa. But what a challenge to cope with the contamination we have already caused.Frank Ryan's book really helps anyone interested in Astrobiology advance their knowledge of viruses. For them it will be compelling reading.0 of 0 people found the following review helpful. This is an excellent, mind-blowingBy MariaThis is an excellent, mind-blowing, paradigm shifting, knock-you-off-your-feet book! But be warned: The writing is at times heavily scientific. If you don't have a scientific background, or at least a deep passion for it, it will be a difficult read to get through.5 of 6 people found the following review helpful. Great Book for the General ReaderBy R. SchwenkFrank Ryan skillfully presents complex material in an engaging way. The science is up-to-date, and every chapter presents so many new ideas that the mind reels, in a good way.Here is a brief taste of some of the key ideas presented. There are four creative forces in evolution, creative in that they cause changes to genes or their expression:1) Mutation (this is the only source of variability in what is currently called neo-Darwinism)2) Genetic Symbiogenesis (symbiotic organisms co-evolve, including the transfer of pre-evolved genes from one genome to another)3) Hybridogenesis (hybrids merge their genetic material)4) Epigenetic (changes in gene expression not arising from the genome)The latter three are new ideas that have only been accepted as plausible by the scientific community in the last two decades. We may be seeing a paradigm shift (see Kuhn The Structure of Scientific Revolutions) in progress. Epigenetics is not only a promising field for the treatment of diseases like cancer or MS, it raises the ghost of Lamarck in that it proposes that, sometimes, environmentally acquired changes can be inherited (see Evolution in Four Dimensions: Genetic, Epigenetic, Behavioral, and Symbolic Variation in the History of Life (Life and Mind: Philosophical Issues in Biology and Psychology)).We can only hope that Dr. Ryan provides us with another such book every few years.

The extraordinary role of viruses in evolution and how this is revolutionising biology and medicine.Darwin's theory of evolution is still the greatest breakthrough in biological science. His explanation of the role of natural selection in driving the evolution of life on earth depended on steady variation of living things over time but he was unable to explain how this variation occurred. In the 150 years since publication of the Origin of Species, we have discovered three main sources for this variation mutation, hybridisation and epigenetics. Then on Sunday, 12th February, 2001 the evidence for perhaps the most extraordinary cause of variation was simultaneously released by two organisations the code for the entire human genome. Not only was the human genome unbelievably simple (it is only ten times more complicated than a bacteria), but embedded in the code were large fragments that were derived from viruses fragments that were vital to evolution of all organisms and the evidence for a fourth and vital source of variation viruses.Virolution is the product of Dr Frank Ryan's decade of research at the frontiers of this new science now called viral symbiosis and the amazing revolution that it has had in these few years. As scientists begin to look for evidence of viral involvement in more and more processes, they have discovered that they are vital in nearly every case. And with this understanding comes the possibility of manipulating the role of the viruses to help fight a huge range of diseases.

Viruses aren't always harmful Frank Ryan uses some beautiful examples to illustrate this idea. Worth reading.BBC FocusAbout the AuthorFrank Ryan is a consultant physician based in Sheffield, and an honorary Research Fellow in the Department of Animal and Plant Sciences at the University of Sheffield. He is also an international best-selling writer. His book, Tuberculosis: The Greatest Story Never Told, was a New York Times Book of the Year while Darwin's Blind Spot was the ' Featured Book' recommended by Charlie Munger at the 2003 Berkshire Hathaway annual meeting. He pioneered the evolutionary concepts of 'viral symbiosis' and 'genomic creativity' and has contributed to the modern understanding of the evolution of the human genome. He is a Fellow of The Royal College of Physicians, the Royal Society of Medicine and the Linnean Society of London.