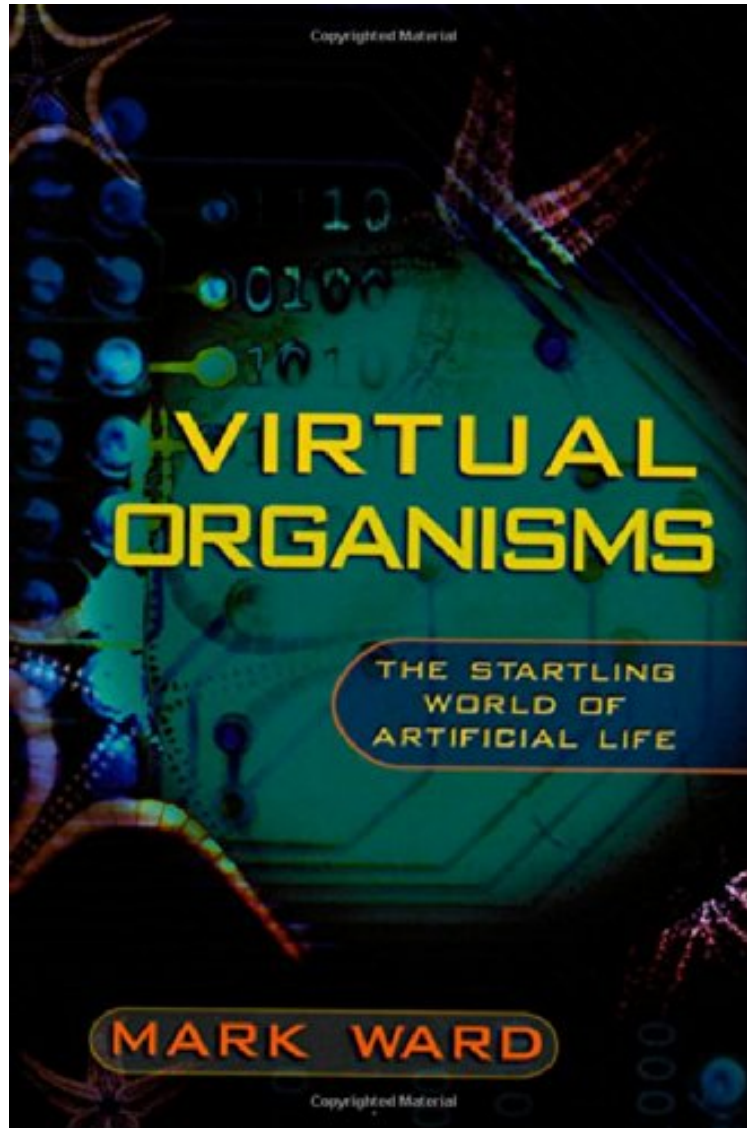


Virtual Organisms: The Startling World of Artificial Life

Mark Daniel Ward

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Mark Daniel Ward : Virtual Organisms: The Startling World of Artificial Life before purchasing it in order to gage whether or not it would be worth my time, and all praised Virtual Organisms: The Startling World of Artificial Life:

4 of 6 people found the following review helpful. Enter Inorganic Life By Worldreels This book is an interesting survey of progress in using intelligent computer programs like cellular automata to replace older, more rigid programs. Ward attempts to redefine life as the passing of information. He concludes that "the informational basis of life can be abstracted away from the bodies we find it in and lose nothing in the process." He wants to attribute "life" to both

organic and inorganic species, thus his title. He moves by steps to show that the quality of human life is no more special than the life of plants, birds, mammals, insects, algae and fish. Although man has advantages with manipulating symbols, other life forms are superior as receptors of smells (ants and dogs) and gravitational maps (salmon and migrating birds). Ward wants the reader to accept the idea that there is nothing any more special about human life than there is about ant life. In fact many of the Artificial Life programs were inspired by ant behavior. All life becomes a matter of processing information. Most of the examples given were in the field of telecommunications, network switching. Parallels were drawn between the information passed in DNA replication and that passed by computer programs. The groups he discusses are endeavoring to breed software in an evolutionary manner analogous to breeding animal life. To his thinking a string of computer bits are agents analogous to a string of amino acids in the chromosome of living agents-interesting ideas.

5 of 7 people found the following review helpful. Not recommended
By kiwi
The book description states, "...Mark Ward presents a fascinating survey..." but the book does not even come close to remotely interesting. The cover art, title, and book description are the highlights of this book, anything beyond that is an extremely dry read. I am surprised that such an interesting subject could be transformed into such a boring lecture. The first 60 pages is dedicated to a tedious review of basic evolution which has become common knowledge. Only later, after losing the readers' interest, does Ward begin to tie this in with the actual subject of the book, artificial life. Yet even when he gets to artificial life, programming codes are not included in the book, so don't even think about it. It's as if Ward were a humanities major writing an extremely tiresome thesis on artificial life. The only saving grace is the actual subject--even Ward cannot completely dampen the fascinating experiments with his stilted prose. Someone interested in doing a book report on the history of organismal life to artificial life may want to give Ward a try--anyone else familiar with the subject of A life should avoid this book.

6 of 6 people found the following review helpful. An Excellent Introductory Text
By Mr. B. Greenwood
I have to disagree with many of the other reviewers that have commented on this text as I feel that it provides an excellent introduction to the field of Artificial Life. Any reader who picks up a 'penguin' style softback book with a jazzy cover running to no more than a couple of hundred pages and expects extensive algorithmic listings has little or no experience of printed IT literature. Bearing in mind the limitations imposed upon the author by the parameters of this work, this text provides an excellent theoretical perspective of the field free from the restrictive and time consuming portrayal of endless lines of coding that some reviewers would prefer to see. This is not a technical manual and does not purport to be, it is an excellent introductory text designed for those who use computers and are not used by them.

Harmless artificial life forms are on the loose on the Internet. Computer viruses and even robots are now able to evolve like their biological counterparts. Telecommunications companies are sending small packets of software to go forth and multiply to cope with ever-increasing telephone traffic. Protein-based computers are on the agenda, and a team in Japan is building an organic brain as clever as a kitten. Welcome to the startling world of Artificial Life. Artificial Life scientists are taking inanimate materials such as computer software and robots and making them behave just like living organisms. In the process they are discovering much about what drives evolution and just what it means to say that something is alive. Virtual Organisms traces the origins of this field from the days when it was practiced by a few maverick scientists to the present and the current boom in Alife research. Leading technology correspondent Mark Ward presents a fascinating survey of current ideas about the origins of life and the engines of evolution. Through interviews with leading developers of Artificial Life, and through his own compelling research, Ward shows how the convergence of technology with biology has enormous implications. In an accessible, entertaining manner, Virtual Organisms reveals an unexplored avenue in predicting the future of Artificial Life, and whether new forms of Alife may be evolving beyond their designer's control.

From Publishers Weekly
Artificial intelligence research has tried to make machines that think; the newer and in many ways more exciting field of artificial life ("ALife") seeks computers and computer-driven machines that work like Aor arguably in some sense are Aliving things. ALife "encompasses software simulations, robotics, protein electronics and even attempts to re-create the world's first living organisms." This compelling and easy-to-follow volume from the Daily Telegraph (U.K.) tech journalist Ward picks up where Steven Levy's Artificial Life (1992) left off, surveying recent and classic ALife work in all its subfields. Bell Labs researcher Andrew Pargellis's "computer simulation of a primordial soup" produces "working, replicating programs" analogous to the self-replicating molecules that colonized the early Earth. John Horton Conway's computerized "Game of Life" produces "Cellular Automata," self-perpetuating, evolving patterns that model biological evolution. Cambridge scientist William Walter's 1950s robots "Elmer" and "Elsie," he claims, chased each other like cats and learned tricks like dogs: inspired by them, MIT's Rodney Brooks makes robots that can explore the real world, "solving the same problems that animals face." Programs that replicate, mix with other programs and generate somewhat different successors mimic the sexual reproduction that has made possible much of our evolution: these programs, called "agents," may someday run telephone networks and other large electronic systems with catastrophic consequences if they evolve in ways that are bad for us. Though he includes some scary scenarios, Ward is largely upbeat about the scientific and practical future of ALife in all its manifestations.

After his sometimes exciting, always accessible exposition, his satisfied readers may learn to love it, too. Copyright 2000 Reed Business Information, Inc. From Booklist For a generation entertained with images of talkative computers like HAL and R2-D2, artificial life (AL) forms a fixed part of the anticipated future. But for computer scientists--denied the shortcuts available to screenwriters--AL remains a steep challenge. Yet without recourse to Hollywood illusions, Ward can report dramatic progress toward creating companionable robots and numerous other forms of AL. From simulations of bacteria emerging from primordial seas to working models of the human brain, Ward traces one vibrant thread: information processing. Indeed, in the processing of information, Ward perceives the key not only to creating artificial new forms of life but also to defining the origin and essence of all existing natural life forms. He thus conceptually bridges the gap between life and nonlife. Skeptics may spot a shaky plank in this bridge: Ward avoids the mystery of consciousness. But he does probe the secrets of software agents that evolve through sexual reproduction, so transforming themselves into forms that defy the control and even the understanding of human programmers. A provocative survey of a rapidly changing science. Bonnie Smothers Copyright American Library Association. All rights reserved About the Author Mark Ward has managed to make a career out of writing about technology. He is the technology correspondent for the Daily Telegraph and he has been a reporter for Computer Weekly magazine and New Scientist. He lives in England.