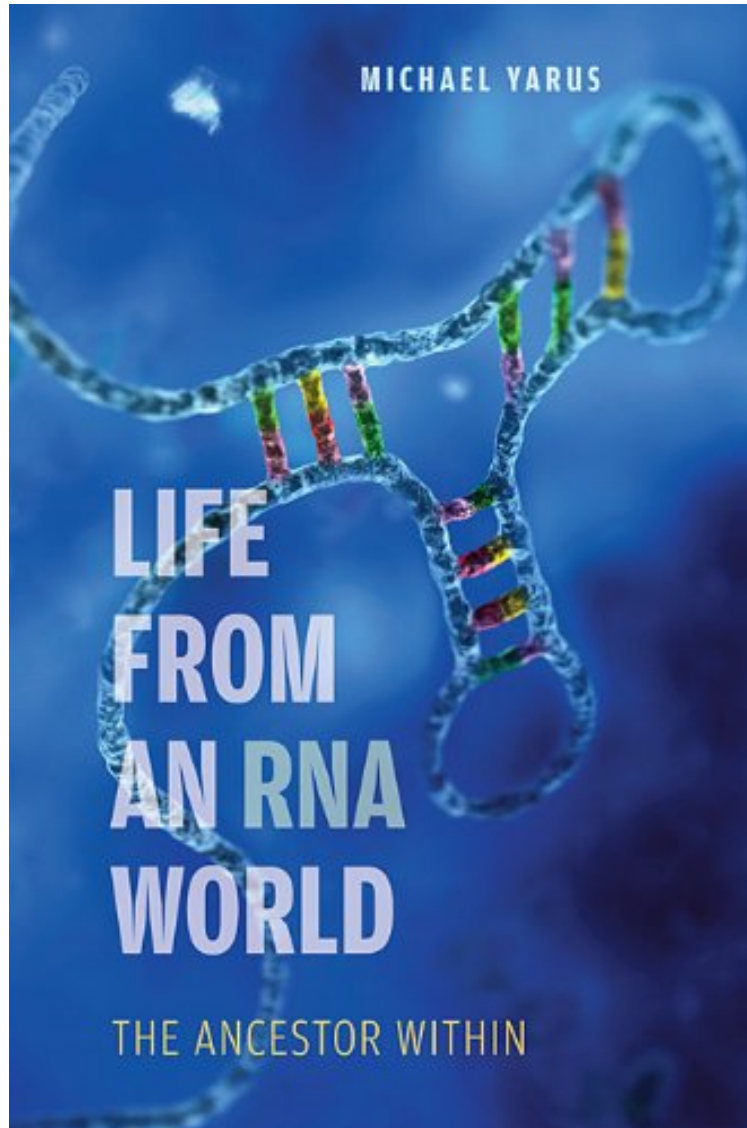


[Ebook free] Life from an RNA World: The Ancestor Within

## Life from an RNA World: The Ancestor Within

*Michael Yarus*

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#1385158 in Books Yarus Michael 2011-03-18 2011-02-07Original language:EnglishPDF # 1 .49 x 5.58 x 8.26l, .54 #File Name: 0674060717208 pagesLife from an RNA World The Ancestor Within | File size: 34.Mb

**Michael Yarus : Life from an RNA World: The Ancestor Within** before purchasing it in order to gage whether or not it would be worth my time, and all praised Life from an RNA World: The Ancestor Within:

28 of 29 people found the following review helpful. Interesting account of RNA and its potentialsBy A. MenonIm not sure what prompted me to buy this, I think it was a recommendation for having bought Wetware. This book is about RNA and some of its complexity and properties. In this exploration, or overview perhaps, it is argued that RNA if

properly considered can potentially fill in many of our gaps in understanding about the origin of life. In reading this book, I got a perspective on not only RNA but what pioneering biologists work on to build a framework for understanding the origin of life. There are a lot of computational biology ideas that seem embedded in the experiments done and ideas used. For example the book starts out with defining the differences between organisms RNA as a metric on genetic difference. In addition there are some real life genetic programming experiments that are done with putting in various combinations of nucleotides and then letting the mixtures self select the best solutions. I am a bit mixed on the book as a whole as it is supposedly written for a general audience, but there is a substantial amount of the book that requires a lot of understanding of cell biology (which I don't have) and logic chains are used with a need for very specific knowledge that the audience of this book is really not what is claimed. The first 2/3 of the book I was able to follow more thoroughly, it is presented in short chapters about specific topics. Some of these are very understandable by a wide audience, they talk about intelligent design, plausibility of RNA's place in evolution, how to define life etc... The chapters end with specific references which allow the interested reader to explore further the topics considered. However, as one gets further through the book, the ability to follow becomes harder and harder for the non-expert. The references become 100% journal articles which to be honest, are obviously not for general audience, and the arguments used for and against are very specific, needing a solid background in what I think is deeper than an undergraduate experience in biology. All in all, if one is interested in cell biology and evolution and some of the complexity and properties of biological phenomenon, this gives a lot of food for thought. But this book is definitely mainly written for people who already know the topics the author is discussing, not for a person with casual interests in the subject. This book argues I think quite convincingly about the plausibility of RNA as the origin of self-replicating organic matter, but after reading this without a strong background, one is not in a position to truly appreciate the arguments properly. 9 of 10 people found the following review helpful. Interesting but was expecting more. By Marcello Malpighi I bought it based on a review in Science. And also because I am a "beginning of life" nut: I own a good chunk of Stanley Miller's personal library. There were some interesting tidbits and I did learn quite a bit. However, the writer sometimes seems to forget his target audience: some chapters are so elementary that they seem written for a middle schooler, others are so technical that only a specialist can grasp them. When you use a new term: define it! The lexicon at the end is somewhat useful but not fully adequate. Also, a couple of chapters read a bit too much like an infomercial for SELEX. I am sure it is powerful, but it can't be so wonderful that no mistakes are ever made and results can be taken at face value without independent corroboration. Overall, a good intro to the RNA world, but comes up short. 8 of 9 people found the following review helpful. Patrick By Patrick Purchased this book after hearing about it in either Science or Nature. As a microbiology major, I found the book to be well-written and extremely interesting. I would, however, recommend this book more to people who have prior background knowledge in microbiology as the book crams a lot of detail into small chapters, glossing over what the author assumes that the reader is familiar with. The end of chapter further reading recommendations were a nice added touch to allow the reader to further investigate topics of interest.

A majority of evolutionary biologists believe that we now can envision our biological predecessors not the first, but nearly the first, living beings on Earth. Life from an RNA World is about these vanished forebears, sketching them in the distant past just as their workings first began to resemble our own. The advances that have made such a pursuit possible are rarely discussed outside of bio-labs. So here, says author Michael Yarus, is an album for interested non-biologists, an introduction to our relatives in deep time, slouching between the first rudimentary life on Earth and the appearance of more complex beings. The era between, and the focus of Yarus work, is called the RNA world. It is RNA (ribonucleic acid) long believed to be a mere biologic copier and messenger, that offers us this glimpse into our ancient predecessors. To describe early RNA creatures, here called ribocytes or RNA cells, Yarus deploys some basics of molecular biology. He reviews our current understanding of the tree of life, examines the structure of RNA itself, explains the operation of the genetic code, and covers much else all in an effort to reveal a departed biological world across billions of years between its heyday and ours. Courting controversy among those who question the role of ribocytes citing the chemical fragility of RNA and the uncertainty about the origin of an RNA synthetic apparatus Yarus offers an invaluable vision of early life on Earth. And his book makes that early form of life, our ancestor within, accessible to all of us.

offers an invaluable vision of life..before DNA and proteins...enjoyable to read, easy to understand..will appeal to readers with a strong interest in evolution and molecular biology. --Current s for Academic Libraries -H. Zhou, Seton Hall U. So, should you buy this book and read it? Yes -- if you have any interest in molecular evolution you will be enlivened, informed and amused. Will you get definitive proof of the RNA world? No -- as Elvis Costello said, it's 'still too soon to know' - John Sutherland, Nature Chemistry 2: 603 (2010).. those items are what I most liked about the book. Other readers will likely find other gems and insight in what is an accessible account of "Life from an RNA World". - Arthur G. Hunt, Reports of the National Center for Science Education, 2011. Yarus captivates with skilled character development -- but here, the characters are the prebiotic molecules that gave rise to everything that has ever

lived or is alive today on our planet. (Thomas Cech, Distinguished Professor, University of Colorado-Boulder, Nobel Laureate in Chemistry, 1989)Life from an RNA World is an unconventional book about RNA. Rather than opening with the central dogma and attendant teachings on molecular biology, Yarus uses evolution as a gateway. He then takes us on a journey through evolutionary time, concentrating on the roles of the various forms of RNA...[He] is a proficient guide. (Tim Harris Nature 2010-03-25)Michael Yarus' book is a very enjoyable read, be the reader a well informed molecular biologist, or a lay person...Surely this book will highlight and increase the interest in the RNA world; raising the awareness that we are all, after all, the children of RNA. (Michael Ladomery Chemistry World 2010-07-01)Although precise historical details of the particular origin of life on Earth are probably unknowable, most scientists agree that a world existed in which RNA performed the duties of both genes and enzymes. This RNA world in turn evolved into the DNA-RNA-protein world of today. Michael Yarus's Life from an RNA World offers an engaging introduction to the subject...Recent discoveries make Yarus's book particularly timely, especially as a light-hearted introduction for scientifically minded readers outside the field. His chatty prose conveys the voice of a tour guide on a journey through the RNA world, introducing essential evolutionary and molecular biology and pointing out must-not-miss attractions. Even members of the origins-of-life community may appreciate his whimsical explanations of familiar phenomena. (Irene A. Chen Science 2010-11-05)About the AuthorMichael Yarus is Professor Emeritus, Department of Molecular, Cellular, and Developmental Biology, University of Colorado.