

Evolution Making Sense Of Life

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It is your unquestionably own mature to accomplish reviewing habit. accompanied by guides you could enjoy now is **Evolution Making Sense Of Life** below.

Loose-Leaf Version for Evolution - Douglas J. Emlen 2019-08

Microbiology Demystified - Tom Betsy 2005-04-21

This is a must-have supplement for pre-med, nursing, and medical science students, and anyone else wanting to improve their understanding of microbiology Utilising a unique self-teaching approach, the authors follow the syllabus of the leading textbooks and translate complex terms and concepts into an easy-to-read and understand format. Follows syllabus of leading textbooks, but translates complex terms and concepts into a format that's easy to read and understand. Includes a 10-question quiz at the end of each chapter, and a 100-question exam at the end of the book.

Evolution - Carl Zimmer 2018

Animal Weapons - Douglas J. Emlen 2014-11-11

An exploration of the extreme weapons we see in the animal world—teeth, horns and claws—draws parallels to the way humans develop and employ our own weapons.

Visualizing Human Biology - Kathleen A. Ireland 2017-12-19

Visualizing Human Biology is a visual exploration of the major concepts of biology using the human body as the context. Students are engaged in scientific exploration and critical thinking in this product specially designed for non-science majors. Topics covered include an overview of human anatomy and physiology, nutrition, immunity and disease, cancer biology, and genetics. The aim of Visualizing Human Biology is a greater understanding, appreciation and working knowledge of biology as well as an enhanced ability to make healthy choices and informed healthcare decisions.

Why Evolution is True - Jerry A. Coyne 2010-01-14

For all the discussion in the media about creationism and 'Intelligent Design', virtually nothing has been said about the evidence in question - the evidence for evolution by natural selection. Yet, as this succinct and important book shows, that evidence is vast, varied, and magnificent, and drawn from many disparate fields of science. The very latest research is uncovering a stream of evidence revealing evolution in action - from the actual observation of a species splitting into two, to new fossil discoveries, to the deciphering of the evidence stored in our genome. Why Evolution is True weaves together the many threads of modern work in genetics, palaeontology, geology, molecular biology, anatomy, and development to demonstrate the 'indelible stamp' of the processes first proposed by Darwin. It is a crisp, lucid, and accessible statement that will leave no one with an open mind in any doubt about the truth of evolution.

Evolution - Carl Zimmer 2016

"Science writer Carl Zimmer and evolutionary biologist Douglas Emlen have produced a thoroughly revised new edition of their widely praised evolution textbook. Emlen, an award-winning evolutionary biologist at the University of Montana, has infused Evolution: Making Sense of Life with the technical rigor and conceptual depth that today's biology majors require. Zimmer, an award-winning New York Times columnist, brings compelling storytelling to the book, bringing evolutionary research to life. Students will learn the fundamental concepts of evolutionary theory, such as natural selection, genetic drift, phylogeny, and coevolution. The book also drives home the relevance of evolution for disciplines ranging from conservation biology to medicine. With riveting stories about evolutionary biologists at work everywhere from the Arctic to tropical rainforests to hospital wards, the book is a reading adventure designed to grab the imagination of students, showing them exactly why it is that evolution makes such brilliant

sense of life."--

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The Tragic Sense of Life - Robert J. Richards 2008-11-15

Prior to the First World War, more people learned of evolutionary theory from the voluminous writings of Charles Darwin's foremost champion in Germany, Ernst Haeckel (1834-1919), than from any other source, including the writings of Darwin himself. But, with detractors ranging from paleontologist Stephen Jay Gould to modern-day creationists and advocates of intelligent design, Haeckel is better known as a divisive figure than as a pioneering biologist. Robert J. Richards's intellectual biography rehabilitates Haeckel, providing the most accurate measure of his science and art yet written, as well as a moving account of Haeckel's eventful life.

Evolution - Carl Zimmer 2010-11-23

This remarkable book presents a rich and up-to-date view of evolution that explores the far-reaching implications of Darwin's theory and emphasizes the power, significance, and relevance of evolution to our lives today. After all, we ourselves are the product of evolution, and we can tackle many of our gravest challenges -- from lethal resurgence of antibiotic-resistant diseases to the wave of extinctions that looms before us -- with a sound understanding of the science.

Life Ascending - Nick Lane 2010-10-01

Winner of the 2010 Royal Society Prize for science books Powerful new research methods are providing fresh and vivid insights into the makeup of life. Comparing gene sequences, examining the atomic structure of proteins and looking into the geochemistry of rocks have all helped to explain creation and evolution in more detail than ever before. Nick Lane uses the full extent of this new knowledge to describe the ten greatest inventions of life, based on their historical impact, role in living organisms today and relevance to current controversies. DNA, sex, sight and consciousnesses are just four examples. Lane also explains how these findings have come about, and the extent to which they can be relied upon. The result is a gripping and lucid account of the ingenuity of nature, and a book which is essential reading for anyone who has ever questioned the science behind the glories of everyday life.

The Tangled Bank - Carl Zimmer 2013-08-26

Used widely in non-majors biology classes, The Tangled Bank is the first textbook about evolution intended for the general reader. Zimmer, an award-winning science writer, takes readers on a fascinating journey into the latest discoveries about evolution. In the Canadian Arctic, paleontologists unearth fossils documenting

the move of our ancestors from sea to land. In the outback of Australia, a zoologist tracks some of the world's deadliest snakes to decipher the 100-million-year evolution of venom molecules. In Africa, geneticists are gathering DNA to probe the origin of our species. In clear, non-technical language, Zimmer explains the central concepts essential for understanding new advances in evolution, including natural selection, genetic drift, and sexual selection. He demonstrates how vital evolution is to all branches of modern biology—from the fight against deadly antibiotic-resistant bacteria to the analysis of the human genome.

Thinking Evolutionarily - National Research Council 2012-05-31

Evolution is the central unifying theme of biology. Yet today, more than a century and a half after Charles Darwin proposed the idea of evolution through natural selection, the topic is often relegated to a handful of chapters in textbooks and a few class sessions in introductory biology courses, if covered at all. In recent years, a movement has been gaining momentum that is aimed at radically changing this situation. On October 25-26, 2011, the Board on Life Sciences of the National Research Council and the National Academy of Sciences held a national convocation in Washington, DC, to explore the many issues associated with teaching evolution across the curriculum. *Thinking Evolutionarily: Evolution Education Across the Life Sciences: Summary of a Convocation* summarizes the goals, presentations, and discussions of the convocation. The goals were to articulate issues, showcase resources that are currently available or under development, and begin to develop a strategic plan for engaging all of the sectors represented at the convocation in future work to make evolution a central focus of all courses in the life sciences, and especially into introductory biology courses at the college and high school levels, though participants also discussed learning in earlier grades and life-long learning. *Thinking Evolutionarily: Evolution Education Across the Life Sciences: Summary of a Convocation* covers the broader issues associated with learning about the nature, processes, and limits of science, since understanding evolutionary science requires a more general appreciation of how science works. This report explains the major themes that recurred throughout the convocation, including the structure and content of curricula, the processes of teaching and learning about evolution, the tensions that can arise in the classroom, and the target audiences for evolution education.

Ecology - Michael Lee Cain 2011

Offering a balance of subject matter emphasis, clearly presented concepts and engaging examples, this book aims to help students gain a better understanding of ecology. Emphasis is placed on connections in nature, the importance of ecology to environmental health and services, and links to evolution.

Evolution in Four Dimensions, revised edition - Eva Jablonka 2014-03-21

A pioneering proposal for a pluralistic extension of evolutionary theory, now updated to reflect the most recent research. This new edition of the widely read *Evolution in Four Dimensions* has been revised to reflect the spate of new discoveries in biology since the book was first published in 2005, offering corrections, an updated bibliography, and a substantial new chapter. Eva Jablonka and Marion Lamb's pioneering argument proposes that there is more to heredity than genes. They describe four "dimensions" in heredity—four inheritance systems that play a role in evolution: genetic, epigenetic (or non-DNA cellular transmission of traits), behavioral, and symbolic (transmission through language and other forms of symbolic communication). These systems, they argue, can all provide variations on which natural selection can act. Jablonka and Lamb present a richer, more complex view of evolution than that offered by the gene-based Modern Synthesis, arguing that induced and acquired changes also play a role. Their lucid and accessible text is accompanied by artist-physician Anna Zeligowski's lively drawings, which humorously and effectively illustrate the authors' points. Each chapter ends with a dialogue in which the authors refine their arguments against the vigorous skepticism of the fictional "I.M." (for Ipcha Mistabra—Aramaic for "the opposite conjecture"). The extensive new chapter, presented engagingly as a dialogue with I.M., updates the information on each of the four dimensions—with special attention to the epigenetic, where there has been an explosion of new research. Praise for the first edition "With courage and verve, and in a style

accessible to general readers, Jablonka and Lamb lay out some of the exciting new pathways of Darwinian evolution that have been uncovered by contemporary research." —Evelyn Fox Keller, MIT, author of *Making Sense of Life: Explaining Biological Development with Models, Metaphors, and Machines* "In their beautifully written and impressively argued new book, Jablonka and Lamb show that the evidence from more than fifty years of molecular, behavioral and linguistic studies forces us to reevaluate our inherited understanding of evolution." —Oren Harman, *The New Republic* "It is not only an enjoyable read, replete with ideas and facts of interest but it does the most valuable thing a book can do—it makes you think and reexamine your premises and long-held conclusions." —Adam Wilkins, *BioEssays*

The Vital Question - Nick Lane 2015

Why is life the way it is? Bacteria evolved into complex life just once in four billion years of life on earth—and all complex life shares many strange properties, from sex to ageing and death. If life evolved on other planets, would it be the same or completely different? In *The Vital Question*, Nick Lane radically reframes evolutionary history, putting forward a cogent solution to conundrums that have troubled scientists for decades. The answer, he argues, lies in energy: how all life on Earth lives off a voltage with the strength of a bolt of lightning. In unravelling these scientific enigmas, making sense of life's quirks, Lane's explanation provides a solution to life's vital questions: why are we as we are, and why are we here at all? This is ground-breaking science in an accessible form, in the tradition of Charles Darwin's *The Origin of Species*, Richard Dawkins' *The Selfish Gene*, and Jared Diamond's *Guns, Germs and Steel*.

Grandmother Fish - Jonathan Tweet 2016-09-06

Where did we come from? It's a simple question, but not so simple an answer to explain—especially to young children. Charles Darwin's theory of common descent no longer needs to be a scientific mystery to inquisitive young readers. Meet Grandmother Fish. Told in an engaging call and response text where a child can wiggle like a fish or hoot like an ape and brought to life by vibrant artwork, *Grandmother Fish* takes children and adults through the history of life on our planet and explains how we are all connected. The book also includes comprehensive backmatter, including: - An elaborate illustration of the evolutionary tree of life - Helpful science notes for parents - How to explain natural selection to a child

Microcosm - Carl Zimmer 2008-05-06

A Best Book of the Year Seed Magazine • Granta Magazine • The Plain-Dealer In this fascinating and utterly engaging book, Carl Zimmer traces *E. coli*'s pivotal role in the history of biology, from the discovery of DNA to the latest advances in biotechnology. He reveals the many surprising and alarming parallels between *E. coli*'s life and our own. And he describes how *E. coli* changes in real time, revealing billions of years of history encoded within its genome. *E. coli* is also the most engineered species on Earth, and as scientists retool this microbe to produce life-saving drugs and clean fuel, they are discovering just how far the definition of life can be stretched.

Making Sense of Evolution - Massimo Pigliucci 2010-02-15

Making Sense of Evolution explores contemporary evolutionary biology, focusing on the elements of theories—selection, adaptation, and species—that are complex and open to multiple possible interpretations, many of which are incompatible with one another and with other accepted practices in the discipline. Particular experimental methods, for example, may demand one understanding of "selection," while the application of the same concept to another area of evolutionary biology could necessitate a very different definition. Spotting these conceptual difficulties and presenting alternate theoretical interpretations that alleviate this incompatibility, Massimo Pigliucci and Jonathan Kaplan intertwine scientific and philosophical analysis to produce a coherent picture of evolutionary biology. Innovative and controversial, *Making Sense of Evolution* encourages further development of the Modern Synthesis and outlines what might be necessary for the continued refinement of this evolving field.

Evolution - David Zeigler 2014-04-14

Evolution: Components and Mechanisms introduces the many recent discoveries and insights that have added to the discipline of organic evolution, and combines them with the key topics needed

to gain a fundamental understanding of the mechanisms of evolution. Each chapter covers an important topic or factor pertinent to a modern understanding of evolutionary theory, allowing easy access to particular topics for either study or review. Many chapters are cross-referenced. Modern evolutionary theory has expanded significantly within only the past two to three decades. In recent times the definition of a gene has evolved, the definition of organic evolution itself is in need of some modification, the number of known mechanisms of evolutionary change has increased dramatically, and the emphasis placed on opportunity and contingency has increased. This book synthesizes these changes and presents many of the novel topics in evolutionary theory in an accessible and thorough format. This book is an ideal, up-to-date resource for biologists, geneticists, evolutionary biologists, developmental biologists, and researchers in, as well as students and academics in these areas and professional scientists in many subfields of biology. Discusses many of the mechanisms responsible for evolutionary change Includes an appendix that provides a brief synopsis of these mechanisms with most discussed in greater detail in respective chapters Aids readers in their organization and understanding of the material by addressing the basic concepts and topics surrounding organic evolution Covers some topics not typically addressed, such as opportunity, contingency, symbiosis, and progress

Life's Edge - Carl Zimmer 2021-03-09

FINALIST FOR THE PEN/E.O. WILSON LITERARY SCIENCE WRITING AWARD***A NEW YORK TIMES NOTABLE BOOK OF 2021***A SCIENCE NEWS FAVORITE BOOK OF 2021***A SMITHSONIAN TOP TEN SCIENCE BOOK OF 2021 "Stories that both dazzle and edify... This book is not just about life, but about discovery itself."

—Siddhartha Mukherjee, New York Times Book Review We all assume we know what life is, but the more scientists learn about the living world—from protocells to brains, from zygotes to pandemic viruses—the harder they find it is to locate life's edge. Carl Zimmer investigates one of the biggest questions of all: What is life? The answer seems obvious until you try to seriously answer it. Is the apple sitting on your kitchen counter alive, or is only the apple tree it came from deserving of the word? If we can't answer that question here on earth, how will we know when and if we discover alien life on other worlds? The question hangs over some of society's most charged conflicts—whether a fertilized egg is a living person, for example, and when we ought to declare a person legally dead. *Life's Edge* is an utterly fascinating investigation that no one but one of the most celebrated science writers of our generation could craft. Zimmer journeys through the strange experiments that have attempted to re-create life. Literally hundreds of definitions of what that should look like now exist, but none has yet emerged as an obvious winner. Lists of what living things have in common do not add up to a theory of life. It's never clear why some items on the list are essential and others not. Coronaviruses have altered the course of history, and yet many scientists maintain they are not alive. Chemists are creating droplets that can swarm, sense their environment, and multiply. Have they made life in the lab? Whether he is handling pythons in Alabama or searching for hibernating bats in the Adirondacks, Zimmer revels in astounding examples of life at its most bizarre. He tries his own hand at evolving life in a test tube with unnerving results. Charting the obsession with Dr. Frankenstein's monster and how the world briefly believed radium was the source of all life, Zimmer leads us all the way into the labs and minds of researchers engineering life from scratch.

A Primer of Evolutionary Medicine - Stephen Stearns 2015-11-18

Evolutionary Medicine is a textbook intended for use in undergraduate, graduate, medical school, and continuing medical education (CME) courses. Its professional illustrations and summaries of chapters and sections make its messages readily accessible.

Relentless Evolution - John N. Thompson 2013-04-15

At a glance, most species seem adapted to the environment in which they live. Yet species relentlessly evolve, and populations within species evolve in different ways. Evolution, as it turns out, is much more dynamic than biologists realized just a few decades ago. In *Relentless Evolution*, John N. Thompson explores why

adaptive evolution never ceases and why natural selection acts on species in so many different ways. Thompson presents a view of life in which ongoing evolution is essential and inevitable. Each chapter focuses on one of the major problems in adaptive evolution: How fast is evolution? How strong is natural selection? How do species co-opt the genomes of other species as they adapt? Why does adaptive evolution sometimes lead to more, rather than less, genetic variation within populations? How does the process of adaptation drive the evolution of new species? How does coevolution among species continually reshape the web of life? And, more generally, how are our views of adaptive evolution changing? *Relentless Evolution* draws on studies of all the major forms of life—from microbes that evolve in microcosms within a few weeks to plants and animals that sometimes evolve in detectable ways within a few decades. It shows evolution not as a slow and stately process, but rather as a continual and sometimes frenetic process that favors yet more evolutionary change.

How Evolution Shapes Our Lives - Jonathan B. Losos 2016-07-26

An authoritative exploration of why understanding evolution is crucial to human life today It is easy to think of evolution as something that happened long ago, or that occurs only in "nature," or that is so slow that its ongoing impact is virtually nonexistent when viewed from the perspective of a single human lifetime. But we now know that when natural selection is strong, evolutionary change can be very rapid. In this book, some of the world's leading scientists explore the implications of this reality for human life and society. With some twenty-three essays, this volume provides authoritative yet accessible explorations of why understanding evolution is crucial to human life—from dealing with climate change and ensuring our food supply, health, and economic survival to developing a richer and more accurate comprehension of society, culture, and even what it means to be human itself. Combining new essays with essays revised and updated from the acclaimed Princeton Guide to Evolution, this collection addresses the role of evolution in aging, cognition, cooperation, religion, the media, engineering, computer science, and many other areas. The result is a compelling and important book about how evolution matters to humans today. The contributors are Dan I. Andersson, Francisco J. Ayala, Amy Cavanaugh, Cameron R. Currie, Dieter Ebert, Andrew D. Ellington, Elizabeth Hannon, John Hawks, Paul Keim, Richard E. Lenski, Tim Lewens, Jonathan B. Losos, Virpi Lummaa, Jacob A. Moorad, Craig Moritz, Martha M. Muñoz, Mark Pagel, Talima Pearson, Robert T. Pennock, Daniel E. L. Promislow, Erik M. Quandt, David C. Queller, Robert C. Richardson, Eugenie C. Scott, H. Bradley Shaffer, Joan E. Strassmann, Alan R. Templeton, Paul E. Turner, and Carl Zimmer.

Evolution - Carl T. Bergstrom 2016-02-25

Evolution presents foundational concepts through a contemporary framework of population genetics and phylogenetics that is enriched by current research and stunning art. In every chapter, new critical thinking questions and expanded end-of-chapter problems emphasizing data interpretation reinforce the Second Edition's focus on helping students think like evolutionary biologists.

Making Sense of Genes - Kostas Kampourakis 2017-03-30

What are genes? What do genes do? These seemingly simple questions are in fact challenging to answer accurately. As a result, there are widespread misunderstandings and over-simplistic answers, which lead to common conceptions widely portrayed in the media, such as the existence of a gene 'for' a particular characteristic or disease. In reality, the DNA we inherit interacts continuously with the environment and functions differently as we age. What our parents hand down to us is just the beginning of our life story. This comprehensive book analyses and explains the gene concept, combining philosophical, historical, psychological and educational perspectives with current research in genetics and genomics. It summarises what we currently know and do not know about genes and the potential impact of genetics on all our lives. *Making Sense of Genes* is an accessible but rigorous introduction to contemporary genetics concepts for non-experts, undergraduate students, teachers and healthcare professionals.

The Selfish Gene - Richard Dawkins 1989

Science need not be dull and bogged down by jargon, as Richard Dawkins proves in this entertaining look at evolution. The themes he takes up are the concepts of altruistic and selfish behaviour;

the genetical definition of selfish interest; the evolution of aggressive behaviour; kinship theory; sex ratio theory; reciprocal altruism; deceit; and the natural selection of sex differences. 'Should be read, can be read by almost anyone. It describes with great skill a new face of the theory of evolution.' W.D. Hamilton, *Science*

Making Sense of Evolution - John F. Haught 2010-01-01

Haught offers a provocative take on how reconciliation between evolution and Christian theology might begin, and questions whether the two concepts must be mutually exclusive.

[Studyguide for Evolution: Making Sense of Life by Carl Zimmer, ISBN 9781936221363](#) - Cram101 Textbook Reviews 2013-01-01

Never HIGHLIGHT a Book Again! Virtually all of the testable terms, concepts, persons, places, and events from the textbook are included. Cram101 just the FACTS101 studyguides give all of the outlines, highlights, notes, and quizzes for your textbook with optional online comprehensive practice tests. Only Cram101 is Textbook Specific. Accompanys: 9780736094092 .

This View of Life - David Sloan Wilson 2019-02-26

It is widely understood that Charles Darwin's theory of evolution completely revolutionized the study of biology. Yet, according to David Sloan Wilson, the Darwinian revolution won't be truly complete until it is applied more broadly—to everything associated with the words "human," "culture," and "policy." In a series of engaging and insightful examples—from the breeding of hens to the timing of cataract surgeries to the organization of an automobile plant—Wilson shows how an evolutionary worldview provides a practical tool kit for understanding not only genetic evolution but also the fast-paced changes that are having an impact on our world and ourselves. What emerges is an incredibly empowering argument: If we can become wise managers of evolutionary processes, we can solve the problems of our age at all scales—from the efficacy of our groups to our well-being as individuals to our stewardship of the planet Earth.

Darwin's Dangerous Idea - Daniel C. Dennett 2014-07-01

In a book that is both groundbreaking and accessible, Daniel C. Dennett, whom Chet Raymo of *The Boston Globe* calls "one of the most provocative thinkers on the planet," focuses his unerring logical mind on the theory of natural selection, showing how Darwin's great idea transforms and illuminates our traditional view of humanity's place in the universe. Dennett vividly describes the theory itself and then extends Darwin's vision with impeccable arguments to their often surprising conclusions, challenging the views of some of the most famous scientists of our day.

Human Evolutionary Biology - Michael P. Muehlenbein 2010-07-29

Wide-ranging and inclusive, this text provides an invaluable review of an expansive selection of topics in human evolution, variation and adaptability for professionals and students in biological anthropology, evolutionary biology, medical sciences and psychology. The chapters are organized around four broad themes, with sections devoted to phenotypic and genetic variation within and between human populations, reproductive physiology and behavior, growth and development, and human health from evolutionary and ecological perspectives. An introductory section provides readers with the historical, theoretical and methodological foundations needed to understand the more complex ideas presented later. Two hundred discussion questions provide starting points for class debate and assignments to test student understanding.

Understanding Evolution - Kostas Kampourakis 2014-04-03

Bringing together conceptual obstacles and core concepts of evolutionary theory, this book presents evolution as straightforward and intuitive.

A Voice in the Wilderness - Professor Joseph L. Graves Jr. 2022-09-13

Why understanding evolution—the most reviled branch of science—can help us all, from fighting pandemics to undoing racism. Evolutionary science has long been regarded as conservative, a tool for enforcing regressive ideas, particularly about race and gender. But in *A Voice in the Wilderness*, evolutionary biologist Joseph L. Graves Jr.—once styled as the "Black Darwin"—argues that his field is essential to social justice. He shows, for example, why biological races do not exist. He dismantles recent work in "human biodiversity" seeking genes to

explain the achievements of different ethnic groups. He decimates homophobia, sexism, and classism as well. As a pioneering Black biologist, a leftist, and a Christian, Graves uses his personal story—his journey from a child of Jim Crow to a major researcher and leader of his peers—to rewrite his field. *A Voice in the Wilderness* is a powerful work of scientific anti-racism and a moving account of a trailblazing life.

Evolution - Douglas John Emlen 2019-08

Evolutionary Biologist, Douglas Emlen and Science Writer, Carl Zimmer continue to improve their widely-praised evolution textbook. Emlen, an award-winning evolutionary biologist at the University of Montana, has infused *Evolution: Making Sense of Life* with the technical rigor and conceptual depth that today's biology majors require. Zimmer, an award-winning *New York Times* columnist, brings compelling storytelling to the book, bringing evolutionary research to life through a narrative sure to capture the attention of evolution students. With riveting stories about evolutionary biologists at work everywhere from the Arctic to tropical rainforests to hospital wards, the book is a reading adventure designed to grab the imagination of students, showing them exactly why it is that evolution makes such brilliant sense of life. The new edition of *Evolution: Making Sense of Life* is now supported in SaplingPlus. Created and supported by the author and other educators, SaplingPlus's instructional online homework drives student success and saves educators' time. Automatically graded homework problem contains hints, answer-specific feedback, and solutions to ensure that students find the help they need.

A New History of Life - Peter Ward 2015-04-07

The history of life on Earth is, in some form or another, known to us all—or so we think. *A New History of Life* offers a provocative new account, based on the latest scientific research, of how life on our planet evolved—the first major new synthesis for general readers in two decades. Charles Darwin's theories, first published more than 150 years ago, form the backbone of how we understand the history of the Earth. In reality, the currently accepted history of life on Earth is so flawed, so out of date, that it's past time we need a 'New History of Life.' In their latest book, Joe Kirschvink and Peter Ward will show that many of our most cherished beliefs about the evolution of life are wrong. Gathering and analyzing years of discoveries and research not yet widely known to the public, *A New History of Life* proposes a different origin of species than the one Darwin proposed, one which includes eight-foot-long centipedes, a frozen "snowball Earth", and the seeds for life originating on Mars. Drawing on their years of experience in paleontology, biology, chemistry, and astrobiology, experts Ward and Kirschvink paint a picture of the origins of life on Earth that are at once too fabulous to imagine and too familiar to dismiss—and looking forward, *A New History of Life* brilliantly assembles insights from some of the latest scientific research to understand how life on Earth can and might evolve far into the future.

Future Humans - Scott Solomon 2016-01-01

"Evolutionary biologist Scott Solomon draws on the explosion of discoveries in recent years to examine the future evolution of our species. Combining knowledge of our past with current trends, Solomon offers convincing evidence that evolutionary forces still affect us today. But how will modernization—including longer lifespans, changing diets, global travel, and widespread use of medicine and contraceptives—affect our evolutionary future?" -- publisher description.

Epigenetic Processes and Evolution of Life - Jana Švorcová 2019-01-15

The book covers the possible story of emergence of life and its subsequent evolution, emphasizing the necessary evolutionary step negotiation of a common "language set" which kept all inhabitants in the biosphere together, ensuring a basic level of understanding among them. The book focuses on "protocols of communication" (both genetic and epigenetic) representing norms shared and understood across the whole biosphere, enabling a plethora of holobiotic relationships. Cooperative nature of organismal evolution and epigenetic processes as a major force in evolution are also covered. Topics discussed are illustrated in detail on selected casuistics.

Improbable Destinies - Jonathan B. Losos 2017-08-08

A major new book overturning our assumptions about how evolution works Earth's natural history is full of fascinating instances of convergence: phenomena like eyes and wings and tree-climbing lizards that have evolved independently, multiple times. But evolutionary biologists also point out many examples of contingency, cases where the tiniest change—a random mutation or an ancient butterfly sneeze—caused evolution to take a completely different course. What role does each force really play in the constantly changing natural world? Are the plants and animals that exist today, and we humans ourselves, inevitabilities or evolutionary flukes? And what does that say about life on other planets? Jonathan Losos reveals what the latest breakthroughs in evolutionary biology can tell us about one of the greatest ongoing debates in science. He takes us around the globe to meet the researchers who are solving the deepest mysteries of life on Earth through their work in experimental evolutionary science. Losos himself is one of the leaders in this exciting new field, and he illustrates how experiments with guppies, fruit flies, bacteria, foxes, and field mice, along with his own work with anole lizards on Caribbean islands, are rewinding the tape of life to reveal just how rapid and predictable evolution can be. *Improbable Destinies* will change the way we think and talk about evolution. Losos's

insights into natural selection and evolutionary change have far-reaching applications for protecting ecosystems, securing our food supply, and fighting off harmful viruses and bacteria. This compelling narrative offers a new understanding of ourselves and our role in the natural world and the cosmos.

Evolution - Douglas J. Emlen 2019-11-19

Evolution: Making Sense of Life brings technical rigor and conceptual depth that today's biology students require. Zimmer, an award-winning New York Times columnist, brings compelling storytelling to the book, bringing evolutionary research to life through a narrative sure to capture the attention of evolution students. With riveting stories about evolutionary biologists at work everywhere from the Arctic to tropical rainforests to hospital wards, the book is a reading adventure designed to grab the imagination of students, showing them exactly why it is that evolution makes such brilliant sense of life. This edition of *Evolution: Making Sense of Life* is now supported in SaplingPlus. Created and supported by the author and other educators, SaplingPlus's instructional online homework drives student success and saves educators' time. Automatically graded homework problem contains hints, answer-specific feedback, and solutions to ensure that students find the help they need.