Evolution Making Sense Of Life

"Kenrick writes like a dream." -- Robert Sapolsky, Professor of Biology and Neurology, Stanford University; author of A Primate's Memoir and Why Zebras Don't Get Ulcers What do sex and murder have to do with the meaning of life? Everything. In Sex, Murder, and the Meaning of Life, social psychologist Douglas Kenrick exposes the selfish animalistic underside of human nature, and shows how it is intimately connected to our greatest and most selfless achievements. Masterfully integrating cognitive science, evolutionary psychology, and complexity theory, this intriguing book paints a comprehensive picture of the principles that govern our lives. As Kenrick divulges, beneath our civilized veneer, human beings are a lot like howling hyenas and barking baboons, with heads full of homicidal tendencies and sexual fantasies. But, in his view, many ingrained, apparently irrational behaviors -- such as inclinations to one-night stands, racial prejudices, and conspicuous consumption -- ultimately manifest what he calls "Deep Rationality.&" Although our heads are full of simple selfish biases that evolved to help our ancestors survive, modern human beings are anything but simple and selfish cavemen. Kenrick argues that simple and selfish mental mechanisms we inherited from our ancestors ultimately give rise to the multifaceted social lives that we humans lead today, and to the most positive features of humanity, including generosity, artistic creativity, love, and familial bonds. And out of those simple mechanisms emerge all the complexities of society, including international conflicts and global economic markets. By exploring the nuance of social psychology and the surprising results of his own research, Kenrick offers a detailed picture of what makes us caring, creative, and complex -- that is, fully human. Illuminated with stories from Kenrick's own colorful experiences -- from his criminally inclined shantytown Irish relatives, his own multiple high school expulsions, broken marriages, and homicidal fantasies, to his eventual success as an evolutionary psychologist and loving father of two boys separated by 26 years -- this book is an exploration of our mental biases and failures, and our mind's great successes. Idiosyncratic, controversial, and fascinating, Sex, Murder, and the Meaning of Life uncovers the pitfalls and promise of our biological inheritance.

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.

Everybody Out of the Pond At the Water's Edge will change the way you think about your place in the world. The awesome journey of life's transformation from the first microbes 4 billion years ago to Homo sapiens today is an epic that we are only now beginning to grasp. Magnificent and bizarre, it is the story of how we got here, what we left behind, and what we brought with us. We all know about evolution, but it still seems absurd that our ancestors were fish. Darwin's idea of natural selection was the key to solving generation-to-generation evolution -- microevolution -- but it could only point us toward a complete explanation, still to come, of the engines of macroevolution, the transformation of body shapes across millions of years. Now, drawing on the latest fossil discoveries and breakthrough scientific analysis, Carl Zimmer reveals how macroevolution works. Escorting us along the trail of discovery up to the current dramatic research in paleontology, ecology, genetics, and embryology, Zimmer shows how scientists today are unveiling the secrets of life that biologists struggled with two centuries ago. In this book, you will find a dazzling, brash literary talent and a rigorous scientific sensibility gracefully brought together. Carl Zimmer provides a comprehensive, lucid, and authoritative answer to the mystery of how nature actually made itself.

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.

The Immortal Life of Henrietta Lacks

Human Evolutionary Biology

The Blank Slate

Grooming, Gossip, and the Evolution of Language

Concepts of Biology

Studyguide for Evolution: Making Sense of Life by Carl Zimmer, ISBN 9781936221363

This illuminating volume explores the effects of chance on evolution, covering diverse perspectives from scientists, philosophers, and historians. The evolution of species, from single-celled organisms to multicellular animals and plants, is the result of a long and highly chancy history. But how profoundly has chance shaped life on earth? And what, precisely, do we mean by chance? Bringing together biologists, philosophers of science, and historians of science, Chance in Evolution is the first book to untangle the far-reaching effects of chance, contingency, and randomness on the evolution of life. The book begins by placing chance in historical context, starting with the ancients and moving through Darwin to contemporary biology. It documents the shifts in our understanding of chance as Darwin’s theory of evolution developed into the modern synthesis, and how the acceptance of chance in Darwinian theory affected theological resistance to it. Other chapters discuss how chance relates to the concepts of genetic drift, mutation, and parallel evolution—as well as recent work in paleobiology and the experimental evolution of microbes. By engaging in collaboration across biology, history, philosophy, and theology, this book offers a comprehensive overview both of the history of chance in evolution and of our current understanding of the impact of chance on life.

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.

EvolutionMaking Sense of LifeEvolutionMaking Sense of LifeEvolutionMaking Sense of LifeRoberts & Company

A Best Book of the YearSeed Magazine • Granta Magazine • The Plain-DealerIn 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.

An Introduction to Evolution

At the Water's Edge

The Triumph of an Idea

Computational Approaches in Comparative Genomics

The Evolution of Beauty

Evolution and Speciation in Animals

With his insightful and wide-ranging theory of recognition, AxelHonneth has decisively reshaped the Frankfurt School tradition ofcritical social theory. Combining insights from philosophy,sociology, psychology, history, political economy, and culturalcritique, Honneth’s work proposes nothing less than anaccount of the moral infrastructure of human sociality and itsrelation to the perils and promise of contemporary sociallife. This book provides an accessible overview of Honneth’s maincontributions across a variety of fields, assessing the strengthsand weaknesses of his thought. Christopher Zurn clearly explainsHonneth’s multi-faceted theory of recognition and itsrelation to diverse topics: individual identity, morality, activistmovements, progress, social pathologies, capitalism, justice,freedom, and critique. In so doing, he places Honneth’stheory in a broad intellectual context, encompassing classic socialtheorists such as Kant, Hegel, Marx, Freud, Dewey, Adorno andHabermas, as well as contemporary trends in social theory andpolitical philosophy. Treating the full range of Honneth’scorpus, including his major new work on social freedom anddemocratic ethical life, this book is the most up-to-date guideavailable. Axel Honneth will be invaluable to students and scholarsworking across the humanities and social sciences, as well asanyone seeking a clear guide to the work of one of the mostinfluential theorists writing today.

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.

Here, the author examines gossip as a form of 'verbal grooming', and as a means of strengthening relationships. He challenges the idea that language developed during male activities such as hunting, and that it was actually amongst women that it evolved.

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. Spotlighting 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.

How Darwin's Forgotten Theory of Mate Choice Shapes the Animal World - and Us

The Powers, Perversions, and Potential of Heredity

Teaching About Evolution and the Nature of Science

Life's Edge

Making Sense of Evolution

The Death and Life of Great American Cities

A FINALIST FOR THE PULITZER PRIZE NAMED A BEST BOOK OF THE YEAR BY THE NEW YORK TIMES BOOK REVIEW, SMITHSONIAN, AND WALL STREET JOURNAL A major reimagining of how evolutionary forces work, revealing how mating preferences—what Darwin termed "the taste for the beautiful"—create the extraordinary range of ornament in the animal world. In the great halls of science, dogma holds that Darwin's theory of natural selection explains every branch on the tree of life: which species thrive, which wither away to extinction, and what features each evolves. But can adaptation by natural selection really account for everything we see in nature? Yale University ornithologist Richard Prum—reviving Darwin's own views—thinks not. Deep in tropical jungles around the world are birds with a dizzying array of appearances and mating displays: Club-winged Manakins who sing with their wings, Great Argus Pheasants who dazzle prospective mates with a four-foot-wide cone of feathers covered in golden 3D spheres, Red-capped Manakins who moonwalk. In thirty years of fieldwork, Prum has seen numerous display traits that seem disconnected from, if not outright contrary to, selection for individual survival. To explain this, he dusts off Darwin's long-neglected theory of sexual selection in which the act of choosing a mate for purely aesthetic reasons—for the mere pleasure of it—is an independent engine of evolutionary change. Mate choice can drive ornamental traits from the constraints of adaptive evolution, allowing them to grow ever more elaborate. It also sets the stakes for sexual conflict, in which the sexual autonomy of the female evolves in response to male sexual control. Most crucially, this framework provides important insights into the evolution of human sexuality, particularly the ways in which female preferences have changed male bodies, and even maleness itself, through evolutionary time. The Evolution of Beauty presents a unique scientific vision for how nature's splendor contributes to a more complete understanding of evolution and of ourselves.

As well as emphasising the links to evolution, 'Ecology' covers all the levels of the ecological hierarchy at which the subject is studied. It focuses on their integration to ensure that students are able to grasp how events in nature are interconnected.

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.

For years, scientists have been warning us that a pandemic was all but inevitable. Now it's here, and the rest of us have a lot to learn. Fortunately, science writer Carl Zimmer is here to guide us. In this compact volume, he tells the story of how the smallest living things known to science can bring an entire planet of people to a halt--and what we can learn from how we've defeated them in the past. Planet of Viruses covers such threats as Ebola, MERS, and chikungunya virus; tells about recent scientific discoveries, such as a hundred-million-year-old virus that infected the common ancestor of armadillos, elephants, and humans; and shares new findings that show why climate change may lead to even deadlier outbreaks. Zimmer’s lucid explanations and fascinating stories demonstrate how deeply humans and viruses are intertwined. Viruses helped give rise to the first life-forms, are responsible for many of our most devastating diseases, and will continue to control our fate for centuries. Thoroughly readable, and, for all its honesty about the threats, as reassuring as it is frightening, A Planet of Viruses is a fascinating tour of a world we all need to better understand.

The Conceptual Foundations of Evolutionary Biology

A Psychologist Investigates How Evolution, Cognition, and Complexity are Revolutionizing our View of Human Nature

Human Evolution and the Ancestors

The "Origin" Then and Now

Evolution

Darwin, God, and the Drama of Life

The evidence for the ancestry of the human species among the apes is overwhelming. But the facts are never “just” facts. Human evolution has always been a value-laden scientific theory and, as anthropology makes clear, the ancestors are always sacred. They may be ghosts, or corpses, or fossils, or a naked couple in a garden, but the idea that you are part of a lineage is a powerful and universal one. Meaning and morals are at play, which most certainly transcend science and its quest for maximum accuracy. With clarity and wit, Jonathan Marks shows that the creation/evolution debate is not science versus religion. After all, modern anti-evolutionists reject humanistic scholarship about the Bible even more fundamentally than they reject the science of our simian ancestry. Widening horizons on both sides of the debate, Marks makes clear that creationism is a theological, not a scientific, debate and that thinking perceptively about values and meanings should not be an alternative to thinking about science – it should be a key part of it.

A brilliant inquiry into the origins of human nature from the author of Rationality, The Better Angels of Our Nature, and Enlightenment Now. "Sweeping, erudite, sharply argued, and fun to read..also highly persuasive." --Time Updated with a new afterword One of the world's leading experts on language and the mind explores the idea of human nature and its moral, emotional, and political colorings. With characteristic wit, lucidity, and insight, Pinker argues that the dogma that the mind has no innate traits-a doctrine held by many intellectuals during the past century-denies our common humanity and our individual preferences, replaces objective analyses of social problems with feel-good slogans, and distorts our understanding of politics, violence, parenting, and the arts. Injecting calm and rationality into debates that are notorious for ax-grinding and mud-slinging, Pinker shows the importance of an honest acknowledgment of human nature based on science and common sense.

Sequence - Evolution - Function is an introduction to the computational approaches that play a critical role in the emerging new branch of biology known as functional genomics. The book provides the reader with an understanding of the principles and approaches of functional genomics and of the potential and limitations of computational and experimental approaches to genome analysis. Sequence - Evolution - Function should help bridge the "digital divide" between biologists and computer scientists, allowing biologists to better grasp the peculiarities of the emerging field of Genome Biology and to learn how to benefit from the enormous amount of sequence data available in the public databases. The book is non-technical with respect to the computer methods for genome analysis and discusses these methods from the user's viewpoint, without addressing mathematical and algorithmic details. Prior practical familiarity with the basic methods for sequence analysis is a major advantage, but a reader without such experience will be able to use the book as an introduction to these methods. This book is perfect for introductory level courses in computational methods for comparative and functional genomics.

Thirty years after its publication, The Death and Life of Great American Cities was described by The New York Times as "perhaps the most influential single work in the history of town planning....[It] can also be seen in a much larger context. It is first of all a work of literature; the descriptions of street life as a kind of ballet and the bitingly satiric account of traditional planning theory can still be read for pleasure even by those who long ago absorbed and appropriated the book's arguments." Jane Jacobs, an editor and writer on architecture in New York City in the early sixties, argued that urban diversity and vitality were being destroyed by powerful architects and city planners. Rigorous, sane, and delightfully epigrammatic, Jacobs's small masterpiece is a blueprint for the humanistic management of cities. It is sensible, knowledgeable, readable, indispensable. The author has written a new foreword for this Modern Library edition.

Microbiology Demystified

How Evolution Shapes Our Lives

Darwin's Dangerous Idea

Chance in Evolution

An Interpretive Guide to the "Origin of Species"

Sequence — Evolution — Function

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.

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 antiobiotic–resistant diseases to the wave of extinctions that looms before us — with a sound understanding of the science.

Today many school students are shielded from one of the most important concepts in modern science: evolution. In engaging and conversational style, Teaching About Evolution and the Nature of Science provides a well-structured framework for understanding and teaching evolution. Written for teachers, parents, and community officials as well as scientists and educators, this book describes how evolution reveals both the great diversity and similarity among the Earth's organisms; it explores how scientists approach the question of evolution; and it illustrates the nature of science as a way of knowing about the natural world. In addition, the book provides answers to frequently asked questions to help readers understand many of the issues and misconceptions about evolution. The book includes sample activities for teaching about evolution and the nature of science. For example, the book includes activities that investigate fossil footprints and population growth that teachers of science can use to introduce principles of evolution. Background information, materials, and step-by-step presentations are provided for each activity. In addition, this volume: Presents the evidence for evolution, including how evolution can be observed today. Explains the nature of science through a variety of examples. Describes how science differs from other human endeavors and why evolution is one of the best avenues for helping students understand this distinction. Answers frequently asked questions about evolution. Teaching About Evolution and the Nature of Science builds on the 1996 National Science Education Standards released by the National Research Council--and offers detailed guidance on how to evaluate and choose instructional materials that support the standards. Comprehensive and practical, this book brings one of today's educational challenges into focus in a balanced and reasoned discussion. It will be of special interest to teachers of science, school administrators, and interested members of the community.

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.

A Planet of Viruses

Ecology

Why Are There Still Creationists?
Making Sense of Life
Microcosm
Axel Honneth

The "Origin" Then and Now is a unique guide to Darwin's masterwork, making it accessible to a much wider audience by deconstructing and reorganizing the Origin in a way that allows for a clear explanation of its key concepts. The "Origin" Then and Now is an indispensable primer for anyone seeking to understand Darwin's Origin of Species and the ways it has shaped the modern study of evolution.

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.

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 .

Concepts of Biology is designed for the single-semester introduction to biology course for non-science majors, which for many students is their only college-level science course. As such, this course represents an important opportunity for students to develop the necessary knowledge, tools, and skills to make informed decisions as they continue with their lives. Rather than being mired down with facts and vocabulary, the typical non-science major student needs information presented in a way that is easy to read and understand. Even more importantly, the content should be meaningful. Students do much better when they understand why biology is relevant to their everyday lives. For these reasons, Concepts of Biology is grounded on an evolutionary basis and includes exciting features that highlight careers in the biological sciences and everyday applications of the concepts at hand.We also strive to show the interconnectedness of topics within this extremely broad discipline. In order to meet the needs of today's instructors and students, we maintain the overall organization and coverage found in most syllabi for this course. A strength of Concepts of Biology is that instructors can customize the book, adapting it to the approach that works best in their classroom. Concepts of Biology also includes an innovative art program that incorporates critical thinking and clicker questions to help students understand--and apply--key concepts.

Essays on Biology and Society
Sex, Murder, and the Meaning of Life
The Modern Denial of Human Nature
The Tangled Bank
The Selfish Gene
Toward a Sociology of Algorithms

*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.*

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 unerringly 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.

#1 NEW YORK TIMES BESTSELLER • “The story of modern medicine and bioethics—and, indeed, race relations—is refracted beautifully, and movingly.”—Entertainment Weekly NOW A MAJOR MOTION PICTURE FROM HBO® STARRING OPRAH WINFREY AND ROSE BYRNE • ONE OF THE “MOST INFLUENTIAL” (CNN), “DEFINING” (LITHUB), AND “BEST” (THE PHILADELPHIA INQUIRER) BOOKS OF THE DECADE • ONE OF ESSENCE’S 50 MOST IMPACTFUL BLACK BOOKS OF THE PAST 50 YEARS • WINNER OF THE CHICAGO TRIBUNE HEARTLAND PRIZE FOR NONFICTION NAMED ONE OF THE BEST BOOKS OF THE YEAR BY The New York Times Book Review • Entertainment Weekly • O: The Oprah Magazine • NPR • Financial Times • New York • Independent (U.K.) • Times (U.K.) • Publishers Weekly • Library Journal • Kirkus Reviews • Booklist • Globe and Mail Her name was Henrietta Lacks, but scientists know her as HeLa. She was a poor Southern tobacco farmer who worked the same land as her slave ancestors, yet her cells—taken without her knowledge—became one of the most important tools in medicine: The first “immortal” human cells grown in culture, which are still alive today, though she has been dead for more than sixty years. HeLa cells were vital for developing the polio vaccine; uncovered secrets of cancer, viruses, and the atom bomb’s effects; helped lead to important advances like in vitro fertilization, cloning, and gene mapping; and have been bought and sold by the billions. Yet Henrietta Lacks remains virtually unknown, buried in an unmarked grave. Henrietta’s family did not learn of her “immortality” until more than twenty years after her death, when scientists investigating HeLa began using her husband and children in research without informed consent. And though the cells had launched a multimillion-dollar industry that sells human biological materials, her family never saw any of the profits. As Rebecca Skloot so brilliantly shows, the story of the Lacks family—past and present—is inextricably connected to the dark history of experimentation on African Americans, the birth of bioethics, and the legal battles over whether we control the stuff we are made of. Over the decade it took to uncover this story, Rebecca became enmeshed in the lives of the Lacks family—especially Henrietta’s daughter Deborah. Deborah was consumed with questions: Had scientists cloned her mother? Had they killed her to harvest her cells? And if her mother was so important to medicine, why couldn’t her children afford health insurance? Intimate in feeling, astonishing in scope, and impossible to put down, The Immortal Life of Henrietta Lacks captures the beauty and drama of scientific discovery, as well as its human consequences.

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.

Second Edition
She Has Her Mother's Laugh
Visualizing Human Biology
Fish with Fingers, Whales with Legs, and How Life Came Ashore but Then Went Back to Sea
The Search for What It Means to Be Alive
Achieve for Evolution 2-term Access

"Science writer Carl Zimmer and evolutionary biologist Douglas Emlen have teamed up to write a textbook intended for biology majors that will inspire students while delivering a solid foundation in evolutionary biology. Zimmer brings the same story-telling skills he displayed in The Tangled Bank, his 2009 non-majors textbook that the Quarterly Review of Biology called "spectacularly successful." 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. Students will learn the fundamental concepts of evolutionary theory, such as natural selection, genetic drift, phylogeny, and coevolution. Evolution: Making Sense of Life 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 rain forests to hospital wards, the book is a reading adventure designed to grab the imagination of the students, showing them exactly why it is that evolution makes such brilliant sense of life"--"Students will learn the fundamental concepts of evolutionary theory, such as natural selection, genetic drift, phylogeny, and coevolution. Evolution: Making Sense of Life also drives home the relevance of evolution for disciplines ranging from conservation biology to medicine"--

This book represents the first attempt to quantify environmental factors and life history traits that accelerate or decelerate species diversity in animals. About 15%, 8% and 77% of species are distributed in marine (70% of earth’s surface), freshwater (terra firma fosters more diversity. The harsh hadal, desert and elevated montane habitats restrict diversity to 0.5-4.2%. Costing more time and energy, osmotrophic and suspension modes of food acquisition limit diversity to Selfing hermaphrodites (0.9%), parthenogens (Incidence of heterogamety is four-times more in males than in females. Hence, evolution is more a male-driven process. Egg size is determined by environmental factors, but lecithality is genetically fixed. In poikilotherms, sex is also determined by gene(s), but differentiation by environmental factors. The extra-ovarian vitellogenesis (> 96%), spermatozoan (81%) rather than spermatophore mechanism of sperm transfer, promiscuity and polygamy over monogamy, iteroparity (99.6%) over semelparity and internal fertilization (84%) are preferred, as they accelerate diversity. Body size and egg size determine fecundity. Indirect life cycle (82%) and incorporation of feeding larval stages accelerate diversity. Brooding and viviparity (6.4%) decelerate it. Parasitism extends life span and liberates fecundity from eutelism. Evolution is an ongoing process, and speciation and extinction are its unavoidable by-products. The in-built conservation mechanism of reviving life after a sleeping duration has been reduced from a few million years in microbial spores to a few thousand years in plant seeds and a few hundred years in dormant eggs in animals. Hence, animal conservation requires priority. The existence of temperature-resistant/insensitive individuals, strains and species shall flourish during the ongoing global warming and earth shall continue with such burgeoning species, hopefully inclusive of man.

2019 PEN/E.O. Wilson Literary Science Writing Award Finalist "Science book of the year"—The Guardian One of New York Times 100 Notable Books for 2018 One of Publishers Weekly's Top Ten Books of 2018 One of Kirkus's Best Books of 2018 One of Mental Floss's Best Books of 2018 One of Science Friday's Best Science Books of 2018 “Extraordinary”—New York Times Book Review "Magisterial"—The Atlantic "Engrossing"—Wired "Leading contender as the most outstanding nonfiction work of the year"—Minneapolis Star-Tribune Celebrated New York Times columnist and science writer Carl Zimmer presents a profoundly original perspective on what we pass along from generation to generation. Charles Darwin played a crucial part in turning heredity into a scientific question, and yet he failed spectacularly to answer it. The birth of genetics in the early 1900s seemed to do precisely that. Gradually, people translated their old notions about heredity into a language of genes. As the technology for studying genes became cheaper, millions of people ordered genetic tests to link themselves to missing parents, to distant ancestors, to ethnic identities... But, Zimmer writes, “Each of us carries an amalgam of fragments of DNA, stitched together from some of our many ancestors. Each piece has its own ancestry, traveling a different path back through human history. A particular fragment may sometimes be cause for worry, but most of our DNA influences who we are—our appearance, our height, our penchants—in inconceivably subtle ways.” Heredity isn’t just about genes that pass from parent to child. Heredity continues within our own bodies, as a single cell gives rise to trillions of cells that make up our bodies. We say we inherit genes from our ancestors—using a word that once referred to kingdoms and estates—but we inherit other things that matter as much or more to our lives, from microbes to technologies we use to make life more comfortable. We need a new definition of what heredity is and, through Carl Zimmer’s lucid exposition and storytelling, this resounding tour de force delivers it. Weaving historical and current scientific research, his own experience with his two daughters, and the kind of original reporting expected of one of the world’s best science journalists, Zimmer ultimately unpacks urgent bioethical quandaries arising from new biomedical technologies, but also long-standing presumptions about who we really are and what we can pass on to future generations.

We commonly think of society as made of and by humans, but with the proliferation of machine learning and AI technologies, this is clearly no longer the case. Billions of automated systems tacitly contribute to the social construction of reality by drawing algorithmic distinctions between the visible and the invisible, the relevant and the irrelevant, the likely and the unlikely – on and beyond platforms. Drawing on the work of Pierre Bourdieu, this book develops an original sociology of algorithms as social agents, actively participating in social life. Through a wide range of examples, Massimo Airoldi shows how society shapes algorithmic code, and how this culture in the code guides the practical behaviour of the code in the culture, shaping society in turn. The ‘machine habitus’ is the generative mechanism at work throughout myriads of feedback loops linking humans with artificial social agents, in the context of digital infrastructures and pre-digital social structures. Machine Habitus will be of great interest to students and scholars in sociology, media and cultural studies, science and technology studies and information technology, and to anyone interested in the growing role of algorithms and AI in our social and cultural life.

Machine Habitus
Evolution and the Meaning of Life

Achieve for Evolution 1-term Access
E. coli and the New Science of Life
Relentless Evolution

An ethologist shows man to be a gene machine whose world is one of savage competition and deceit