The Beak Of Finch A Story Evolution In Our Time Jonathan Weiner

Draws on interviews with leading researchers to explore the possibility of human immortality and whether or not it could be attainable in the near future, and explains the science behind the most cutting-edge research in the field.

David Lack's classic work on the finches of the Galapagos Islands (Darwin's Finches) was first published in 1947; few books have had such a great impact on evolutionary biology, indeed it is still one of the most succinct and fascinating treatises ever written about the origin of new species. The 1947 version is reproduced with facsimile pages of the original text, tables and line illustrations. The major feature of this reprint is the additional material supplied by Dr Peter Boag and Dr Laurene Ratcliffe who have both completed studies on the Galapagos. The readership will comprise students of evolution and ecology and those interested in the history of evolutionary thought. Amateur ornithologists and tourists visiting the Galapagos Islands will find this account fascinating.

The story of Nobel Prize–winning discoveries regarding the molecular mechanisms controlling the body’s circadian rhythm. How much of our fate is decided before we are born? Which of our characteristics is inscribed in our DNA? Weiner brings us into Benzer's Fly Rooms at the California Institute of Technology, where Benzer, and his asssociates are in the process of finding answers, often astonishing ones, to these questions. Part biography, part thrilling scientific detective story, Time, Love, Memory forcefully demonstrates how Benzer's studies are changing our world view--and even our lives. Jonathan Weiner, winner of the Pulitzer Prize for The Beak of the Finch, brings his brilliant reporting skills to the story of Seymour Benzer, the Brooklyn-born maverick scientist whose study of genetics and experiments with fruit fly genes has helped revolutionize or knowledge of the connections between DNA and behavior both animal and human.

In this book the author, a Harvard evolutionary biologist presents an account of how the human body has evolved over millions of years, examining how an increasing disparity between the needs of Stone Age bodies and the realities of the modern world are fueling a paradox of greater longevity and chronic disease. It illuminates the major transformations that contributed key adaptations to the body: the rise of bipedalism; the shift to a non-fruit-based diet; the advent of hunting and gathering, leading to our superlative endurance athleticism; the development of a very large brain; and the incipience of cultural proficiencies. The author also elucidates how cultural evolution differs from biological evolution, and how our bodies were further transformed during the Agricultural and Industrial Revolutions. While these ongoing changes have brought about many benefits, they have also created conditions to which our bodies are not entirely adapted, the author argues, resulting in the growing incidence of obesity and new but avoidable diseases, such as type 2 diabetes. The author proposes that many of these chronic illnesses persist and in some cases are intensifying because of 'dysevolution,' a pernicious dynamic whereby only the symptoms rather than the causes of these maladies are treated. And finally, he advocates the use of evolutionary information to help nudge, push, and sometimes even compel us to create a more salubrious environment. -- From publisher's web site.

Enrico Fermi is unquestionably among the greats of the world's physicists, the most famous Italian scientist since Galileo. Called the Pope by his peers, he was regarded as infallible in his instincts and research. His discoveries changed our world; they led to weapons of mass destruction and conversely to life-saving medical interventions. This unassuming man struggled with issues relevant today, such as the threat of nuclear annihilation and the relationship of science to politics. Fleeing Fascism and anti-Semitism, Fermi became a leading figure in America's most secret project: building the atomic bomb. The last physicist who mastered all branches of the discipline, Fermi was a rare mixture of theorist and experimentalist. His rich legacy encompasses key advances in fields as diverse as comic rays, nuclear technology, and early computers. In their revealing book, The Pope of Physics, Gino Segré and Bettina Hoerlin bring this scientific visionary to life. An examination of the human dramas that touched Fermi’s life as well as a thrilling history of scientific innovation in the twentieth century, this is the comprehensive biography that Fermi deserves.

The twelfth edition of Biology is a traditional, comprehensive introductory biology textbook, with coverage from Cell Structure and Function to the Conservation of Biodiversity. The book, which centers on the evolution and diversity of organisms, is appropriate for any one- or two-semester biology course. Biology, 12th Edition is the epitome of Sylvia Mader's expertise. Its concise, precise writing-style employs lucid language to present the material as succinctly as possible, enabling students--even non-majors--to master the foundational concepts before coming to class. "Before You Begin", "Following the Themes", and "Thematic Feature Readings" piece together the three major themes of the text--evolution, nature of science, and biological systems. Students are consistently engaged in these themes, revealing the interconnectedness of the major topics in biology. Sylvia Mader typifies an icon of science education. Her dedication to her students, coupled with her clear, concise writing-style has benefited the education of thousands of students over the past three decades. The integration of the text and digital world has been achieved with the addition of Dr. Michael Windelspecht's facility for the development of digital learning assets. For over ten years, Michael served as the Introductory Biology Coordinator at Appalachian State University--a program that enrolls over 4,500 non-science majors annually. Michael is the lead architect in the design of McGraw-Hill's Connect Plus and LearnSmart media content for the Mader series. These assets allow instructors to easily design interactive tutorial materials, enhance presentations in both online and traditional environments, and assess the learning objectives and outcomes of the course.

A fascinating chronicle of the evolution of humankind traces the genetic history of the organs of the human body, offering a revealing correlation between the distant past and present-day human anatomy and physiology, behavior, illness, and DNA. Reprint. 75,000 first printing.

On a remote outpost of the Galapagos, where Darwin received his first inklings of the theory of evolution, two scientists, Peter and Rosemary Grant, have spent 20 years measuring the beaks of generations of finches--to prove that Darwin did not know the strength of this own theory. "Spark(s) not just the intellect, but the imagination".--Washington Post Book World. 50 illustrations. Map.

'Slim and readable... the aficionado of evolutionary theory and the intense debate it engenders would do well to read Dawkins vs. Gould.' Nature, on the first edition

This account of Darwin's life and work also sketches the prevailing climate of scientific opinion when he began his researches. Every aspect of Darwin's work, including his

contributions to geology and botany, is examined.
Everything you were taught about evolution is wrong.
Despite recent optimism and global initiatives, the implementation of corporate sustainability programs has been slow at best, with less than a third of global companies having developed a clear business case for their approach to sustainability. Presenting numerous award-winning cases and examples from companies such as Unilever, Patagonia, Tumi, DSM and Umicore alongside original ideas based upon 20 years of consulting experience, this book reveals how to design and implement a stronger sense of focus and move sustainability programs forward. This proven combination of purpose, direction and speed is dubbed “Vectoring”. Based upon practitioner cases and data analysis from the Dow Jones Sustainability Index, Vectoring offers a plain-spoken framework to identify the relative position of companies compared to their peers. The framework and its 4 archetypes deliver insights for practitioners to locate inhibitors and overcome them by providing practical suggestions for process improvements. This includes designing and executing new sustainability programs, embedding the SDGs within company strategy and assessing the impact of sustainability programs on competitiveness and valuation. Offering directions for CFOs to shift companies from integrated reporting to integrated thinking in order to accelerate their sustainability programs, Winning Sustainability Strategies shows how to achieve purpose with profit and how to do well by doing good.
The natural and human history of the Galapagos Islands—beloved vacation spot, fiery volcanic chain, and one of the critical sites in the history of science The Galapagos were once known to the sailors and pirates who encountered them as Las Encantadas: the enchanted islands, home to exotic creatures and dramatic volcanic scenery. In The Galapagos, science writer Henry Nicholls offers a lively natural and human history of the archipelago, charting its evolution from deserted wilderness to scientific resource (made famous by Charles Darwin) and global ecotourism hot spot. He describes the island chain's fiery geological origins as well as the long history of human interaction with it, and draws vivid portraits of the Galapagos' diverse life forms, capturing its awe-inspiring landscapes, its understated flora, its stunning wildlife and, crucially, the origin of new species. Finally, he considers the immense challenges facing the islands and what lies ahead. Nicholls shows that what happens in the Galapagos is not merely an isolated concern, but reflects the future of our species' relationship with nature—and the fate of our planet.
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.
The Beak of the FinchA Story of Evolution in Our TimeVintage
From the second-century celestial models of Ptolemy to modern-day research institutes and quantum theory, this classic book offers a breathtaking tour of astronomy and the brilliant, eccentric personalities who have shaped it. From the first time mankind had an inkling of the vast space that surrounds us, those who study the universe have had to struggle against political and religious preconceptions. They have included some of the most charismatic, courageous, and idiosyncratic thinkers of all time. In Coming of Age in the Milky Way, Timothy Ferris uses his unique blend of rigorous research and captivating narrative skill to draw us into the lives and minds of these extraordinary figures, creating a landmark work of scientific history.
Charles Robert Darwin (12 February 1809 - 19 April 1882) was an English naturalist who established that all species of life have descended over time from a common ancestry, and proposed the scientific theory that this branching pattern of evolution resulted from a process that he called natural selection.He published his theory with compelling evidence for evolution in his 1859 book On the Origin of Species, overcoming scientific rejection of earlier concepts of transmutation of species.
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.
After his famous visit to the Galápagos Islands, Darwin speculated that "one might fancy that, from an original paucity of birds in this archipelago, one species had been taken and modified for different ends." This book is the classic account of how much we have since learned about the evolution of these remarkable birds. Based upon over a decade's research, Grant shows how interspecific competition and natural selection act strongly enough on contemporary populations to produce observable and measurable evolutionary change. In this new edition, Grant outlines new discoveries made in the thirteen years since the book's publication. Ecology and Evolution of Darwin's Finches is an extraordinary account of evolution in action. Originally published in 1986. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to

vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

Arlo Finch in the Valley of Fire is the first book in a spellbinding fantasy adventure series by screenwriter John August. Some trails lead to magic. Some lead to danger. As Arlo looked around, the walls of his room began to vanish, revealing a moonlit forest. Only his bed remained, and the frame of his window, through which he saw the girl. The world on her side of the glass was sparkling with silver and gold, like a palace made of autumn leaves. She looked off to her right. Someone was coming. Her words came in an urgent whisper: "If I can see you, they can see you . . . Be careful, Arlo Finch." Arlo Finch thought becoming a Ranger meant learning wilderness skills, like camping and knots. But upon arriving in the tiny town of Pine Mountain, Colorado, Arlo soon learns there's so much more. His new friends Indra and Wu teach him how to harness the wild magic seeping in from the mysterious Long Woods—a parallel realm of wonder and danger. First he must master the basics, including snaplights, thunderclaps and identifying supernatural creatures. But Arlo Finch is no ordinary Ranger, and this is no ordinary time. A dark and ancient force is sending threats into the real world . . . our world. Through perilous adventures and close calls, Arlo is awakened to his unique destiny—but the obstacles he faces will test the foundations of the Ranger's Vow: loyalty, bravery, kindness, and truth. A Junior Library Guild selection

In this "witty novel about family, friendship, and survival of the fittest,"* Cathleen Schine, one of our most astute social observers, examines the origin of species alongside the origins of who we come to be. In some mysterious family feud or unintended slight, Jane Barlow Schwartz lost a friend, her cousin and soul mate, Martha. But years later, surrounded by the exotic wildlife of the Galapagos, Jane and Martha meet again. There, amid the antics of blue-footed boobies and red-lipped batfish, Jane sets off on a quest through her family history to pinpoint the moment when Martha was no longer the Martha she knew. In the process, she ponders instinct, natural selection, and the oddities of evolution that transform us. As Barbara Kingsolver proclaimed in The New York Times Book Review, "We should rejoice in a rare novel like The Evolution of Jane . . . A rollicking family saga tinged with hints of sexual intrigue . . . Three cheers." *Elle

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.

Winner of the Pulitzer Prize Winner of the Los Angeles Times Book Prize On a desert island in the heart of the Galapagos archipelago, where Darwin received his first inklings of the theory of evolution, two scientists, Peter and Rosemary Grant, have spent twenty years proving that Darwin did not know the strength of his own theory. For among the finches of Daphne Major, natural selection is neither rare nor slow: it is taking place by the hour, and we can watch. In this dramatic story of groundbreaking scientific research, Jonathan Weiner follows these scientists as they watch Darwin's finches and come up with a new understanding of life itself. The Beak of the Finch is an elegantly written and compelling masterpiece of theory and explication in the tradition of Stephen Jay Gould. With a new preface.

The author presents arguments against the current prevailing evolutionary theories.

Renowned evolutionary biologists Peter and Rosemary Grant have produced landmark studies of the Galápagos finches first made famous by Charles Darwin. In How and Why Species Multiply, they offered a complete evolutionary history of Darwin's finches since their origin almost three million years ago. Now, in their richly illustrated new book, 40 Years of Evolution, the authors turn their attention to events taking place on a contemporary scale. By continuously tracking finch populations over a period of four decades, they uncover the causes and consequences of significant events leading to evolutionary changes in species. The authors used a vast and unparalleled range of ecological, behavioral, and genetic data--including song recordings, DNA analyses, and feeding and breeding behavior--to measure changes in finch populations on the small island of Daphne Major in the Galápagos archipelago. They find that natural selection happens repeatedly, that finches hybridize and exchange genes rarely, and that they compete for scarce food in times of drought, with the remarkable result that the finch populations today differ significantly in average beak size and shape from those of forty years ago. The authors' most spectacular discovery is the initiation and establishment of a new lineage that now behaves as a new species, differing from others in size, song, and other characteristics. The authors emphasize the immeasurable value of continuous long-term studies of natural populations and of critical opportunities for detecting and understanding rare but significant events. By following the fates of finches for several generations, 40 Years of Evolution offers unparalleled insights into ecological and evolutionary changes in natural environments.

This is Charles Darwin's chronicle of his five-year journey, beginning in 1831, around the world as a naturalist on the H.M.S. Beagle.

Charles Darwin's experiences in the Galápagos Islands in 1835 helped to guide his thoughts toward a revolutionary theory: that species were not fixed but diversified from their ancestors over many generations, and that the driving mechanism of evolutionary change was natural selection. In this concise, accessible book, Peter and Rosemary Grant explain what we have learned about the origin and evolution of new species through the study of the finches made famous by that great scientist: Darwin's finches. Drawing upon their unique observations of finch evolution over a thirty-four-year period, the Grants trace the evolutionary history of fourteen different species from a shared ancestor three million years ago. They show how repeated cycles of speciation involved adaptive change through natural selection on beak size and shape, and divergence in songs. They explain other factors that drive finch evolution, including geographical

isolation, which has kept the Galápagos relatively free of competitors and predators; climate change and an increase in the number of islands over the last three million years, which enhanced opportunities for speciation; and flexibility in the early learning of feeding skills, which helped species to exploit new food resources. Throughout, the Grants show how the laboratory tools of developmental biology and molecular genetics can be combined with observations and experiments on birds in the field to gain deeper insights into why the world is so biologically rich and diverse. Written by two preeminent evolutionary biologists, How and Why Species Multiply helps to answer fundamental questions about evolution--in the Galápagos and throughout the world.
SuperSummary, a modern alternative to SparkNotes and CliffsNotes, offers high-quality study guides for challenging works of literature. This 78-page guide for "The Beak Of The Finch" by Jonathan Weiner includes detailed chapter summaries and analysis covering 20 chapters, as well as several more in-depth sections of expert-written literary analysis. Featured content includes commentary on major characters, 25 important quotes, essay topics, and key themes like The Relationship Between Science and Faith and The Task of Questioning Fixed Ideas and Images.
The author examines the threat of the greenhouse effect on the planet, the hole in the ozone layer, and the decimation of forests, and details the steps necessary to reverse these disasters
There is more to a bird than simply feathers. And just because birds evolved from a single flying ancestor doesn't mean they are structurally all the same. With over 385 stunning drawings depicting 200 species, The Unfeathered Bird is a richly illustrated book on bird anatomy that offers refreshingly original insights into what goes on beneath the feathered surface. Each exquisite drawing is made from an actual specimen and reproduced in sumptuous large format. The birds are shown in lifelike positions and engaged in behavior typical of the species: an underwater view of the skeleton of a swimming loon, the musculature of a porpoising penguin, and an unfeathered sparrowhawk plucking its prey. Jargon-free and easily accessible to any reader, the lively text relates birds' anatomy to their lifestyle and evolution, examining such questions as why penguins are bigger than auks, whether harrier hawks really have double-jointed legs, and the difference between wing claws and wing spurs. A landmark in popular bird books, The Unfeathered Bird is a must for anyone who appreciates birds or bird art. A unique book that bridges art, science, and history Over 385 beautiful drawings, artistically arranged in a sumptuous large-format book Accessible, jargon-free text--the only book on bird anatomy aimed at the general reader Drawings and text all based on actual bird specimens Includes most anatomically distinct bird groups Many species never illustrated before
Young naturalists explore a variety of birds, their habitats, and how their beaks help them build, eat, and survive. From the twisted beak of a crossbill to the color changing bill of a seagull, readers will learn fun facts about how beaks are designed and used as tools by birds of all shapes and sizes. Bright, bold cut-paper illustrations create amazingly realistic tableaus of birds in their natural environments with their beaks in action. Back matter includes a comprehensive quiz, a bibliography, and a list of related websites.
Why have island ecosystems always suffered such high rates of extinction? In our age, with all the world's landscapes, from Tasmania to the Amazon to Yellowstone, now being carved into island-like fragments by human activity, the implications of this question are more urgent than ever. Over the past eight years, David Quammen has followed the threads of island biogeography on a globe-encircling journey of discovery.
Discusses how new discoveries in the fields of cloning, genetics, and stem-cell research have impacted the lives of brothers Stephen and Jamie Heywood, the latter of whom is endeavoring to find a cure for the former's ALS. By the Pulitzer Prize-winning author of The Beak of the Finch. Reader's Guide available.
“With . . . evidence from recent genetic and anthropological research, [Zuk] offers a dose of paleoreality.”—Erin Wayman, Science News We evolved to eat berries rather than bagels, to live in mud huts rather than condos, to sprint barefoot rather than play football—or did we? Are our bodies and brains truly at odds with modern life? Although it may seem as though we have barely had time to shed our hunter-gatherer legacy, biologist Marlene Zuk reveals that the story is not so simple. Popular theories about how our ancestors lived—and why we should emulate them—are often based on speculation, not scientific evidence. Armed with a razor-sharp wit and brilliant, eye-opening research, Zuk takes us to the cutting edge of biology to show that evolution can work much faster than was previously realized, meaning that we are not biologically the same as our caveman ancestors. Contrary to what the glossy magazines would have us believe, we do not enjoy potato chips because they crunch just like the insects our forebears snacked on. And women don’t go into shoe-shopping frenzies because their prehistoric foremothers gathered resources for their clans. As Zuk compellingly argues, such beliefs incorrectly assume that we’re stuck—finished evolving—and have been for tens of thousands of years. She draws on fascinating evidence that examines everything from adults’ ability to drink milk to the texture of our ear wax to show that we’ve actually never stopped evolving. Our nostalgic visions of an ideal evolutionary past in which we ate, lived, and reproduced as we were “meant to” fail to recognize that we were never perfectly suited to our environment. Evolution is about change, and every organism is full of trade-offs. From debunking the caveman diet to unraveling gender stereotypes, Zuk delivers an engrossing analysis of widespread paleofantasies and the scientific evidence that undermines them, all the while broadening our understanding of our origins and what they can really tell us about our present and our future.
“Lovely, celebratory. For all the belittling of ‘bird brains,’ [Ackerman] shows them to be uniquely impressive machines . . .” —New York Times Book Review “A lyrical testimony to the wonders of avian intelligence.” —Scientific American An award-winning science writer tours the globe to reveal what makes birds capable of such extraordinary feats of mental prowess Birds are astonishingly intelligent creatures. According to revolutionary new research, some birds rival primates and even humans in their remarkable forms of intelligence. In The Genius of Birds, acclaimed author Jennifer Ackerman explores their newly discovered brilliance and how it came about. As she travels around the world to the most cutting-edge frontiers of research, Ackerman not only tells the story of the recently uncovered genius of birds but also delves deeply into the latest findings about the bird brain itself that are shifting our view of what it means to be intelligent. At once personal yet scientific, richly informative and beautifully written, The Genius of Birds celebrates the triumphs of these surprising and fiercely intelligent creatures. Ackerman is also the author of Birds by the Shore: Observing the Natural Life of the Atlantic Coast.
With its unique modular organization and striking four-color art program, Elements of Ecology provides a clear introduction to ecology. The Fourth Edition Update not only presents the principles of ecology but shows their relationship to today's most pressing environmental issues in a way that is meaningful to readers.