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KEY=TEXTBOOK - MARQUIS SIMPSON

Human Evolutionary Biology Cambridge University Press 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. **Evolutionary Analysis Prentice Hall Evolutionary Biology Sinauer Associates, Incorporated** Covers the genetic, developmental, and ecological mechanisms of evolutionary change, the major features of evolutionary history as revealed by phylogenetic and paleontological studies, and material on adaptation, molecular evolution, co-evolution, and human evolution. **Urban Evolutionary Biology Oxford University Press, USA** Urban Evolutionary Biology fills an important knowledge gap on wild organismal evolution in the urban environment, whilst offering a novel exploration of the fast-growing new field of evolutionary research. The growing rate of urbanization and the maturation of urban study systems worldwide means interest in the urban environment as an agent of evolutionary change is rapidly increasing. We are presently witnessing the emergence of a new field of research in evolutionary biology. Despite its rapid global expansion, the urban environment has until now been a largely neglected study site among evolutionary biologists. With its conspicuously altered ecological dynamics, it stands in stark contrast to the natural environments traditionally used as cornerstones for evolutionary ecology research. Urbanization can offer a great range of new opportunities to test for rapid evolutionary processes as a consequence of human activity, both because of replicate contexts for hypothesis testing, but also because cities are characterized by an array of easily quantifiable environmental axes of variation and thus testable agents of selection. Thanks to a wide possible breadth of inference (in terms of taxa) that may be studied, and a great variety of analytical methods, urban evolution has the potential to stand at a fascinating multi-disciplinary crossroad, enriching the field of evolutionary biology with emergent yet incredibly potent new research themes where the urban habitat is key. **Urban Evolutionary Biology** is an advanced textbook suitable for graduate level students as well as professional researchers studying the genetics, evolutionary biology, and ecology of urban environments. It is also highly relevant to urban ecologists and urban wildlife practitioners. **The Tangled Bank An Introduction to Evolution Macmillan Higher Education** 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. **Introduction to Evolutionary Genomics Springer Science & Business Media** This book is the first of its kind to explain the fundamentals of evolutionary genomics. The comprehensive coverage includes concise descriptions of a variety of genome organizations, a thorough discussion of the methods used, and a detailed review of genome sequence processing procedures. The opening chapters also provide the necessary basics for readers unfamiliar with evolutionary studies. Features: introduces the basics of molecular biology, DNA replication, mutation, phylogeny, neutral evolution, and natural selection; presents a brief evolutionary history of life from the primordial seas to the emergence of humans; describes the genomes of prokaryotes, eukaryotes, vertebrates, and humans; reviews methods for genome sequencing, phenotype data collection, homology searches and analysis, and phylogenetic tree and network building; discusses databases of genome sequences and related information, evolutionary distances, and population genomics; provides supplementary material at an associated website. **How and Why Species Multiply The Radiation of Darwin's Finches Princeton University Press** Trace the evolutionary history of fourteen different species of finches on the Galapagos Islands that were studied by Charles Darwin. **Genesis The Evolution of Biology Oxford University Press** Genesis: The Evolution of Biology presents a history of the past two centuries of biology, suitable for use in courses, but of interest more broadly to evolutionary biologists, geneticists, and biomedical scientists, as well as general readers interested in the history of science. The book covers the early evolutionary biologists-Lamarck, Cuvier, Darwin and Wallace through Mayr and the neodarwinian synthesis, in much the same way as other histories of evolution have done, bringing in also the social implications, the struggles with our religious understanding, and the interweaving of genetics into evolutionary theory. What is novel about Sapp's account is a real integration of the cytological tradition, from Schwann, Boveri, and the other early cell biologists and embryologists, and the coverage of symbiosis, microbial evolutionary phylogenies, and the new understanding of the diversification of life coming from comparative analyses of complete microbial genomes. The book is a history of theories about evolution, genes and organisms from Lamarck and Darwin to the present

day. This is the first book on the general history of evolutionary biology to include the history of research and theories about symbiosis in evolution, and first to include research on microbial evolution which were excluded from the classical neo-Darwinian synthesis. Bacterial evolution, and symbiosis in evolution are also excluded from virtually every book on the history of biology. **Evolutionary Developmental Biology Springer Science & Business Media** Many changes that occur during the embryonic development of an individual animal can be seen as a parallel to changes that have occurred in species or groups of species during evolutionary time. This book covers the interaction between developmental and evolutionary changes in animals. **The Evolution of Molecular Biology The Search for the Secrets of Life Academic Press** The Evolution of Molecular Biology: The Search for the Secrets of Life provides the historical knowledge behind techniques founded in molecular biology, also presenting an appreciation of how, and by whom, these discoveries were made. It deals with the evolution of intellectual concepts in the context of active research in an approachable language that accommodates readers from a variety of backgrounds. Each chapter contains a prologue and epilogue to create continuity and provide a complete framework of molecular biology. This foundational work also functions as a historical and conceptual supplement to many related courses in biochemistry, biology, chemistry, genetics and history of science. In addition, the book demonstrates how the roots of discovery and advances—and an individual's own research—have grown out of the history of the field, presenting a more complete understanding and context for scientific discovery. Expands on the development of molecular biology from the convergence of two independent disciplines, biochemistry and genetics Discusses the value of molecular biology in a variety of applications Includes research ethics and the societal implications of research Emphasizes the human aspects of research and the consequences of such advances to society **Icons of Evolution Science or Myth? Why Much of What We Teach About Evolution Is Wrong Simon and Schuster** Everything you were taught about evolution is wrong. **Modern Phylogenetic Comparative Methods and Their Application in Evolutionary Biology Concepts and Practice Springer** Phylogenetic comparative approaches are powerful analytical tools for making evolutionary inferences from interspecific data and phylogenies. The phylogenetic toolkit available to evolutionary biologists is currently growing at an incredible speed, but most methodological papers are published in the specialized statistical literature and many are incomprehensible for the user community. This textbook provides an overview of several newly developed phylogenetic comparative methods that allow to investigate a broad array of questions on how phenotypic characters evolve along the branches of phylogeny and how such mechanisms shape complex animal communities and interspecific interactions. The individual chapters were written by the leading experts in the field and using a language that is accessible for practicing evolutionary biologists. The authors carefully explain the philosophy behind different methodologies and provide pointers – mostly using a dynamically developing online interface – on how these methods can be implemented in practice. These “conceptual” and “practical” materials are essential for expanding the qualification of both students and scientists, but also offer a valuable resource for educators. Another value of the book are the accompanying online resources (available at: <http://www.mpcm-evolution.com>), where the authors post and permanently update practical materials to help embed methods into practice. **Evolutionary Developmental Biology Academic Press** Evolutionary Developmental Biology, Volume 141 focuses on recent research in evolutionary developmental biology, the science studying how changes in development cause the variations that natural selection operate on. Several new hypotheses and models are presented in this volume, and these concern how homology may be properly delineated, how neural crest and placode cells emerged and how they formed the skull and jaw, and how plasticity and developmental symbiosis enable normal development to be regulated by environmental factors. •New models for homology •New hypotheses for the generation of chordates •New models for the roles of plasticity and symbionts in normal development **Feminism and Evolutionary Biology Boundaries, Intersections and Frontiers Springer Science & Business Media** Standing at the intersection of evolutionary biology and feminist theory is a large audience interested in the questions one field raises for the other. Have evolutionary biologists worked largely or strictly within a masculine paradigm, seeing males as evolving and females as merely reacting passively or carried along with the tide? Would our view of nature ‘red in tooth in claw’ be different if women had played a larger role in the creation of evolutionary theory and through education in its transmission to younger generations? Is there any such thing as a feminist science or feminist methodology? For feminists, does any kind of biological determinism undermine their contention that gender roles purely constructed, not inherent in the human species? Does the study of animals have anything to say to those preoccupied with the evolution and behavior of humans? All these questions and many more are addressed by this book, whose contributing authors include leading scholars in both feminism and evolutionary biology. Bound to be controversial, this book is addressed to evolutionary biologists and to feminists and to the large number of people interested in women's studies. **Concepts and Methods in Evolutionary Biology Cambridge University Press** This collection of Professor Brandon's recent essays covers all the traditional topics in the philosophy of evolutionary biology. **Essential Readings in Evolutionary Biology JHU Press** Traces scholarly thought from the nineteenth-century birth of evolutionary biology to the mapping of the human genome through forty-eight essays, arranged in chronological order, each preceded by a one-page essay that explains the significance of the chosen work. **Evolution CSHL Press** World-renowned in the fields of population genetics, bacterial genomics, paleontology, human genetics, and developmental biology, the authors have elegantly synthesized molecular biology and evolutionary biology to produce a thoroughly integrated and current text. This new (textbook) is among the best.--"Nature." Full color. **Evolutionary Genomics and Systems Biology John Wiley & Sons** A comprehensive, authoritative look at an emergent area in post-genomic science, Evolutionary genomics is an up-and-coming, complex field that attempts to explain the biocomplexity of the living world. Evolutionary Genomics and Systems Biology is the first full-length book to blend established and emerging concepts in bioinformatics, evolution, genomics, and structural biology, with the integrative views of network and systems biology. Three key aspects of evolutionary genomics and systems biology are covered in clear detail: the study of genomic history, i.e., understanding organismal evolution at the genomic level; the study of macromolecular complements, which encompasses the evolution of the protein and RNA machinery that propels life; and the evolutionary and dynamic study of wiring diagrams—macromolecular components in interaction—in the context of genomic complements. The book also features: A solid, comprehensive treatment of phylogenomics, the evolution of genomes, and the evolution of biological networks, within the framework of systems biology A special section on RNA biology—translation, evolution of structure, and micro RNA and regulation of gene expression Chapters on the mapping of genotypes to phenotypes, the role of information in biology, protein architecture and biological function, chromosomal rearrangements, and biological networks and disease Contributions by leading authorities on each topic Evolutionary Genomics and Systems Biology is an ideal book for students

and professionals in genomics, bioinformatics, evolution, structural biology, complexity, origins of life, systematic biology, and organismal diversity, as well as those individuals interested in aspects of biological sciences as they interface with chemistry, physics, and computer science and engineering. **Marine Mammals Evolutionary Biology Elsevier** Berta and Sumich have succeeded yet again in creating superior marine reading! This book is a succinct yet comprehensive text devoted to the systematics, evolution, morphology, ecology, physiology, and behavior of marine mammals. The first edition, considered the leading text in the field, is required reading for all marine biologists concerned with marine mammals. Revisions include updates of citations, expansion of nearly every chapter and full color photographs. This title continues the tradition by fully expanding and updating nearly all chapters. Comprehensive, up-to-date coverage of the biology of all marine mammals Provides a phylogenetic framework that integrates phylogeny with behavior and ecology Features chapter summaries, further readings, an appendix, glossary and an extensive bibliography Exciting new color photographs and additional distribution maps **Evolutionary Systems Biology Springer** The book aims to introduce the reader to the emerging field of Evolutionary Systems Biology, which approaches classical systems biology questions within an evolutionary framework. An evolutionary approach might allow understanding the significance of observed diversity, uncover "evolutionary design principles" and extend predictions made in model organisms to others. In addition, evolutionary systems biology can generate new insights into the adaptive landscape by combining molecular systems biology models and evolutionary simulations. This insight can enable the development of more detailed mechanistic evolutionary hypotheses. **The Evolutionary Biology of Plants University of Chicago Press** Provides a comprehensive synthesis of modern evolutionary biology as it relates to plants. This text recounts the saga of plant life from its origins to the radiation of the flowering plants. Through computer-generated "walks" it shows how living plants might have evolved. **The Evolutionary Biology of Species Oxford University Press, USA** 'Species' are central to understanding the origin and dynamics of biological diversity; explaining why lineages split into multiple distinct species is one of the main goals of evolutionary biology. However the existence of species is often taken for granted, and precisely what is meant by species and whether they really exist as a pattern of nature has rarely been modelled or critically tested. This novel book presents a synthetic overview of the evolutionary biology of species, describing what species are, how they form, the consequences of species boundaries and diversity for evolution, and patterns of species accumulation over time. The central thesis is that species represent more than just a unit of taxonomy; they are a model of how diversity is structured as well as how groups of related organisms evolve. The author adopts an intentionally broad approach, stepping back from the details to consider what species constitute, both theoretically and empirically, and how we detect them, drawing on a wealth of examples from microbes to multicellular organisms. **Biological Evolution An Introduction Cambridge University Press** Biological evolution, the theory of natural selection and of common descent, is a triumph both of human reasoning and scientific undertaking. The biological discipline of evolution contains both a chronicle of human endeavour and the story of life on Earth. This book is concerned with living forms and how they developed from 'simple and unpromising beginnings'. It considers evolution as both process and product. The author, an experienced teacher and educator, employs a historical narrative, used to convey the idea of 'change with modification' and to emphasise the relevance of evolution to contemporary bioscience. Biological evolution has now become part of the scientific orthodoxy and this accessible text will assist undergraduate students in the biological sciences within any ongoing debate. **Evolution Exposed Biology Answers in Genesis** A creationist's critique of the evolutionary ideas found in four popular high school biology text books used in public schools: [1.] Biggs, A. et al., *Biology : the dynamics of life* (Florida edition), Glencoe/McGraw Hill, New York, 2006. [2.] Campbell, N., B. Williamson, and R. Heyden, *Biology : exploring life* (Florida teacher's ed.), Pearson Prentice Hall, Upper Saddle River, New Jersey, 2006. [3.] Johnson, G. and P. Raven, *Biology* (Teacher's ed.), Holt, Rinehart, and Winston, Austin, Texas, 2006. [4.] Miller, K. R. and J. Levine, *Biology* (Teacher's ed.), Pearson Prentice Hall, Upper Saddle River, New Jersey, 2006. **Evolutionary History Uniting History and Biology to Understand Life on Earth Cambridge University Press** We tend to see history and evolution springing from separate roots, one grounded in the human world and the other in the natural world. Human beings have, however, become probably the most powerful species shaping evolution today, and human-caused evolution in other species has probably been the most important force shaping human history. This book introduces readers to evolutionary history, a new field that unites history and biology to create a fuller understanding of the past than either can produce on its own. Evolutionary history can stimulate surprising new hypotheses for any field of history and evolutionary biology. How many art historians would have guessed that sculpture encouraged the evolution of tuskless elephants? How many biologists would have predicted that human poverty would accelerate animal evolution? How many military historians would have suspected that plant evolution would convert a counter-insurgency strategy into a rebel subsidy? With examples from around the globe, this book will help readers see the broadest patterns of history and the details of their own life in a new light. **Evolutionary Genetics Concepts, Analysis, and Practice Oxford University Press, USA** Evolutionary genetics is the study of how genetic variation leads to evolutionary change. With the recent explosion in the availability of whole genome sequence data, vast quantities of genetic data are being generated at an ever-increasing pace with the result that programming has become an essential tool for researchers. Most importantly, a thorough understanding of evolutionary principles is essential for making sense of this genetic data. This up-to-date textbook covers all the major components of modern evolutionary genetics, carefully explaining fundamental processes such as mutation, natural selection, genetic drift, and speciation, together with their consequences. The book also draws on a rich literature of exciting and inspiring examples to demonstrate the diversity of evolutionary research, including an emphasis on how evolution and selection has shaped our own species. Furthermore, at the end of each chapter, study questions are provided to motivate the reader to think and reflect on the concepts introduced. Practical experience is essential when it comes to developing an understanding of how to use genetic and genomic data to analyze and address interesting questions in the life sciences and how to interpret results in meaningful ways. In addition to the main text, a series of online tutorials using the R language serves as an introduction to programming, statistics, and the analysis of evolutionary genetic data. The R environment stands out as an ideal all-purpose, open source platform to handle and analyze such data. The book and its online materials take full advantage of the authors' own experience in working in a post-genomic revolution world, and introduce readers to the plethora of molecular and analytical methods that have only recently become available. **Conceptual Breakthroughs in Evolutionary Ecology Academic Press** Although biologists recognize evolutionary ecology by name, many only have a limited understanding of its conceptual roots and historical development. *Conceptual Breakthroughs in Evolutionary Ecology* fills that knowledge gap in a thought-provoking and readable format. Written by a world-renowned evolutionary

ecologist, this book embodies a unique blend of expertise in combining theory and experiment, population genetics and ecology. Following an easily-accessible structure, this book encapsulates and chronologizes the history behind evolutionary ecology. It also focuses on the integration of age-structure and density-dependent selection into an understanding of life-history evolution. Covers over 60 seminal breakthroughs and paradigm shifts in the field of evolutionary biology and ecology Modular format permits ready access to each described subject Historical overview of a field whose concepts are central to all of biology and relevant to a broad audience of biologists, science historians, and philosophers of science **Evolution Wiley-Blackwell** Mark Ridley's *Evolution* has become the premier undergraduate text in the study of evolution. Readable and stimulating, yet well-balanced and in-depth, this text tells the story of evolution, from the history of the study to the most recent developments in evolutionary theory. The third edition of this successful textbook features updates and extensive new coverage. The sections on adaptation and diversity have been reorganized for improved clarity and flow, and a completely updated section on the evolution of sex and the inclusion of more plant examples have all helped to shape this new edition. Evolution also features strong, balanced coverage of population genetics, and scores of new applied plant and animal examples make this edition even more accessible and engaging. Dedicated website - provides an interactive experience of the book, with illustrations downloadable to PowerPoint, and a full supplemental package complementing the book - www.blackwellpublishing.com/ridley. Margin icons - indicate where there is relevant information included in the dedicated website. Two new chapters - one on evolutionary genomics and one on evolution and development bring state-of-the-art information to the coverage of evolutionary study. Two kinds of boxes - one featuring practical applications and the other related information, supply added depth without interrupting the flow of the text. Margin comments - paraphrase and highlight key concepts. Study and review questions - help students review their understanding at the end of each chapter, while new challenge questions prompt students to synthesize the chapter concepts to reinforce the learning at a deeper level. **Sperm Biology An Evolutionary Perspective Academic Press** Sperm Biology represents the first analysis of the evolutionary significance of sperm phenotypes and derived sperm traits and the possible selection pressures responsible for sperm-egg coevolution. An understanding of sperm evolution is fast developing and promises to shed light on many topics from basic reproductive biology to the evolutionary process itself as well as the sperm proteome, the sperm genome and the quantitative genetics of sperm. The Editors have identified 15 topics of current interest and biological significance to cover all aspects of this bizarre, fascinating and important subject. It comprises the most comprehensive and up-to-date review of the evolution of sperm and pointers for future research, written by experts in both sperm biology and evolutionary biology. The combination of evolution and sperm is a potent mix, and this is the definitive account. The first review survey of this emerging field Written by experts from a broad array of disciplines from the physiological and biomedical to the ecological and evolutionary Sheds light on the intricacies of reproduction and the coevolution of sperm, egg and reproductive behavior **Evolutionary Biology of Aging Oxford University Press** This unique book looks at the biology of aging from a fundamentally new perspective, one based on evolutionary theory rather than traditional concepts which emphasize molecular and cellular processes. The basis for this approach lies in the fact that natural selection, as a powerful determining force, tends to decline in importance with age. Many of the characteristics we associate with aging, the author argues, are more the result of this decline than any mechanical imperative contained within organic structures. This theory in turn yields the most fruitful avenues for seeking answers to the problem of aging, and should be recognized as the intellectual core of gerontology and the foundation for future research. The author ably surveys the vast literature on aging, presenting mathematical, experimental, and comparative findings to illustrate and support the central thesis. The result is the first complete synthesis of this vital field. Evolutionary biologists, gerontologists, and all those concerned with the science of aging will find it a stimulating, strongly argued account. **The Theory of Evolution Cambridge University Press** A century ago Darwin and Wallace explained how evolution could have happened in terms of processes known to take place today. This book describes how their theory has been confirmed, but at the same time "transformed", by recent research. **Bones and Cartilage Developmental and Evolutionary Skeletal Biology Academic Press** Bones and Cartilage provides the most in-depth review and synthesis assembled on the topic, across all vertebrates. It examines the function, development and evolution of bone and cartilage as tissues, organs and skeletal systems. It describes how bone and cartilage develop in embryos and are maintained in adults, how bone is repaired when we break a leg, or regenerates when a newt grows a new limb, or a lizard a new tail. The second edition of Bones and Cartilage includes the most recent knowledge of molecular, cellular, developmental and evolutionary processes, which are integrated to outline a unified discipline of developmental and evolutionary skeletal biology. Additionally, coverage includes how the molecular and cellular aspects of bones and cartilage differ in different skeletal systems and across species, along with the latest studies and hypotheses of relationships between skeletal cells and the most recent information on coupling between osteocytes and osteoclasts All chapters have been revised and updated to include the latest research. Offers complete coverage of every aspect of bone and cartilage, with updated references and extensive illustrations Integrates development and evolution of the skeleton, as well a synthesis of differentiation, growth and patterning Treats all levels from molecular to clinical, embryos to evolution, and covers all vertebrates as well as invertebrate cartilages Includes new chapters on evolutionary skeletal biology that highlight normal variation and variability, and variation outside the norm (neomorphs, atavisms) Updates hypotheses on the origination of cartilage using new phylogenetic, cellular and genetic data Covers stem cells in embryos and adults, including mesenchymal stem cells and their use in genetic engineering of cartilage, and the concept of the stem cell niche **Cells in Evolutionary Biology Translating Genotypes into Phenotypes - Past, Present, Future CRC Press** This book is the first in a projected series on Evolutionary Cell Biology, the intent of which is to demonstrate the essential role of cellular mechanisms in transforming the genotype into the phenotype by transforming gene activity into evolutionary change in morphology. This book —Cells in Evolutionary Biology — evaluates the evolution of cells themselves and the role cells have been viewed to play as agents of change at other levels of biological organization. Chapters explore Darwin's use of cells in his theory of evolution and how Weismann's theory of the separation of germ plasma from body cells brought cells to center stage in understanding how acquired changes to cells within generations are not passed on to future generations. The study of evolution through the analysis of cell lineages during embryonic development dominated evolutionary cell biology until usurped by the switch to genes as the agents of heredity in the first decades of the 20th century. Discovery that cells exchanged organelles via symbiosis led to a fundamental reevaluation of prokaryotic and eukaryotic cells and to a reorganizations of the Tree of Life. Identification of cellular signaling centers, of mechanisms responsible for cellular patterning, and of cell behavior and cellular condensations as mediating the plasticity that enables phenotypic change

during evolution, provided powerful new synergies between cell biology and evolutionary theory and the basis for Evolutionary Cell Biology. **The Oxford Handbook of Evolutionary Medicine Oxford University Press** Medicine is grounded in the natural sciences, among which biology stands out with regard to the understanding of human physiology and conditions that cause dysfunction. Ironically though, evolutionary biology is a relatively disregarded field. One reason for this omission is that evolution is deemed a slow process. Indeed, macroanatomical features of our species have changed very little in the last 300,000 years. A more detailed look, however, reveals that novel ecological contingencies, partly in relation to cultural evolution, have brought about subtle changes pertaining to metabolism and immunology, including adaptations to dietary innovations, as well as adaptations to the exposure to novel pathogens. Rapid pathogen evolution and evolution of cancer cells cause major problems for the immune system to find adequate responses. In addition, many adaptations to past ecologies have turned into risk factors for somatic disease and psychological disorder in our modern worlds (i.e. mismatch), among which epidemics of autoimmune diseases, cardiovascular diseases, diabetes and obesity, as well as several forms of cancer stand out. In addition, depression, anxiety and other psychiatric conditions add to the list. The Oxford Handbook of Evolutionary Medicine is a compilation of cutting edge insights into the evolutionary history of ourselves as a species, and how and why our evolved design may convey vulnerability to disease. Written in a classic textbook style emphasising physiology and pathophysiology of all major organ systems, the Oxford Handbook of Evolutionary Medicine will be valuable for students as well as scholars in the fields of medicine, biology, anthropology and psychology.

Introduction to Population Biology Cambridge University Press Updated to include two new chapters, a modified Part II structure, more recent empirical examples, and online spreadsheet simulations. **Evolution Wiley-Blackwell** Mark Ridley's Evolution has become the premier undergraduate text in the study of evolution. Readable and stimulating, yet well-balanced and in-depth, this text tells the story of evolution, from the history of the study to the most recent developments in evolutionary theory. The third edition of this successful textbook features updates and extensive new coverage. The sections on adaptation and diversity have been reorganized for improved clarity and flow, and a completely updated section on the evolution of sex and the inclusion of more plant examples have all helped to shape this new edition. Evolution also features strong, balanced coverage of population genetics, and scores of new applied plant and animal examples make this edition even more accessible and engaging. Dedicated website - provides an interactive experience of the book, with illustrations downloadable to PowerPoint, and a full supplemental package complementing the book - www.blackwellpublishing.com/ridley. Margin icons - indicate where there is relevant information included in the dedicated website. Two new chapters - one on evolutionary genomics and one on evolution and development bring state-of-the-art information to the coverage of evolutionary study. Two kinds of boxes - one featuring practical applications and the other related information, supply added depth without interrupting the flow of the text. Margin comments - paraphrase and highlight key concepts. Study and review questions - help students review their understanding at the end of each chapter, while new challenge questions prompt students to synthesize the chapter concepts to reinforce the learning at a deeper level. **My Thoughts on Biological Evolution Springer Nature**

This book, written by Motoo Kimura (1924-94), is a classic in evolutionary biology. In 1968, Kimura proposed the "neutral theory of molecular evolution", which became the theoretical basis of modern evolutionary studies. After publishing his work in 1983 in the book "Neutral Theory of Molecular Evolution", Kimura wrote this book in 1988 for the general public. It was originally written in Japanese and is translated here for the first time. In the book, Kimura first summarizes the development of evolutionary theory since Lamarck and Darwin. He then shows how the search for mechanisms of evolution developed into population genetics and describes how the study of molecular evolution matured by taking in the fruits of molecular biology. Kimura proceeds to carefully explain his neutral evolution theory at the molecular level. Finally, he presents his view of the world from an evolutionary perspective. The book has long served as an in-depth introduction to evolutionary biology for students and young researchers in Japan. There has been remarkably rapid progress in the field of bioscience at the molecular level over the past 30 years. Nevertheless, the book remains an important contribution that laid the foundations for what followed in molecular evolutionary studies. **Evolutionary Dynamics Harvard University Press**

At a time of unprecedented expansion in the life sciences, evolution is the one theory that transcends all of biology. Any observation of a living system must ultimately be interpreted in the context of its evolution. Evolutionary change is the consequence of mutation and natural selection, which are two concepts that can be described by mathematical equations. Evolutionary Dynamics is concerned with these equations of life. In this book, Martin A. Nowak draws on the languages of biology and mathematics to outline the mathematical principles according to which life evolves. His work introduces readers to the powerful yet simple laws that govern the evolution of living systems, no matter how complicated they might seem. Evolution has become a mathematical theory, Nowak suggests, and any idea of an evolutionary process or mechanism should be studied in the context of the mathematical equations of evolutionary dynamics. His book presents a range of analytical tools that can be used to this end: fitness landscapes, mutation matrices, genomic sequence space, random drift, quasispecies, replicators, the Prisoner's Dilemma, games in finite and infinite populations, evolutionary graph theory, games on grids, evolutionary kaleidoscopes, fractals, and spatial chaos. Nowak then shows how evolutionary dynamics applies to critical real-world problems, including the progression of viral diseases such as AIDS, the virulence of infectious agents, the unpredictable mutations that lead to cancer, the evolution of altruism, and even the evolution of human language. His book makes a clear and compelling case for understanding every living system—and everything that arises as a consequence of living systems—in terms of evolutionary dynamics. **Violution HarperCollins UK**

The extraordinary role of viruses in evolution and how this is revolutionising biology and medicine. **Bioinformatics for Evolutionary Biologists A Problems Approach Springer** This self-contained textbook covers fundamental aspects of sequence analysis in evolutionary biology, including sequence alignment, phylogeny reconstruction, and coalescent simulation. It addresses these aspects through a series of over 400 computer problems, ranging from elementary to research level to enable learning by doing. Students solve the problems in the same computational environment used for decades in science - the UNIX command line. This is available on all three major operating systems for PCs: Microsoft Windows, Mac-OSX, and Linux. To learn using this powerful system, students analyze sample sequence data by applying generic tools, bioinformatics software, and over 40 programs specifically written for this course. The solutions for all problems are included, making the book ideal for self-study. Problems are grouped into sections headed by an introduction and a list of new concepts and programs. By using practical computing to explore evolutionary concepts and sequence data, the book enables readers to tackle their own computational problems.