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**Don't Be Such a Scientist, Second Edition** - Randy Olson 2018-04-10

In *Don't Be Such a Scientist*, Randy Olson shares lessons of his transformation from tenured professor to Hollywood filmmaker, challenging the science world to toss out its stodgy past in favor of something more dynamic --and ultimately more human. In this second edition, Olson builds upon the radical approach of *Don't Be Such a Scientist* through timely updates and new stories. In his signature candid style, Olson weighs in on recent events in the science community, celebrating the rise in grassroots activism while critiquing the scientific establishment. In an age of renewed attack on science, *Don't Be Such a Scientist, Second Edition* is a provocative guide to making your voice heard.--

**A History of the Warfare of Science with Theology in Christendom** - Andrew Dickson White 1896

*General Palaeontology* - Aart Brouwer 1967

**The Oxford Handbook of Historical Ecology and Applied Archaeology** - Christian Isendahl 2019-01-10

The *Oxford Handbook of Historical Ecology and Applied Archaeology* presents theoretical discussions, methodological outlines, and case-studies describing the field of overlap between historical ecology and the emerging sub-discipline of applied archaeology to highlight how modern environments and landscapes have been shaped by humans. Historical ecology is based on the recognition that humans are not only capable of modifying their environments, but that all environments on earth have already been directly or indirectly modified. This includes anthropogenic climate change, widespread deforestations, and species extinctions, but also very local alterations, the effects of which may last a few years, or may have legacies lasting centuries or more. With contributions from anthropologists, archaeologists, human geographers, and historians, this volume focuses not just on defining human impacts in the past, but on the ways that understanding these changes can help inform contemporary practices and development policies. Some chapters present examples of how ancient or current societies have modified their environments in sustainable ways, while others highlight practices that had unintended long-term consequences. The possibilities of learning from these practices are discussed, as is the potential of using the long history of human resource exploitation as a method for building or testing models of future change. The volume offers overviews for students, researchers, and professionals with an interest in conservation or development projects who want to understand what practical insights can be drawn from history, and who seek to apply their work to contemporary issues.

**Time Before History** - H. Trawick Ward 1999

Describes the state's prehistory and archaeological discoveries

[The Princeton Guide to Evolution](#) - David A. Baum 2013-11-04

The *Princeton Guide to Evolution* is a comprehensive, concise, and authoritative reference to the major subjects and key concepts in evolutionary biology, from genes to mass extinctions. Edited by a distinguished team of evolutionary biologists, with contributions from leading researchers, the guide contains some 100 clear, accurate, and up-to-date articles on the most important topics in seven major areas: phylogenetics and the history of life; selection and adaptation; evolutionary processes; genes, genomes, and phenotypes; speciation and macroevolution; evolution of behavior, society, and humans; and evolution and modern society. Complete with more than 100 illustrations (including eight pages in color), glossaries of key terms, suggestions for further reading on each topic, and an index, this is an essential volume for undergraduate and graduate students, scientists in related fields, and anyone else with a serious interest in evolution. Explains key topics in some 100 concise and authoritative articles written by a team of leading evolutionary biologists. Contains more than 100 illustrations, including eight pages in color. Each article includes an outline, glossary, bibliography, and cross-references. Covers phylogenetics and the history of life; selection and adaptation; evolutionary processes; genes, genomes, and phenotypes; speciation and macroevolution; evolution of behavior, society, and humans; and evolution and modern society.

*Men of Mark in Connecticut; Ideals of American Life Told in Biographies and Autobiographies of Eminent Living Americans* - Norris Galpin Osborn 2018-02-24

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**Biodiversity** - John I. Spicer 2009-01-15

Discusses the many different life forms that have existed on Earth, their importance, and how they have changed over time.

Ordovician of the World - Diego García-Bellido Capdevila 2011

**Gorgon** - Peter Douglas Ward 2005

Based on more than a decade's research in South Africa's Karoo Desert, this remarkable journey of discovery and real-life adventure deep into Earth's history is offered by a renowned scientist. Photo insert.

A Bridge Between Cultures - David Kent Sproul 2001

Extinction Bad Genes Or Bad Luck - David Raup 1992-11-03

The science of extinction is a lively and moveable feast of scientific speculation and research. Scientist/author David Raup takes the subject of nature's disappearing act to task, covering everything from the Ice Age Blitzkrieg to the fate of the marshes on Martha's Vineyard, the extinction of flying reptiles to mankind's impact on tropical reefs. Graphs.

**A Text-book of Zoogeography** - Frank Evers Beddard 1895

**Bringing Fossils to Life** - Donald R. Prothero 2013-11-05

One of the leading textbooks in its field, *Bringing Fossils to Life* applies paleobiological principles to the fossil record while detailing the evolutionary history of major plant and animal phyla. It incorporates current research from biology, ecology, and population genetics, bridging the gap between purely theoretical paleobiological textbooks and those that describe only invertebrate paleobiology and that emphasize cataloguing live organisms instead of dead objects. For this third edition Donald R. Prothero has revised the art and research throughout, expanding the coverage of invertebrates and adding a discussion of new methodologies and a chapter on the origin and early evolution of life.

*Invertebrate Palaeontology and Evolution* - E. N. K. Clarkson 2013-07-23

*Invertebrate Palaeontology and Evolution* is well established as the foremost palaeontology text at the undergraduate level. This fully revised fourth edition includes a complete update of these sections on evolution and the fossil record, and the evolution of the early metazoans. New work on the classification of the major phyla (in particular brachiopods and molluscs) has been incorporated. The section on trace fossils is extensively rewritten. The author has taken care to involve specialists in the major groups, to ensure the taxonomy is as up-to-date and accurate as possible.

**Theoretical Morphology** - George R. McGhee 1999

McGhee describes the steps involved in defining the geometric parameters (theoretical morphospaces) for an organic form in order to generate a spectrum of other possible forms that have never actually appeared. The book also addresses the simulation of actual processes of morphogenesis, with the goal of attaining a more nuanced comprehension of how evolutionary processes work. The book covers theoretical morphospaces, including those for univalved, bivalved, discrete, and branching growth systems.

**Systematics and the Fossil Record** - Andrew B. Smith 2009-07-15

This new text sets out to establish the key role played by systematics in deciphering patterns of evolution from the fossil record. It begins by considering the nature of the species in the fossil record and then outlines recent advances in the methodology used to establish phylogenetic relationships, stressing why

fossil evidence can be crucial. The way species are grouped into higher taxa, and how this affects their utility in evolutionary studies is also discussed. Because the fossil record abounds with sampling and preservational biases, the book emphasizes that observed patterns can rarely be taken at face value. It is argued that evolutionary trees, constructed from combining phylogenetic and biostratigraphic data, provide the best approach for investigating patterns of evolution through geologic time. The only integrated text covering the study of evolutionary patterns from a phylogenetic stance.

*Principles of Paleontology* - David M. Raup 1971-01-01

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

In a book that is both groundbreaking and accessible, Daniel C. Dennett, whom Chet Raymo of *The Boston Globe* calls "one of the most provocative thinkers on the planet," focuses his 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.

Introduction to Paleobiology and the Fossil Record - Michael J. Benton 2013-04-25

This book presents a comprehensive overview of the science of the history of life. Paleobiologists bring many analytical tools to bear in interpreting the fossil record and the book introduces the latest techniques, from multivariate investigations of biogeography and biostratigraphy to engineering analysis of dinosaur skulls, and from homeobox genes to cladistics. All the well-known fossil groups are included, including microfossils and invertebrates, but an important feature is the thorough coverage of plants, vertebrates and trace fossils together with discussion of the origins of both life and the metazoans. All key related subjects are introduced, such as systematics, ecology, evolution and development, stratigraphy and their roles in understanding where life came from and how it evolved and diversified. Unique features of the book are the numerous case studies from current research that lead students to the primary literature, analytical and mathematical explanations and tools, together with associated problem sets and practical schedules for instructors and students. "...any serious student of geology who does not pick this book off the shelf will be putting themselves at a huge disadvantage. The material may be complex, but the text is extremely accessible and well organized, and the book ought to be essential reading for palaeontologists at undergraduate, postgraduate and more advanced levels—both in Britain as well as in North America." Falcon-Lang, H., *Proc. Geol. Assoc.* 2010 "...this is an excellent introduction to palaeontology in general. It is well structured, accessibly written and pleasantly informative .... I would recommend this as a standard reference text to all my students without hesitation." David Norman *Geol Mag* 2010 Companion website This book includes a companion website at: [www.blackwellpublishing.com/paleobiology](http://www.blackwellpublishing.com/paleobiology) The website includes: · An ongoing database of additional Practical's prepared by the authors · Figures from the text for downloading · Useful links for each chapter · Updates from the authors

*Marine Macroecology* - Jon D. Witman 2009-10-15

Pioneered in the late 1980s, the concept of macroecology—a framework for studying ecological communities with a focus on patterns and processes—revolutionized the field. Although this approach has been applied mainly to terrestrial ecosystems, there is increasing interest in quantifying macroecological patterns in the sea

and understanding the processes that generate them. Taking stock of the current work in the field and advocating a research agenda for the decades ahead, *Marine Macroecology* draws together insights and approaches from a diverse group of scientists to show how marine ecology can benefit from the adoption of macroecological approaches. Divided into three parts, *Marine Macroecology* first provides an overview of marine diversity patterns and offers case studies of specific habitats and taxonomic groups. In the second part, contributors focus on process-based explanations for marine ecological patterns. The third part presents new approaches to understanding processes driving the macroecological patterns in the sea. Uniting unique insights from different perspectives with the common goal of identifying and understanding large-scale biodiversity patterns, *Marine Macroecology* will inspire the next wave of marine ecologists to approach their research from a macroecological perspective.

*The Paleobiological Revolution* - David Sepkoski 2009-10-15

The *Paleobiological Revolution* chronicles the incredible ascendance of the once-maligned science of paleontology to the vanguard of a field. With the establishment of the modern synthesis in the 1940s and the pioneering work of George Gaylord Simpson, Ernst Mayr, and Theodosius Dobzhansky, as well as the subsequent efforts of Stephen Jay Gould, David Raup, and James Valentine, paleontology became embedded in biology and emerged as paleobiology, a first-rate discipline central to evolutionary studies. Pairing contributions from some of the leading actors of the transformation with overviews from historians and philosophers of science, the essays here capture the excitement of the seismic changes in the discipline. In so doing, David Sepkoski and Michael Ruse harness the energy of the past to call for further study of the conceptual development of modern paleobiology.

**Applied Palaeontology** - Robert Wynn Jones 2006-05-04

This book was first published in 2006. Palaeontology has developed from a descriptive science to an analytical science used to interpret relationships between earth and life history. *Applied Palaeontology* adopts a holistic, integrated approach to palaeontology, highlighting its key role in the study of the evolving earth, life history and environmental processes. After an introduction to fossils and their classification, each of the principal fossil groups are studied in detail, covering their biology, morphology, classification, palaeobiology and biostratigraphy. The latter sections focus on the applications of fossils in the interpretation of earth and life processes and environments. It concludes with case histories of how our knowledge of fossils is applied, in industry and elsewhere. This is a valuable reference for anyone involved in the applications of palaeontology, including earth, life and environmental scientists, and petroleum, minerals, mining and engineering professionals.

*Principles of Paleontology* - Michael Foote 2007

Michael Foote and Arnold Miller have stepped in to revise this classic text. It is their vision to take the core approach of the second edition, and reflect the substantial changes to the rudiments of the subject from the previous two decades. This third edition remains an excellent text for those studying geophysical sciences.

*American Megafaunal Extinctions at the End of the Pleistocene* - Gary Haynes 2008-12-23

The volume contains summaries of facts, theories, and unsolved problems pertaining to the unexplained extinction of dozens of genera of mostly large terrestrial mammals, which occurred ca. 13,000 calendar years ago in North America and about

1,000 years later in South America. Another equally mysterious wave of extinctions affected large Caribbean islands around 5,000 years ago. The coupling of these extinctions with the earliest appearance of human beings has led to the suggestion that foraging humans are to blame, although major climatic shifts were also taking place in the Americas during some of the extinctions. The last published volume with similar (but not identical) themes -- *Extinctions in Near Time* -- appeared in 1999; since then a great deal of innovative, exciting new research has been done but has not yet been compiled and summarized. Different chapters in this volume provide in-depth resumés of the chronology of the extinctions in North and South America, the possible insights into animal ecology provided by studies of stable isotopes and anatomical/physiological characteristics such as growth increments in mammoth and mastodont tusks, the clues from taphonomic research about large-mammal biology, the applications of dating methods to the extinctions debate, and archeological controversies concerning human hunting of large mammals.

*The Emerald Planet* - David Beerling 2017-05-12

Plants have profoundly moulded the Earth's climate and the evolutionary trajectory of life. Far from being 'silent witnesses to the passage of time', plants are dynamic components of our world, shaping the environment throughout history as much as that environment has shaped them. In *The Emerald Planet*, David Beerling puts plants centre stage, revealing the crucial role they have played in driving global changes in the environment, in recording hidden facets of Earth's history, and in helping us to predict its future. His account draws together evidence from fossil plants, from experiments with their living counterparts, and from computer models of the 'Earth System', to illuminate the history of our planet and its biodiversity. This new approach reveals how plummeting carbon dioxide levels removed a barrier to the evolution of the leaf; how plants played a starring role in pushing oxygen levels upwards, allowing spectacular giant insects to thrive in the Carboniferous; and it strengthens fascinating and contentious fossil evidence for an ancient hole in the ozone layer. Along the way, Beerling introduces a lively cast of pioneering scientists from Victorian times onwards whose discoveries provided the crucial background to these and the other puzzles. This understanding of our planet's past sheds a sobering light on our own climate-changing activities, and offers clues to what our climatic and ecological futures might look like. There could be no more important time to take a close look at plants, and to understand the history of the world through the stories they tell. Oxford Landmark Science books are 'must-read' classics of modern science writing which have crystallized big ideas, and shaped the way we think.

*Explorers of Deep Time* - Roy Plotnick 2022-01-04

Paleontology is one of the most visible yet most misunderstood fields of science. Children dream of becoming paleontologists when they grow up. Museum visitors flock to exhibits on dinosaurs and other prehistoric animals. The media reports on fossil discoveries and new clues to mass extinctions. Nonetheless, misconceptions abound: paleontologists are assumed only to be interested in dinosaurs, and they are all too often imagined as bearded white men in battered cowboy hats. Roy Plotnick provides a behind-the-scenes look at paleontology as it exists today in all its complexity. He explores the field's aims, methods, and possibilities, with an emphasis on the compelling personal stories of the scientists who have made it a career. Paleontologists study the entire history of life on Earth; they do not only use hammers and chisels to unearth fossils but are just as likely to work with cutting-edge computing technology. Plotnick presents the big questions about life's history that drive paleontological research and shows why knowledge of

Earth's past is essential to understanding present-day environmental crises. He introduces readers to the diverse group of people of all genders, races, and international backgrounds who make up the twenty-first-century paleontology community, foregrounding their perspectives and firsthand narratives. He also frankly discusses the many challenges that face the profession, with key takeaways for aspiring scientists. Candid and comprehensive, *Explorers of Deep Time* is essential reading for anyone curious about the everyday work of real-life paleontologists.

*Palaeobiology II* - Derek E. G. Briggs 2008-04-15

*Palaeobiology: A Synthesis* was widely acclaimed both for its content and production quality. Ten years on, Derek Briggs and Peter Crowther have once again brought together over 150 leading authorities from around the world to produce *Palaeobiology II*. Using the same successful formula, the content is arranged as a series of concise articles, taking a thematic approach to the subject, rather than treating the various fossil groups systematically. This entirely new book, with its diversity of new topics and over 100 new contributors, reflects the exciting developments in the field, including accounts of spectacular newly discovered fossils, and embraces data from other disciplines such as astrobiology, geochemistry and genetics. *Palaeobiology II* will be an invaluable resource, not only for palaeontologists, but also for students and researchers in other branches of the earth and life sciences. Written by an international team of recognised authorities in the field. Content is concise but informative. Demonstrates how palaeobiological studies are at the heart of a range of scientific themes.

**Principles of Paleontology** - David Raup 1978-03-15

Explains in a clear and concise manner the factors involved in the description and classification of fossils and the practical applications of paleontologic data

*A Framework for Post-phylogenetic Systematics* - Richard H. Zander 2013

The Framework for Post-Phylogenetic Systematics reframes biological systematics to reconcile classical and cladistic schools. It combines scientific intuition and statistical inference in a new form of total evidence analysis developing a joint macroevolutionary process-based causal theory. Discrepancies between classical results and morphological and molecular cladograms are explained through heterophyletic inference of deep ancestral taxa, coarse priors leading to Bayesian Solution of total evidence, self-nesting ladders that can reverse branching order, and a superoptimization protocol that aids in distinguishing pseudoextinction from budding evolution. It determines direction of transformative evolution through Dollo evaluation at the taxon level. The genus as a basic, practical unit of evolution is postulated for taxa with dissilient evolution. Scientific intuition is defended as highly developed heuristics based on physical principles. The geometric mean and Fibonacci series in powers of the golden ratio explain distributions of measurements of the form (a-)b-c(-d) when close to zero. This series is basic both to S. J. Gould's speciation reformulation of macroevolution and to psychologically salient numbers. The effect of molecular systematics on conservation and biodiversity research is shown to be of immediate concern. The value of cladistic study for serial macroevolutionary reconstruction is reduced to-in morphological studies, evaluation of relatively primitive or advanced taxa, and distinction of taxa by autapomorphies, and-in molecular studies, identification of deep ancestors via heterophyly or unreasonable patristic distance not explainable by extinct or unsampled extended paraphyly. Evolutionary paraphyly is common in cladistics and is to be avoided; phylogenetic paraphyly, however, can be informative.

*Rereading the Fossil Record* - David Sepkoski 2012-04-16

The title provides a historical account of the origin, rise, and importance of paleobiology. Drawing on a wealth of archival material, Sepkoski shows how the movement was promoted by an influential group of paleontologists and examines the intellectual, disciplinary, and political dynamics involved in the ascendancy of paleobiology.

**Applications of Palaeontology** - Robert Wynn Jones 2011-08-18

Palaeontology, the scientific study of fossils, has developed from a descriptive science to an analytical science used to interpret relationships between earth and life history. This book provides a comprehensive and thematic treatment of applied palaeontology, covering the use of fossils in the ordering of rocks in time and in space, in biostratigraphy, palaeobiology and sequence stratigraphy. Robert Wynn Jones presents a practical workflow for applied palaeontology, including sample acquisition, preparation and analysis, and interpretation and integration. He then presents numerous case studies that demonstrate the applicability and value of the subject to areas such as petroleum, mineral and coal exploration and exploitation, engineering geology and environmental science. Specialist applications outside of the geosciences (including archaeology, forensic science, medical palynology, entomopalynology and melissopalynology) are also addressed. Abundantly illustrated and referenced, *Applications of Palaeontology* provides a user-friendly reference for academic researchers and professionals across a range of disciplines and industry settings.

Paleoecology - David J. Bottjer 2016-02-09

Paleoecology is a discipline that uses evidence from fossils to provide an understanding of ancient environments and the ecological history of life through geological time. This text covers the fundamental approaches that have provided the foundation for present paleoecological understanding, and outlines new research areas in paleoecology for managing future environmental and ecological change. Topics include the use of actualism in paleoecology, development of paleoecological models for paleoenvironmental reconstruction, taphonomy and exceptional fossil preservation, evolutionary paleoecology and ecological change through time, and conservation paleoecology. Data from studies of invertebrates, vertebrates, plants and microfossils, with added emphasis on bioturbation and microbial sedimentary structures, are discussed. Examples from marine and terrestrial environments are covered, with a particular focus on periods of great ecological change, such as the Precambrian-Cambrian transition and intervals of mass extinction. Readership: This book is designed for advanced undergraduates and beginning graduate students in the earth and biological sciences, as well as researchers and applied scientists in a range of related disciplines.

**Comparing the Geological and Fossil Records** - Alistair McGowan 2011

The past decade has witnessed a major revival in attempts to separate biodiversity signals from biases imposed by sampling and the architecture of the rock record. How large a problem this poses to our understanding of biodiversity patterns remains debatable, and new approaches are being developed to investigate this question. Here palaeobiologists with widely differing approaches and interests explore the problems of extracting reliable information on biodiversity change from an imperfect geological record. Topics covered range from the application of information-theoretic approaches that identify directional causal relationships to an in-depth study of how geological biases could influence our understanding of dinosaur evolution.

Unfinished Synthesis - Niles Eldredge 1985-11-21

This study provides a stimulating critique of contemporary evolutionary thought, analyzing the Modern Synthesis first developed by Theodosius Dobzhansky, Ernst Mayr, and George Gaylord Simpson. The author argues that although only genes and organisms are taken as historic "individuals" in conventional theory, species, higher taxa, and ecological entities such as populations and communities should also be construed as individuals--an approach that yields the ecological and genealogical hierarchies that interact to produce evolution. This clearly stated, controversial work will provoke much debate among evolutionary biologists, systematists, paleontologists, and ecologists, as well as a wide range of educated lay readers.

*The Evolution of Paleontological Art* - Renee M. Clary 2022-01-28

"This volume samples the history of art about fossils--and the visual conceptualization of their significance--starting with biblical and mythological depictions, extending to renditions of ancient life in long-vanished habitats, and on to a modern understanding that paleoart conveys lessons for the betterment of the human condition. Twenty-nine chapters illustrate how art about fossils has come to be a significant teaching tool not only about evolution of past life, but also about conservation of our planet for the benefit of future generations"--

*Insect Mouthparts* - Harald W. Krenn 2019-12-09

This is the first comprehensive book focusing on the form and function of insect mouthparts. Written by leading experts, it reviews the current knowledge on feeding types and the evolution of mouthparts and presents new research

approaches. The richly illustrated articles cover topics ranging from functional morphology, biomechanics of biting and chewing, and the biophysics of fluid-feeding to the morphogenesis and genetics of mouthpart development, ecomorphology in flower-visiting insects as well as the evolution of mouthparts, including fossil records. Intended for entomologists and scientists interested in interdisciplinary approaches, the book provides a solid basis for future scientific work. Chapter 6 of this book is available open access under a CC BY 4.0 license at [link.springer.com](http://link.springer.com).

**Graphic Correlation** - Keith Olin Mann 1995

*Vertebrate Palaeontology* - Michael J. Benton 1991

**Key Concepts in Geomorphology** - Paul R. Bierman 2019-11-18

Developed with extensive community involvement and support from the US National Science Foundation, it is about our planet's dynamic surface, a place where Earth and atmosphere meet and life thrives. Key Concepts in Geomorphology takes an integrative science approach that applies principles of physics, chemistry, biology, and mathematics in the understanding of Earth surface processes and the evolution of topography over short and long timescales to solve problems important to people and societies. The authors also hone in on practical applications, showing how scientists are using geomorphological research to tackle critical societal issues (natural disaster response, safer infrastructure, protecting species, and more).