

Biology In Context The Spectrum Of Life

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International Seminar on Nuclear War and Planetary Emergencies, 29th Session Richard C. Ragaini 2003 This proceedings volume contains presentations, group discussions and reports on terrorism-related issues, such as: motivations; tools and countermeasures; worldwide stability; risk analysis.

Integrating Evolutionary Biology into Medical Education Jay Schulkin 2019-12-12 Clinicians and scientists are increasingly recognising the importance of an evolutionary perspective in studying the aetiology, prevention, and treatment of human disease; the growing prominence of genetics in medicine is further adding to the interest in evolutionary medicine. In spite of this, too few medical students or residents study evolution. This book builds a compelling case for integrating evolutionary biology into undergraduate and postgraduate medical education, as well as its intrinsic value to medicine. Chapter by chapter, the authors - experts in anthropology, biology, ecology, physiology, public health, and various disciplines of medicine - present the rationale for clinically-relevant evolutionary thinking. They achieve this within the broader context of medicine but through the focused lens of maternal and child health, with an emphasis on female reproduction and the early-life biochemical, immunological, and microbial responses influenced by evolution. The tightly woven and accessible narrative illustrates how a medical education that considers evolved traits can deepen our understanding of the complexities of the human body, variability in health, susceptibility to disease, and ultimately help guide treatment, prevention, and public health policy. However, integrating evolutionary biology into medical education continues to face several roadblocks. The medical curriculum is already replete with complex subjects and a long period of training. The addition of an evolutionary perspective to this curriculum would certainly seem daunting, and many medical educators express concern over potential controversy if evolution is introduced into the curriculum of their schools. Medical education urgently needs strategies and teaching aids to lower the barriers to incorporating evolution into medical training. In summary, this call to arms makes a strong case for incorporating evolutionary thinking early in medical training to help guide the types of critical questions physicians ask, or should be asking. It will be of relevance and use to evolutionary biologists, physicians, medical students, and biomedical research scientists.

Biology in Context Eileen Kennedy 2005

Lessons on Synthetic Bioarchitectures Eva-Kathrin Ehmöser-Sinner 2018-03-09 This textbook discusses the new relationship between artificial, synthetic material and living matter, and presents defined examples of approaches aiming for the creation of artificial cells. It also offers insights into the world of synthetic biology from its origins to the present day, showing what is currently possible in this discipline. Furthermore, it examines the ethical concerns and potential threats posed by this new field. The textbook is based on a lecture of the same title, held for master's students at the University of Natural Resources and Life Sciences (BOKU), Vienna, and is primarily intended for students of synthetic biology, biotechnology and bioengineering. It is also of interest to research scientists from other disciplines wishing to learn more about the state of the art of synthetic biology and its future.

Biology in Context Eileen Kennedy 2002

The Routledge Companion to Biology in Art and Architecture Charissa N. Terranova 2016-08-12 The Routledge Companion to Biology in Art and Architecture collects thirty essays from a transdisciplinary array of experts on biology in art and architecture. The book presents a diversity of hybrid art-and-science thinking, revealing how science and culture are interwoven. The book situates bioart and bioarchitecture within an expanded field of biology in art, architecture, and design. It proposes an emergent field of biocreativity and outlines its historical and theoretical foundations from the perspective of artists, architects, designers, scientists, historians, and theoreticians. Includes over 150 black and white images.

Life in the Frozen State Barry J Fuller 2019-08-30 While it is barely 50 years since the first reliable reports of the recovery of living cells frozen to cryogenic temperatures, there has been tremendous growth in the use of cryobiology in medicine, agriculture, horticulture, forestry, and the conservation of endangered or economically important species. As the first major text on cryobiology in the genomic era, *Life in the Frozen State* describes the current understanding of how living cells and complex organisms survive very low temperatures. Leading world experts combine fundamental theory and practice across a spectrum of species and applications to evaluate how cryobiology can benefit humanity. Chapters encompass disciplines ranging from mathematical modeling and biophysics, to the molecular biology of stress gene expression and the clinical banking of cells and tissues. This book provides a unique opportunity to explore the subject in a multidisciplinary context, which has historically been the key to realizing some of the most exciting advances in low temperature research. Features Integrates fundamental theory and practice across a broad range of species and applications Discusses cryobiology within a multidisciplinary context Emphasizes how the current knowledge of cryobiology can be applied to benefit humanity through health care and conservation

Society and Structures R Ragaini 2003-08-12 This proceedings volume contains presentations, group discussions and reports on terrorism-related issues, such as: motivations; tools and countermeasures; worldwide stability; risk analysis. Contents:Opening Session (A Zichichi)/Motivations (A Kamal, D W Hanson, L Alurralde, R Wilson, W Müller-Seedorf, F Mehr, I Karawan, G M Mirdal, A Peyraube, J Diez-Nicolás, K Talattof & W Fulkerson)/Worldwide Stability (T Taylor, J Savy, W E Kastenber, E S Vergino & M Moodie)/Tools and Countermeasures (R A Mason, R G Manley, C R Penn, S Leivesley, A E Smithson & J R Westby)/Permanent Monitoring Panel Reports (T Taylor)/Motivations Working Group Report (A Kamal, M Sánchez-Sorondo & F Waelbroek)/Tools and Countermeasures Working Group Report (R A Mason & K K Rebane)/Worldwide Stability Working Group Report (T Taylor) ReaderShip: Scientists, academics, psychologists, sociologists, political analysts, historians, government officials. Keywords:Cultural Emergency;Worldwide Stability;Motivations of Terrorism;Tools and Countermeasures Against Terrorism;Risk Analysis and Terrorism

Life at the Edge of Sight Scott Chimileski 2017-09-25 This stunning photographic essay opens a new frontier for readers to explore through words and images. Microbial studies have clarified life's origins on Earth, explained the functioning of ecosystems, and improved both crop yields and human health. Scott Chimileski and Roberto Kolter are expert guides to an invisible world waiting in plain sight.

Theoretical Foundations and Biological Bases of Development in Adolescence Richard M. Lerner 1999 First published in 1999. Routledge is an imprint of Taylor & Francis, an informa company.

Molecular Biology of the Cell Bruce Alberts 2004

The Search for Life's Origins National Research Council 1990-02-01 The field of planetary biology and chemical evolution draws together experts in astronomy, paleobiology, biochemistry, and space science who work together to understand the evolution of living systems. This field has made exciting discoveries that shed light on how organic compounds came together to form self-replicating molecules—the origin of life. This volume updates that progress and offers recommendations on research programs—including an ambitious effort centered on Mars—to advance the field over the next 10 to 15 years. The book presents a wide range of data and research results on these and other issues: The biogenic elements and their interaction in the interstellar clouds and in solar nebulae. Early planetary environments and the conditions that lead to the origin of life. The evolution of cellular and multicellular life. The search for life outside the solar system. This volume will become required reading for anyone involved in the search for life's beginnings—including exobiologists, geoscientists, planetary scientists, and U.S. space and science policymakers.

Inter-identities' in Life, Mind, and Society Arantza Etxeberria 2021-08-18

Functional Imaging in living Plants - Cell Biology meets Physiology Alex Costa 2015-05-08 The study of plant cell physiology is currently experiencing a profound transformation. Novel techniques allow dynamic in vivo imaging with subcellular resolution, covering a rapidly growing range of plant cell physiology. Several basic biological questions that have been inaccessible by the traditional combination of biochemical, physiological and cell biological approaches now see major progress. Instead of grinding up tissues, destroying their organisation, or describing cell- and tissue structure, without a measure for its function, novel imaging approaches can provide the critical link between localisation, function and dynamics. Thanks to a fast growing collection of available fluorescent protein variants and sensors, along with innovative new microscopy technologies and quantitative analysis tools, a wide range of plant biology can now be studied in vivo, including cell morphology & migration, protein localization, topology & movement, protein-protein interaction, organelle dynamics, as well as ion, ROS & redox dynamics. Within the cell, genetic targeting of fluorescent protein probes to different organelles and subcellular locations has started to reveal the stringently compartmentalized nature of cell physiology and its sophisticated spatiotemporal regulation in response to environmental stimuli. Most importantly, such cellular processes can be monitored in their natural 3D context, even in complex tissues and organs – a condition not easily met in studies on mammalian cells. Recent new insights into plant cell physiology by functional imaging have been largely driven by technological developments, such as the design of novel sensors, innovative microscopy & imaging techniques and the quantitative analysis of complex image data. Rapid further advances are expected which will require close interdisciplinary interaction of plant biologists with chemists, physicists, mathematicians and computer scientists. High-throughput approaches will become increasingly important, to fill genomic data with 'life' on the scale of cell physiology. If the vast body of information generated in the -omics era is to generate actual mechanistic understanding of how the live plant cell works, functional imaging has enormous potential to adopt the role of a versatile standard tool across plant biology and crop breeding. We welcome original research papers, methodological papers, reviews and mini reviews, with particular attention to contributions in which novel imaging techniques enhance our understanding of plant cell physiology and permits to answer questions that cannot be easily addressed with other techniques.

Unraveling the Exposome Sonia Dagnino 2018-10-08 This volume presents a comprehensive overview of the science and application of the Exposome through seventeen chapters from leaders in the field. At just over ten years since the term was coined by Christopher Wild in 2005, this is the first, field-defining volume to offer a holistic picture of the important and growing field of Exposomics. The term "Exposome" describes the sum of all exposures (not only chemical) that an individual can receive over a lifetime from both exogenous sources (environmental contaminants, food, lifestyle, drugs, air, etc.) and endogenous sources (metabolism, oxidative stress, lipid peroxidation, chemicals synthesized by the microbiome, etc.). The first section of this book contains chapters that discuss how the Exposome is defined and how the concept fits into the fields of public health and epidemiology. The second section provides an overview of techniques and methods to measure the human Exposome. The third section contains methods and applications for measuring the Exposome through external exposures. Section four provides an overview on statistical and computational techniques- including big data analysis - for characterizing the Exposome. Section five presents a global collection of case studies

Foundation Mathematics for Biosciences Elzbieta Bryson 2016-10-10 This integrated learning solution, comprising a book and online assessment support (MyMathLabGlobal), provides tools to develop foundation numeracy and maths skills for students of the biosciences. It can be used with courses at the pure end of the spectrum to courses of a highly applied nature, such as biomedical sciences, molecular biology, microbiology, physiology and forensics. The subject coverage has been designed to support the practical as well as theoretical aspects of these courses, and is in large part set in a biological context so that students can directly see the relevance of maths skills to their main subject.

Australian Books in Print 1998

Astronomy and Civilization in the New Enlightenment Anna-Teresa Tymieniecka 2010-11-18 This volume represents the first which interfaces with astronomy as the fulcrum of the sciences. It gives full expression to the human passion for the skies. Advancing human civilization has unfolded and matured this passion into the comprehensive science of astronomy. Advancing science's quest for the first principles of existence meets the ontological generative logos of life, the focal point of the New Enlightenment. It presents numerous perspectives illustrating how the interplay between human beings and the celestial realm has informed civilizational trends. Scholars and philosophers debate in physics and biology, the findings of which are opening a more inclusive, wider picture of the universe. The different models of the universal order and of life here presented, all aiming at the first principles of existence—accord with the phenomenology/ontopoiesis of life within the logos-prompted primogenital stream of becoming and action, which points to a future of progressing culture.

Astrobiology Octavio A. Chon Torres 2021-09-22 ASTROBIOLOGY This unique book advances the frontier discussion of a wide spectrum of astrobiological issues on scientific advances, space ethics, social impact, religious meaning, and public policy formulation. Astrobiology is an exploding discipline in which not only the natural sciences, but also the social sciences and humanities converge. Astrobiology: Science, Ethics, and Public Policy is a multidisciplinary book that presents different perspectives and points of view by its contributing specialists. Epistemological, moral and political issues arising from astrobiology, convey the complexity of challenges posed by the search for life elsewhere in the universe. We ask: if a convoy of colonists from Earth make the trip to Mars, should their genomes be edited to adapt to the Red Planet's environment? If scientists discover a biosphere with microbial life within our solar system, will it possess intrinsic value or merely utilitarian value? If astronomers discover an intelligent civilization on an exoplanet elsewhere in the Milky Way, what would be humanity's moral responsibility: to protect Earth from an existential threat? To treat other intelligences with dignity? To exploit through interstellar commerce? To conquer? Audience The book will attract readers from a wide range of interests including astronomers, astrobiologists, chemists, biologists, space engineers, ethicists, theologians and philosophers.

Life-Oriented Behavioral Research for Urban Policy Junyi Zhang 2017-01-03 This book presents a life-oriented approach, which is an interdisciplinary methodology proposed for cross-sectoral urban policy decisions such as transport, health, and energy policies. Improving people's quality of life (QOL) is one of the common goals of various urban policies on the one hand, while QOL is closely linked with a variety of life choices on the other. The life-oriented approach argues that life choices in different domains (e.g., residence, neighborhood, health, education, work, family life, leisure and recreation, finance, and travel behavior) are not independent of one another, and ignorance of and inability to understand interdependent life choices may result in a failure of consensus building for policy decisions. The book provides evidence about behavioral interdependencies among life domains based on both extensive literature reviews and case studies covering a broad set of life choices. This work further illustrates interbehavioral analysis frameworks with respect to various life domains, along with a rich set of future research directions. This book deals with life choices in a relatively general way. Thus, it can serve not only as a reference for research, but also as a textbook for teaching and learning in varied behavior-related disciplines.

Wildlife and Emerging Zoonotic Diseases: The Biology, Circumstances and Consequences of Cross-Species Transmission James E. Childs 2007-07-23 This volume offers an overview of the processes of zoonotic viral emergence, the intricacies of host/virus interactions, and the role of biological transitions and modifying factors. The themes introduced here are amplified and explored in detail by the contributing authors, who explore the mechanisms and unique circumstances by which evolution, biology, history, and current context have contrived to drive the emergence of different zoonotic agents by a series of related events.

In the Light of Evolution Jonathan B. Losos 2011 Evolution Emerging is a collection of essays by leading scientists. The essays are fascinating stories in themselves, but they also give an insiders view into how these researchers go about their work. Contributors include Edmund Brodie III, James Curtsinger, Ted Daeschler, Douglas Emlen, Harry Greene, Luke Harmon, Daniel Lieberman, Jonathan Losos, Axel Meyer, David C. Queller, Neil Shubin, David Reznick, Michael Ryan, and Marlene Zuk. The book also includes an essay by award-winning science writer Carl Zimmer and a foreword by David Quammen.

Astrobiology, Discovery, and Societal Impact Steven J. Dick 2018-05-03 Examines humanistic aspects of astrobiology, exploring approaches, critical issues, and implications of the discovery of extraterrestrial life.

Encyclopedia of Astrobiology Muriel Gargaud 2011-05-26 Astrobiology is a remarkably interdisciplinary field. This reference serves as a key to understanding technical terms from the different subfields of astrobiology, including astronomy, biology, chemistry, the geosciences and the space sciences.

The Evolution of Complex and Higher Organisms ECHO Science Workshops 1985

Developmental Psychopathology, Developmental Neuroscience Dante Cicchetti 2016-02-29 The complete reference of biological bases for psychopathology at any age Developmental Psychopathology is a four-volume compendium of the most complete and current research on every aspect of the field. Volume Two: Developmental Neuroscience focuses on the biological basis of psychopathology at each life stage, from nutritional deficiencies to genetics to functional brain development to evolutionary perspectives and more. Now in its third edition, this comprehensive reference has been fully updated to better reflect the current state of the field, and detail the newest findings made possible by advances in technology and neuroscience. Contributions from expert researchers and clinicians provide insight into brain development, molecular genetics methods, neurogenetics approaches to pathway mapping, structural neuroimaging, and much more, including targeted discussions of specific disorders. Advances in developmental psychopathology have burgeoned since the 2006 publication of the second edition, and keeping up on the latest findings in multiple avenues of investigation can be burdensome to the busy professional. This series solves the problem by collecting the information into one place, with a logical organization designed for easy reference. Consider evolutionary perspectives in developmental psychopathology Explore typical and atypical brain development across the life span Examine the latest findings on stress, schizophrenia, anxiety, and more Learn how genetics are related to psychopathology at different life stages The complexity of a field as diverse as developmental psychopathology deepens with each emerging theory, especially with consideration of the rapid pace of neuroscience advancement and genetic discovery. Developmental Psychopathology Volume Two: Developmental Neuroscience provides an invaluable resource by compiling the latest information into a cohesive, broad-reaching reference.

Free Radicals in Biology and Medicine Barry Halliwell 2015-07-16 Free Radicals in Biology and Medicine has become a classic text in the field of free radical and antioxidant research. Now in its fifth edition, the book has been comprehensively rewritten and updated whilst maintaining the clarity of its predecessors. Two new chapters discuss 'in vivo' and 'dietary' antioxidants, the first emphasising the role of peroxiredoxins and integrated defence mechanisms which allow useful roles for ROS, and the second containing new information on the role of fruits, vegetables, and vitamins in health and disease. This new edition also contains expanded coverage of the mechanisms of oxidative damage to lipids, DNA, and proteins (and the repair of such damage), and the roles played by reactive species in signal transduction, cell survival, death, human reproduction, defence mechanisms of animals and plants against pathogens, and other important biological events. The methodologies available to measure reactive species and oxidative damage (and their potential pitfalls) have been fully updated, as have the topics of phagocyte ROS production, NADPH oxidase enzymes, and toxicology. There is a detailed and critical evaluation of the role of free radicals and other reactive species in human diseases, especially cancer, cardiovascular, chronic inflammatory and neurodegenerative diseases. New aspects of ageing are discussed in the context of the free radical theory of ageing. This book is recommended as a comprehensive introduction to the field for students, educators, clinicians, and researchers. It will also be an invaluable companion to all those interested in the role of free radicals in the life and biomedical sciences.

Biology in Context Peter Abusson 2000 Meets the requirements of the new NSW Biology syllabus for both the Preliminary and HSC courses, and is organised so that students can monitor their progress, test their understanding and revise key concepts and ideas at their own pace.

Natural Computing and Beyond Yasuhiro Suzuki 2013-04-01 This book contains the joint proceedings of the Winter School of Hakodate (WSH) 2011 held in Hakodate, Japan, March 15–16, 2011, and the 6th International Workshop on Natural Computing (6th IWNC) held in Tokyo, Japan, March 28–30, 2012, organized by the Special Interest Group of Natural Computing (SIG-NAC), the Japanese Society for Artificial Intelligence (JSAI). This volume compiles refereed contributions to various aspects of natural computing, ranging from computing with slime mold, artificial chemistry, eco-physics, and synthetic biology, to computational aesthetics.

Biodemography James R. Carey 2020-01-07 An authoritative overview of the concepts and applications of biological demography This book provides a comprehensive introduction to biodemography, an exciting interdisciplinary field that unites the natural science of biology with the social science of human demography. Biodemography is an essential resource for demographers, epidemiologists, gerontologists, and health professionals as well as ecologists, population biologists, entomologists, and conservation biologists. This accessible and innovative book is also ideal for the classroom. James Carey and Deborah Roach cover everything from baseline demographic concepts to biodemographic applications, and present models and equations in discrete rather than continuous form to enhance mathematical accessibility. They use a wealth of real-world examples that draw from data sets on both human and nonhuman species and offer an interdisciplinary approach to demography like no other, with topics ranging from kinship theory and family demography to reliability engineering, tort law, and demographic disasters such as the Titanic and the destruction of Napoleon's Grande Armée. Provides the first synthesis of demography and biology Covers baseline demographic models and concepts such as Lexis diagrams, mortality, fecundity, and population theory Features in-depth discussions of biodemographic applications like harvesting theory and mark-recapture Draws from data sets on species ranging from fruit flies and plants to elephants and humans Uses a uniquely interdisciplinary approach to demography, bringing together a diverse range of concepts, models, and applications Includes informative "biodemographic shorts," appendices on data visualization and management, and more than 150 illustrations of models and equations

Modeling Life Alan Garfinkel 2017-09-06 This book develops the mathematical tools essential for students in the life sciences to describe interacting systems and predict their behavior. From predator-prey populations in an ecosystem, to hormone regulation within the body, the natural world abounds in dynamical systems that affect us profoundly. Complex feedback relations and counter-intuitive responses are common in nature; this book develops the quantitative skills needed to explore these interactions. Differential equations are the natural mathematical tool for quantifying change, and are the driving force throughout this book. The use of Euler's method makes nonlinear examples tractable and accessible to a broad spectrum of early-stage undergraduates, thus providing a practical alternative to the procedural approach of a traditional Calculus curriculum. Tools are developed within numerous, relevant examples, with an emphasis on the construction, evaluation, and interpretation of mathematical models throughout. Encountering these concepts in context, students learn not only quantitative techniques, but how to bridge between biological and mathematical ways of thinking. Examples range broadly, exploring the dynamics of neurons and the immune system, through to population dynamics and the Google PageRank algorithm. Each scenario relies only on an interest in the natural world; no biological expertise is assumed of student or instructor. Building on a single prerequisite of Pre-calculus, the book suits a two-quarter sequence for first or second year undergraduates, and meets the mathematical requirements of medical school entry. The later material provides opportunities for more advanced students in both mathematics and life sciences to revisit theoretical knowledge in a rich, real-world framework. In all cases, the focus is clear: how does the math help us understand the science?

Casualties of Care Miriam I. Ticktin 2011-08-29 This book explores the unintended consequences of compassion in the world of immigration politics. Miriam Ticktin focuses on France and its humanitarian immigration practices to argue that a politics based on care and protection can lead the state to view issues of immigration and asylum through a medical lens. Examining two "regimes of care"—humanitarianism and the movement to stop violence against women—Ticktin asks what it means to permit the sick and sexually violated to cross borders while the impoverished cannot? She demonstrates how in an inhospitable immigration climate, unusual pathologies can become the means to residency papers, making conditions like HIV, cancer, and select experiences of sexual violence into distinct advantages for would-be migrants. Ticktin's analysis also indicts the inequalities forged by global capitalism that drive people to migrate, and the state practices that criminalize the majority of undocumented migrants at the expense of care for the exceptional few.

Analyzing Digital Discourse and Human Behavior in Modern Virtual Environments Baggio, Bobbe Gaines 2016-02-09 Though humans have been communicating through virtual mediators since the invention of the telephone, new technologies make the use of virtual communications even more immediate and pervasive than ever before. By understanding the theories and models behind virtual communication, one can understand the way society has been changed and how it will continue to do so. Analyzing Digital Discourse and Human Behavior in Modern Virtual Environments examines the implications of virtual communication and online interaction and the theories and trends associated with them. It will discuss and address the differences and challenges that develop when communicating virtually and explore the various influences virtual communication plays in work, education, and quotidian life. This title provides a foundation of emerging trends from which new theories and models of communication can grow. This book will become a cherished resource for academics, researchers, technology developers, students, and government or institutional leaders.

Handbook of the Life Course Jaylan T. Mortimer 2007-12-14 This comprehensive handbook provides an overview of key theoretical perspectives, concepts, and methodological approaches that, while applied to diverse phenomena, are united in their general approach to the study of lives across age phases. In surveying the wide terrain of life course studies with dual emphases on theory and empirical research, this important reference work presents probative concepts and methods and identifies promising avenues for future research.

Redisplaying Museum Collections Hannah Paddon 2016-04-08 This is the first book to examine, in depth, the multi-million pound redisplay and reinterpretation process in British museums in the early twenty-first century. Acknowledging the importance of the Heritage Lottery Fund (HLF) as project catalyst, Hannah Paddon explains and explores the complex process, from the initial stages of project conceptualisation to the final stages of museum re-opening and exhibition evaluation. She also provides an in-depth look, using three case study museums, at the factors which shape each museum redisplay project including topics such as museum architecture, government agendas and the exhibition team. Finally, the book offers discussions and conclusions around pitfalls and successes and thoughts about the future of collection redisplay.

Low Temperature Biology of Insects David L. Denlinger 2010-01-28 Low temperature is a major environmental constraint impacting the geographic distribution and seasonal activity patterns of insects. Written for academic researchers in environmental physiology and entomology, this book explores the physiological and molecular mechanisms that enable insects to cope with a cold environment and places these findings into an evolutionary and ecological context. An introductory chapter provides a primer on insect cold tolerance and subsequent chapters in the first section discuss the organismal, cellular and molecular responses that allow insects to survive in the cold despite their, at best, limited ability to regulate their own body temperature. The second section, highlighting the evolutionary and macrophysiological responses to low temperature, is especially relevant for understanding the impact of global climate change on insect systems. A final section translates the knowledge gained from the rest of the book into practical applications including cryopreservation and the augmentation of pest management strategies.

The Darwinian Tradition in Context Richard G. Delisle 2017-12-29 The main goal of this book is to put the Darwinian tradition in context by raising questions such as: How should it be defined? Did it interact with other research programs? Were there any research programs that developed largely independently of the Darwinian tradition? Accordingly, the contributing authors explicitly explore the nature of the relationship between the Darwinian tradition and other research programs running in parallel. In the wake of the Synthetic Theory of Evolution, which was established throughout the 1930s, 1940s, and 1950s, historians and philosophers of biology devoted considerable attention to the Darwinian tradition, i.e., linking Charles Darwin to mid-Twentieth-Century developments in evolutionary biology. Since then, more recent developments in evolutionary biology have challenged, in part or entirely, the heritage of the Darwinian tradition. Not surprisingly, this has in turn been followed by a historiographical "recalibration" on the part of historians and philosophers regarding other research programs and traditions in evolutionary biology. In order to acknowledge this shift, the papers in this book have been arranged on the basis of two main threads: Part I: A perspective that views Darwinism as either being originally pluralistic or having acquired such a pluralistic nature through modifications and borrowings over time. Part II: A perspective blurring the boundaries between non-Darwinian and Darwinian traditions, either by contending that Darwinism itself was never quite as Darwinian as previously assumed, or that non-Darwinian traditions took on board various Darwinian components, when not fertilizing Darwinism directly. Between a Darwinism reaching out to other research programs and non-Darwinian programs reaching out to Darwinism, the least that can be said is that this interweaving of intellectual threads blurs the historiographical field. This volume aims to open vital new avenues for approaching and reflecting on the development of evolutionary biology.

The Astrophysical Context of Life National Research Council 2005-06-25 In 1997, the National Aeronautics and Space Administration (NASA) formed the National Astrobiology Institute to coordinate and fund research into the origins, distribution, and fate of life in the universe. A 2002 NRC study of that program, *Life in the Universe: An Assessment of U.S. and International Programs in Astrobiology*, raised a number of concerns about the Astrobiology program. In particular, it concluded that areas of astrophysics related to the astronomical environment in which life arose on earth were not well represented in the program. In response to that finding, the Space Studies Board requested the original study committee, the Committee on the Origins and Evolution of Life, to examine ways to augment and integrate astronomy and astrophysics into the Astrobiology program. This report presents the results of that study. It provides a review of the earlier report and related efforts, a detailed examination of the elements of the astrobiology program that would benefit from greater integration and augmentation of astronomy and astrophysics, and an assessment of ways to facilitate the integration of astronomy with other astrobiology disciplines.

The Entrepreneurial University Lene Foss 2015-05-22 Global recessions and structural economic shifts are motivating government and business leaders worldwide to increasingly look to "their" universities to stimulate regional development and to contribute to national competitiveness. The challenge is clear and the question is pressing: How will universities respond? This book presents in-depth case narratives of ten universities from Norway, Finland, Sweden, UK, and the U.S. that have overcome significant challenges to develop programs and activities to commercialize scientific research, launch entrepreneurial degree programs, establish industry partnerships, and build entrepreneurial cultures and ecosystems. The universities are quite diverse: large and small; teaching and research focused; internationally recognized and relatively new; located in major cities and in emerging regions. Each case narrative describes challenges overcome, actions taken, and resulting accomplishments. This volume will be of interest to policymakers and university administrators as well as researchers and students interested in how different programs and activities can promote university entrepreneurship while contributing to economic growth in developed and developing economies.

Australian national bibliography 1962