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## Adaptation and Natural Selection

### A Critique of Some Current Evolutionary Thought

*Princeton University Press* **Biological evolution is a fact—but the many conflicting theories of evolution remain controversial even today. When *Adaptation and Natural Selection* was first published in 1966, it struck a powerful blow against those who argued for the concept of group selection—the idea that evolution acts to select entire species rather than individuals. Williams’s famous work in favor of simple Darwinism over group selection has become a classic of science literature, valued for its thorough and convincing argument and its relevance to many fields outside of biology. Now with a new foreword by Richard Dawkins, *Adaptation and Natural Selection* is an essential text for understanding the nature of scientific debate.**

## Genetics

### Laboratory Investigations

**THE definitive genetics lab manual for over 50 years, this user-friendly volume stresses classical genetics, but includes some of the recent advances related to molecular and human genetics as well. *Drosophila* and Maize Experiments in Genetics: Monohybrid Crosses; Dihybrid Crosses. Cell Reproduction: Mitosis. Meiosis in Animals: Oogenesis and Spermatogenesis. Meiosis in Angiosperms: Microsporogenesis and Megasporeogenesis. Polytene Chromosomes from *Drosophila* Salivary Glands. Sex Chromosomes and Gene Transmission. The Sex Check: A Study of Sex Chromatin in Human Cells. Human Chromosomes. Linkage and Crossing Over. Genetics of Ascospore Color in *Sordaria*: An Investigation of Linkage and Crossing Over Using Tetrad Analysis. Open-Ended Experiments Using *Drosophila*: Locating a Mutant Gene in Its Chromosome. Isolation of DNA. Restriction Endonuclease Digestion and Gel Electrophoresis of DNA. Amplification of DNA Polymorphisms by Polymerase Chain Reaction (PCR) and DNA Fingerprinting. Transformation of *Escherichia coli*. Gene Action: Synthesis of ... b-Galactosidase in *Escherichia coli*. Chromatographic Characterization of *Drosophila melanogaster* Mutants. Bacterial Mutagenesis. Gene Recombination in Phage. Polygenic Inheritance: Fingerprint Ridge Count. Population Genetics: The Hardy-Weinberg Principle; The Effects of Selection and Genetic Drift. Applied Human Genetics.**

### eBook Instant Access for Investigating Biology Lab Manual, Global Edition

*Pearson Higher Ed* **NEW! Now in full color! With its distinctive investigative approach to learning, this best-selling laboratory manual is now more engaging than ever, with full-color art and photos throughout. As always, the lab manual encourages students to participate in the process of science and develop creative and critical-reasoning skills. The Eighth Edition includes major revisions that reflect new molecular evidence and the current understanding of phylogenetic relationships for plants, invertebrates, protists, and fungi. The sequence of the lab topics has been reorganized to reflect the closer relationship of the fungi and animal kingdoms. A new lab topic, “Fungi,” has been added, providing expanded coverage of the major fungi groups. The “Protists” lab topic has been revised and expanded with additional examples of all the major clades. Both lab topics include suggestions and exercises for open-inquiry investigations. In the new edition, population genetics is covered in one lab topic with new problems and examples that connect ecology, evolution, and genetics.**

## Population Genetics

### A Concise Guide

*JHU Press* **This concise introduction addresses the theories behind population genetics and relevant empirical evidence, genetic drift, natural selection, nonrandom mating, quantitative genetics, and the evolutionary advantage of sex.**

### 500 Genetics Questions

*Independently Published* **500 Genetics Questions is a resource for teaching and understanding genetics. Main topics include the Central Dogma, Transmission Genetics and Population Genetics. The question types include multiple choice (261), true/false (90) and long-answer (44). The Central Dogma section also includes sequence conversion from template to coding to mRNA to polypeptide (20). The Transmission Genetics section also includes pedigree-based questions (20).The Population Genetics section also includes calculating the percentage of alleles in a population (18). There is also a lab-based question set with a mix of question types (50). One full, 50 question pre-formatted test for each main topic is also included (using the questions in each topic). All questions and pre-formatted tests include answer keys.Educators:Use to create your own testUse as a basis for creating your own questionsUse pre-formatted tests for exams or makeup examsUse to create study guides Create in-class quizzesStudents:Improve your Genetics problem-solving skillsImprove your understanding of pedigrees, sequence conversion and allele calculationsFocus on specific problems as you see fit**

## Genetic Variation

## A Laboratory Manual

*CSHL Press* **Genetic Variation: A Laboratory Manual** is the first compendium of protocols specifically geared towards genetic variation studies, and includes thorough discussions on their applications for human and model organism studies. Intended for graduate students and professional scientists in clinical and research settings, it covers the complete spectrum of genetic variation—from SNPs and microsatellites to more complex DNA alterations, including copy number variation. Written and edited by leading scientists in the field, the early sections of the manual are devoted to study design and generating genotype data, the use of resources such as HapMap and dbSNP, as well as experimental, statistical, and bioinformatic approaches for analyzing the data. The final sections include descriptions of genetic variation in model organisms and discussions of recent insights into human genetic ancestry, forensics, and human variation.

## Holt Biology

HARCOURT EDUCATION COMPANY

## The Fusarium Laboratory Manual

*John Wiley & Sons* For the first time in over 20 years, a comprehensive collection of photographs and descriptions of species in the fungal genus *Fusarium* is available. This laboratory manual provides an overview of the biology of *Fusarium* and the techniques involved in the isolation, identification and characterization of individual species and the populations in which they occur. It is the first time that genetic, morphological and molecular approaches have been incorporated into a volume devoted to *Fusarium* identification. The authors include descriptions of species, both new and old, and provide protocols for genetic, morphological and molecular identification techniques. The *Fusarium* Laboratory Manual also includes some of the evolutionary biology and population genetics thinking that has begun to inform the understanding of agriculturally important fungal pathogens. In addition to practical “how-to” protocols it also provides guidance in formulating questions and obtaining answers about this very important group of fungi. The need for as many different techniques as possible to be used in the identification and characterization process has never been greater. These approaches have applications to fungi other than those in the genus *Fusarium*. This volume presents an introduction to the genus *Fusarium*, the toxins these fungi produce and the diseases they can cause. “The *Fusarium* Laboratory Manual is a milestone in the study of the genus *Fusarium* and will help bridge the gap between morphological and phylogenetic taxonomy. It will be used by everybody dealing with *Fusarium* in the Third Millennium.” --W.F.O. Marasas, Medical Research Council, South Africa

## A Biologist's Guide to Mathematical Modeling in Ecology and Evolution

*Princeton University Press* Thirty years ago, biologists could get by with a rudimentary grasp of mathematics and modeling. Not so today. In seeking to answer fundamental questions about how biological systems function and change over time, the modern biologist is as likely to rely on sophisticated mathematical and computer-based models as traditional fieldwork. In this book, Sarah Otto and Troy Day provide biology students with the tools necessary to both interpret models and to build their own. The book starts at an elementary level of mathematical modeling, assuming that the reader has had high school mathematics and first-year calculus. Otto and Day then gradually build in depth and complexity, from classic models in ecology and evolution to more intricate class-structured and probabilistic models. The authors provide primers with instructive exercises to introduce readers to the more advanced subjects of linear algebra and probability theory. Through examples, they describe how models have been used to understand such topics as the spread of HIV, chaos, the age structure of a country, speciation, and extinction. Ecologists and evolutionary biologists today need enough mathematical training to be able to assess the power and limits of biological models and to develop theories and models themselves. This innovative book will be an indispensable guide to the world of mathematical models for the next generation of biologists. A how-to guide for developing new mathematical models in biology Provides step-by-step recipes for constructing and analyzing models Interesting biological applications Explores classical models in ecology and evolution Questions at the end of every chapter Primers cover important mathematical topics Exercises with answers Appendixes summarize useful rules Labs and advanced material available

## Lecture Notes in Population Genetics

Lecture Notes in Population Genetics By Kent E. Holsinger

## Biology for AP<sup>®</sup> Courses

**Biology for AP<sup>®</sup> courses** covers the scope and sequence requirements of a typical two-semester Advanced Placement<sup>®</sup> biology course. The text provides comprehensive coverage of foundational research and core biology concepts through an evolutionary lens. **Biology for AP<sup>®</sup> Courses** was designed to meet and exceed the requirements of the College Board's AP<sup>®</sup> Biology framework while allowing significant flexibility for instructors. Each section of the book includes an introduction based on the AP<sup>®</sup> curriculum and includes rich features that engage students in scientific practice and AP<sup>®</sup> test preparation; it also highlights careers and research opportunities in biological sciences.

## Exploring Physical Anthropology: Lab Manual and Workbook, 4e

*Morton Publishing Company* **Exploring Physical Anthropology** is a comprehensive, full-color lab manual intended for an introductory laboratory course in physical anthropology. It can also serve as a supplementary workbook for a lecture class, particularly in the absence of a laboratory offering. This laboratory manual enables a hands-on approach to learning about the evolutionary processes that resulted in humans through the use of numerous examples and exercises. It offers a solid grounding in the main areas of an introductory physical anthropology lab course: genetics, evolutionary forces, human osteology, forensic anthropology, comparative/functional skeletal anatomy, primate behavior, paleoanthropology, and modern human biological variation.

## DNA Technology in Forensic Science

*National Academies Press* **Matching DNA samples from crime scenes and suspects** is rapidly becoming a key source of evidence for use in our justice system. **DNA Technology in Forensic Science** offers recommendations for resolving crucial questions that are emerging as **DNA typing** becomes more widespread. The volume addresses key issues: Quality and reliability in DNA typing, including the introduction of new technologies, problems of standardization, and approaches to certification. DNA typing in the courtroom, including issues of population genetics, levels of understanding among judges and juries, and admissibility. Societal issues, such as privacy of DNA data, storage of samples and data, and the rights of defendants to quality testing technology. Combining this original volume with the new update--**The Evaluation of Forensic DNA Evidence**--provides the complete, up-to-date picture of this highly important and visible topic. This volume offers important guidance to anyone working with this emerging law enforcement tool: policymakers, specialists in criminal law, forensic scientists, geneticists, researchers, faculty, and students.

## Evolution and Selection of Quantitative Traits

*Oxford University Press* Quantitative traits—be they morphological or physiological characters, aspects of behavior, or genome-level features such as the amount of RNA or protein expression for a specific gene—usually show considerable variation within and among populations. Quantitative genetics, also referred to as the genetics of complex traits, is the study of such characters and is based on mathematical models of evolution in which many genes influence the trait and in which non-genetic factors may also be important. *Evolution and Selection of Quantitative Traits* presents a holistic treatment of the subject, showing the interplay between theory and data with extensive discussions on statistical issues relating to the estimation of the biologically relevant parameters for these models. Quantitative genetics is viewed as the bridge between complex mathematical models of trait evolution and real-world data, and the authors have clearly framed their treatment as such. This is the second volume in a planned trilogy that summarizes the modern field of quantitative genetics, informed by empirical observations from wide-ranging fields (agriculture, evolution, ecology, and human biology) as well as population genetics, statistical theory, mathematical modeling, genetics, and genomics. Whilst volume 1 (1998) dealt with the genetics of such traits, the main focus of volume 2 is on their evolution, with a special emphasis on detecting selection (ranging from the use of genomic and historical data through to ecological field data) and examining its consequences.

## The Evaluation of Forensic DNA Evidence

*National Academies Press* In 1992 the National Research Council issued *DNA Technology in Forensic Science*, a book that documented the state of the art in this emerging field. Recently, this volume was brought to worldwide attention in the murder trial of celebrity O. J. Simpson. *The Evaluation of Forensic DNA Evidence* reports on developments in population genetics and statistics since the original volume was published. The committee comments on statements in the original book that proved controversial or that have been misapplied in the courts. This volume offers recommendations for handling DNA samples, performing calculations, and other aspects of using DNA as a forensic tool—modifying some recommendations presented in the 1992 volume. The update addresses two major areas: Determination of DNA profiles. The committee considers how laboratory errors (particularly false matches) can arise, how errors might be reduced, and how to take into account the fact that the error rate can never be reduced to zero. Interpretation of a finding that the DNA profile of a suspect or victim matches the evidence DNA. The committee addresses controversies in population genetics, exploring the problems that arise from the mixture of groups and subgroups in the American population and how this substructure can be accounted for in calculating frequencies. This volume examines statistical issues in interpreting frequencies as probabilities, including adjustments when a suspect is found through a database search. The committee includes a detailed discussion of what its recommendations would mean in the courtroom, with numerous case citations. By resolving several remaining issues in the evaluation of this increasingly important area of forensic evidence, this technical update will be important to forensic scientists and population geneticists—and helpful to attorneys, judges, and others who need to understand DNA and the law. Anyone working in laboratories and in the courts or anyone studying this issue should own this book.

## AP Biology For Dummies

*John Wiley & Sons* Relax. The fact that you're even considering taking the AP Biology exam means you're smart, hard-working and ambitious. All you need is to get up to speed on the exam's topics and themes and take a couple of practice tests to get comfortable with its question formats and time limits. That's where *AP Biology For Dummies* comes in. This user-friendly and completely reliable guide helps you get the most out of any AP biology class and reviews all of the topics emphasized on the test. It also provides two full-length practice exams, complete with detailed answer explanations and scoring guides. This powerful prep guide helps you practice and perfect all of the skills you need to get your best possible score. And, as a special bonus, you'll also get a handy primer to help you prepare for the test-taking experience. Discover how to: Figure out what the questions are actually asking Get a firm grip on all exam topics, from molecules and cells to ecology and genetics Boost your knowledge of organisms and populations Become equally comfortable with large concepts and nitty-gritty details Maximize your score on multiple choice questions Craft clever responses to free-essay questions Identify your strengths and weaknesses Use practice tests to adjust your exam-taking strategy Supplemented with handy lists of test-taking tips, must-know terminology, and more, *AP Biology For Dummies* helps you make exam day a very good day, indeed.

## AP Biology Premium, 2022-2023: 5 Practice Tests + Comprehensive Review + Online Practice

*Simon and Schuster* Power up your study sessions with *Barron's AP Biology on Kahoot!*—additional, free prep to help you ace your exam! Be prepared for exam day with *Barron's*. Trusted content from AP experts! *Barron's AP Biology Premium: 2022-2023* is a BRAND-NEW book that includes in-depth content review and online practice. It's the only book you'll need to be prepared for exam day. Written by Experienced Educators Learn from *Barron's*—all content is written and reviewed by AP experts Build your understanding with comprehensive review tailored to the most recent exam Get a leg up with tips, strategies, and study advice for exam day—it's like having a trusted tutor by your side Be Confident on Exam Day Sharpen your test-taking skills with 5 full-length practice tests—2 in the book and 3 more online Strengthen your knowledge with in-depth review covering all Units on the AP Biology Exam Reinforce your learning with multiple-choice and short and long free-response practice questions in each chapter that reflect actual exam questions in content and format Online Practice Continue your practice with 3 full-length practice tests on *Barron's* Online Learning Hub Simulate the exam experience with a timed test option Deepen your understanding with detailed answer explanations and expert advice Gain confidence with scoring to check your learning progress

## Cracking the AP Biology Exam

*Princeton Review* Provides techniques for achieving high scores on the AP biology exam and includes two full-length practice tests.

## Department of the Interior and Related Agencies Appropriations for Fiscal Year 1988: Department of Agriculture

## Who We Are and How We Got Here

## Ancient DNA and the New Science of the Human Past

*Oxford University Press* David Reich describes how the revolution in the ability to sequence ancient DNA has changed our understanding of the deep human past. This book tells the emerging story of our often surprising ancestry - the extraordinary ancient migrations and mixtures of populations that have made us who we are.

## Strengthening Forensic Science in the United States

## A Path Forward

*National Academies Press* Scores of talented and dedicated people serve the forensic science community, performing vitally important work. However, they are often constrained by lack of adequate resources, sound policies, and national support. It is clear that change and advancements, both systematic and scientific, are needed in a number of forensic science disciplines to ensure the reliability of work, establish enforceable standards, and promote best practices with consistent application. *Strengthening Forensic Science in the United States: A Path Forward* provides a detailed plan for addressing these needs and suggests the creation of a new government entity, the National Institute of Forensic Science, to establish and enforce standards within the forensic science community. The benefits of improving and regulating the forensic science disciplines are clear: assisting law enforcement officials, enhancing homeland security, and reducing the risk of wrongful conviction and exoneration. *Strengthening Forensic Science in the United States* gives a full account of what is needed to advance the forensic science disciplines, including upgrading of systems and organizational structures, better training, widespread adoption of uniform and enforceable best practices, and mandatory certification and accreditation programs. While this book provides an essential call-to-action for congress and policy makers, it also serves as a vital tool for law enforcement agencies, criminal prosecutors and attorneys, and forensic science educators.

## The Human Genome Diversity Project

### An Ethnography of Scientific Practice

*Cambridge University Press* The Human Genome Diversity Project (HGDP) was launched in 1991 by a group of population geneticists whose aim was to map genetic diversity in hundreds of human populations by tracing the similarities and differences between them. It quickly became controversial and was accused of racism and 'bad science' because of the special interest paid to sampling cell material from isolated and indigenous populations. The author spent a year carrying out participant observation in two of the laboratories involved and provides fascinating insights into daily routines and technologies used in those laboratories and also into issues of normativity, standardization and naturalisation. Drawing on debates and theoretical perspectives from across the social sciences, M'charek explores the relationship between the tools used to produce knowledge and the knowledge thus produced in a way that illuminates the HGDP but also contributes to our broader understanding of the contemporary life sciences and their social implications.

## Fish and Wildlife News

### Cracking the AP Biology Exam, 2013 Edition

*Princeton Review* If you need to know it, it's in this book! *Cracking the AP Biology Exam, 2013 Edition* includes: • 2 full-length practice tests with detailed explanations • A comprehensive biology test topic review, covering everything from photosynthesis to genetics to evolution • A thorough review of all 12 AP Biology labs and possible testing scenarios • Review questions and key term lists in every chapter to help you practice • Detailed guidance on how to write a topical, cohesive, point-winning essay • Updated strategies which reflect the AP test scoring change

## Human Population Genetics

*John Wiley & Sons* **Introductory guide to human population genetics and microevolutionary theory** Providing an introduction to mathematical population genetics, *Human Population Genetics* gives basic background on the mechanisms of human microevolution. This text combines mathematics, biology, and anthropology and is best suited for advanced undergraduate and graduate study. Thorough and accessible, *Human Population Genetics* presents concepts and methods of population genetics specific to human population study, utilizing uncomplicated mathematics like high school algebra and basic concepts of probability to explain theories central to the field. By describing changes in the frequency of genetic variants from one generation to the next, this book hones in on the mathematical basis of evolutionary theory. *Human Population Genetics* includes: Helpful formulae for learning ease Graphs and analogies that make basic points and relate the evolutionary process to mathematical ideas Glossary terms marked in boldface within the book the first time they appear In-text citations that act as reference points for further research Exemplary case studies Topics such as Hardy-Weinberg equilibrium, inbreeding, mutation, genetic drift, natural selection, and gene flow *Human Population Genetics* solidifies knowledge learned in introductory biological anthropology or biology courses and makes it applicable to genetic study. NOTE: errata for the first edition can be found at the author's website: <http://employees.oneonta.edu/relethjh/HPG/errata.pdf>

## Fish and Wildlife News

### The Immortal Life of Henrietta Lacks

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

## Research Programs

## Forest Conservation Genetics

### Principles and Practice

*CSIRO PUBLISHING* Basic genetic principles; Genetic processes; Threats to in situ genetic conservation; Domestication and ex situ genetic conservation; Monitoring, socioeconomics and policy.

## Guide for the Care and Use of Laboratory Animals

### Eighth Edition

*National Academies Press* A respected resource for decades, the Guide for the Care and Use of Laboratory Animals has been updated by a committee of experts, taking into consideration input from the scientific and laboratory animal communities and the public at large. The Guide incorporates new scientific information on common laboratory animals, including aquatic species, and includes extensive references. It is organized around major components of animal use: Key concepts of animal care and use. The Guide sets the framework for the humane care and use of laboratory animals. Animal care and use program. The Guide discusses the concept of a broad Program of Animal Care and Use, including roles and responsibilities of the Institutional Official, Attending Veterinarian and the Institutional Animal Care and Use Committee. Animal environment, husbandry, and management. A chapter on this topic is now divided into sections on terrestrial and aquatic animals and provides recommendations for housing and environment, husbandry, behavioral and population management, and more. Veterinary care. The Guide discusses veterinary care and the responsibilities of the Attending Veterinarian. It includes recommendations on animal procurement and transportation, preventive medicine (including animal biosecurity), and clinical care and management. The Guide addresses distress and pain recognition and relief, and issues surrounding euthanasia. Physical plant. The Guide identifies design issues, providing construction guidelines for functional areas; considerations such as drainage, vibration and noise control, and environmental monitoring; and specialized facilities for animal housing and research needs. The Guide for the Care and Use of Laboratory Animals provides a framework for the judgments required in the management of animal facilities. This updated and expanded resource of proven value will be important to scientists and researchers, veterinarians, animal care personnel, facilities managers, institutional administrators, policy makers involved in research issues, and animal welfare advocates.

## Exploring Biology in the Laboratory: Core Concepts

*Morton Publishing Company* Exploring Biology in the Laboratory: Core Concepts is a comprehensive manual appropriate for introductory biology lab courses. This edition is designed for courses populated by nonmajors or for majors courses where abbreviated coverage is desired. Based on the two-semester version of Exploring Biology in the Laboratory, 3e, this Core Concepts edition features a streamlined set of clearly written activities with abbreviated coverage of the biodiversity of life. These exercises emphasize the unity of all living things and the evolutionary forces that have resulted in, and continue to act on, the diversity that we see around us today.

## An Evidence Framework for Genetic Testing

*National Academies Press* Advances in genetics and genomics are transforming medical practice, resulting in a dramatic growth of genetic testing in the health care system. The rapid development of new technologies, however, has also brought challenges, including the need for rigorous evaluation of the validity and utility of genetic tests, questions regarding the best ways to incorporate them into medical practice, and how to weigh their cost against potential short- and long-term benefits. As the availability of genetic tests increases so do concerns about the achievement of meaningful improvements in clinical outcomes, costs of testing, and the potential for accentuating medical care inequality. Given the rapid pace in the development of genetic tests and new testing technologies, An Evidence Framework for Genetic Testing seeks to advance the development of an adequate evidence base for genetic tests to improve patient care and treatment. Additionally, this report recommends a framework for decision-making regarding the use of genetic tests in clinical care.

## Predictive Species and Habitat Modeling in Landscape Ecology

### Concepts and Applications

*Springer Science & Business Media* Most projects in Landscape Ecology, at some point, define a species-habitat association. These models are inherently spatial, dealing with landscapes and their configurations. Whether coding behavioral rules for dispersal of simulated organisms through simulated landscapes, or designing the sampling extent of field surveys and experiments in real landscapes, landscape ecologists must make assumptions about how organisms experience and utilize the landscape. These convenient working postulates allow modelers to project the model in time and space, yet rarely are they explicitly considered. The early years of landscape ecology necessarily focused on the evolution of effective data sources, metrics, and statistical approaches that could truly capture the spatial and temporal patterns and processes of interest. Now that these tools are well established, we reflect on the ecological theories that underpin the assumptions commonly made during species distribution modeling and mapping. This is crucial for applying models to questions of global sustainability. Due to the inherent use of GIS for much of this kind of research, and as several authors' research involves the production of multicolored map figures, there would be an 8-page color insert. Additional color figures could be made available through a digital archive, or by cost contributions of the chapter authors. Where applicable, would be relevant chapters' GIS data and model code available through a digital archive. The practice of data and code sharing is becoming standard in GIS studies, is an inherent method of this book, and will serve to add additional research value to the book for both academic and practitioner audiences.

## Thinking about Evolution

### Historical, Philosophical, and Political Perspectives

*Cambridge University Press* Originally published in 2001, this is the second of two volumes published by Cambridge University Press in honour of Richard Lewontin. This second volume of essays honours the philosophical, historical and political dimensions of his work. It is fitting that the volume covers such a wide range of perspectives on modern biology, given the range of Lewontin's own contributions. He is not just a very successful practitioner of evolutionary genetics, but a rigorous critic of the practices of genetics and evolutionary biology and an articulate analyst of the social, political and economic contexts and consequences of genetic and evolutionary research. The volume begins with an essay by Lewontin on Natural History and Formalism in Evolutionary Genetics, and includes contributions by former students, post-docs, colleagues and collaborators, which cover issues ranging from the history and conceptual foundations of evolutionary biology and genetics, to the implications of human genetic diversity.

ISE The Living World

Populations and Genetics

Legal and Socio-Ethical Perspectives

BRILL

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Intelligible Design

A Realistic Approach to the Philosophy and History of Science

*World Scientific* This is an in-depth study of one of the most important and prominent Hua-ch'iao (Overseas Chinese) of twentieth-century Southeast Asian and China OCo Tan Kah-kee (1874OCo1961). For a Chinese immigrant in South-East Asia to make good is not unique, but what is unique in Tan Kah-kee's case is his enormous contribution to employment and economic development in Singapore and Malaya. He was the only Chinese in history to have single-handedly founded a private university in Amoy and financially maintained it for sixteen years. He was the only Hua-ch'iao of his generation to have led the Chinese in South-East Asia to help China to resist the Japanese invasion in a concerted and coordinated manner. Moreover, he was the only Hua-ch'iao leader to have played both Singapore and China politics and affairs in close quarters, rubbing shoulders with British governors, Chinese officials and commanders. Finally, it is important to point out that Tan Kah-kee was the only Hua-ch'iao in his times to have combined his Pang, community and political power and influences for the advancement of community, regional and national goals. This is an in-depth study of not just Tan Kah-kee per se but also the making of a legend through his deeds, self-sacrifices, fortitude and foresight. This revised edition sheds new light on his political agonies in Mao's China over campaigns against capitalists and intellectuals. Moreover, it analyses more comprehensively the varied legacies of Tan Kah-kee, including his successors, the style of his non-partisan political leadership, his educational strategy for nation-building, social change and OC the Spirit of Tan Kah-keeOCO, currently in vogue in his home province, Fukien.

The American Biology Teacher

Safety of Genetically Engineered Foods

Approaches to Assessing Unintended Health Effects

*National Academies Press* Assists policymakers in evaluating the appropriate scientific methods for detecting unintended changes in food and assessing the potential for adverse health effects from genetically modified products. In this book, the committee recommended that greater scrutiny should be given to foods containing new compounds or unusual amounts of naturally occurring substances, regardless of the method used to create them. The book offers a framework to guide federal agencies in selecting the route of safety assessment. It identifies and recommends several pre- and post-market approaches to guide the assessment of unintended compositional changes that could result from genetically modified foods and research avenues to fill the knowledge gaps.