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KEY=CREATION - SHAYLEE SANFORD

A Crack in Creation The New Power to Control Evolution *Random House* 'The most important advance of our era. One of the pioneers of the field describes the exciting hunt for the key breakthrough and what it portends for our future' Walter Isaacson World-famous scientist Jennifer Doudna - winner of the 2020 Nobel Prize in Chemistry for creating the revolutionary gene-editing technique CRISPR - explains her discovery, describes its power to reshape the future of all life and warns of its use. A handful of discoveries have changed the course of human history. This book is about the most recent and potentially the most powerful and dangerous of them all. It is an invention that allows us to rewrite the genetic code that shapes and controls all living beings. As a result, dreams of genetic manipulation have become a stark reality: the power to cure disease and alleviate suffering, as well as to re-design any species, including humans, for our own ends. Jennifer Doudna is the co-inventor of this technology - known as CRISPR - and a scientist of worldwide renown. Writing with fellow researcher Samuel Sternberg, here she provides the definitive account of her discovery, explaining how this wondrous invention works and what it is capable of. She also asks us to consider what our new-found power means: how do we enjoy its unprecedented benefits while avoiding its equally unprecedented dangers? _____ **PRAISE FOR A CRACK IN CREATION:** 'The future is in our hands as never before, and this book explains the stakes like no other' George Lucas 'One of the most

PIONEERING women in science . . . Exhilarating' Arianna Huffington
'Thrilling' Adam Rutherford 'An instant classic' Siddhartha Mukherjee A
Crack in Creation The New Power to Control Evolution *Vintage* A handful of
discoveries have changed the course of human history. This book is about
the most recent and potentially the most powerful and dangerous of them
all. It is an invention that allows us to rewrite the genetic code that shapes
and controls all living beings with astonishing accuracy and ease. Thanks
to it, the dreams of genetic manipulation have become a stark reality: the
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known as CRISPR - and a scientist of worldwide renown. Writing with fellow
researcher Samuel Sternberg, here she provides the definitive account of
her discovery, explaining how this wondrous invention works and what it is
capable of. She also asks us to consider what our new-found power means:
how do we enjoy its unprecedented benefits while avoiding its equally
unprecedented dangers? The future of humankind - and of all life on Earth -
is at stake. This book is an essential guide to the path that now lies ahead.
A Crack in Creation Gene Editing and the Unthinkable Power to Control
Evolution A Crack in Creation Gene Editing and the Unthinkable Power to
Control Evolution *Mariner Books* A trailblazing biologist grapples with her
role in the biggest scientific discovery of our era: a cheap, easy way of
rewriting genetic code, with nearly limitless promise and peril. Techlash
The Future of the Socially Responsible Tech Organization *Springer Nature*
Technology has made human lives incomparably better. Civilization as we
know it would utterly collapse without it. However, if not properly
managed, technology can and will be systematically abused and misuse
and thereby become one of the biggest threats to humankind. This open
access book applies proactive crisis management to the management of
technology organizations to make them more sustainable and socially
responsible for the betterment of humankind. It forecasts the unintended
consequences of technology and offers methods to counteract it.
Psychoanalysis of Technoscience Symbolisation and imagination *LIT Verlag*
***Münster* This book presents a psychoanalysis of technoscience. Basic**
concepts and methods developed by Freud, Jung, Bachelard and Lacan are
applied to case histories (palaeoanthropology, classical conditioning,
virology). Rather than by disinterested curiosity, technoscience is driven
by desire, resistance and the will to control. Moreover, psychoanalysis
focusses on primal scenes (Dubois' quest for the missing link, Pavlov's
discovery of the conditioned reflex) and opts for triangulation: comparing
technoscience to "different scenes" provided by novels, so that Dubois's
work is compared to missing link novels by Verne and London and Pavlov's
experiments with Skinner's Walden Two, while virology is studied through
the lens of viral fiction. Evolution Science and Ethics in the Third
Millennium Challenges and Choices for Humankind *Springer* The book aims
to revitalise the interdisciplinary debate about evolutionary ethics and

substantiate the idea that evolution science can provide a rational and robust framework for understanding morality. It also traces pathways for knowledge-based choices to be made about directions for future long-term biological evolution and cultural development in view of adaptation to the expected, probable and possible future and the ecological sustainability of our planetary environment. The authors discuss ethical challenges associated with the major biosocial sources of human variation: individual variation, inter-personal variation, inter-group variation, and inter-generational variation. This book approaches the long-term challenges of the human species in a holistic way. Researchers will find an extensive discussion of the key theoretical scientific aspects of the relationship between evolution and morality. Policy makers will find information that can help them better understand from where we are coming and inspire them to make choices and take actions in a longer-term perspective. The general public will find food for thoughts.

The Arts of the Microbial World: Fermentation Science in Twentieth-Century Japan *University of Chicago Press*

"The Arts of the Microbial World explores how Japanese scientists and skilled workers sought to use the microbe's natural processes to create new products, from soy-sauce mold starters to MSG and from vitamins to statins. In traditional brewing houses as well as in the food, fine chemical, and pharmaceutical industries across Japan, they showcased their ability to deal with the enormous sensitivity and variety of the microbial world. Victoria Lee's careful study offers a lush historical example of a society where scientists asked microbes for what they termed "gifts." Lee's story ranges from the microbe's integration into Japan as an imported concept to its precise application in recombinant DNA biotechnology. By focusing on a conception of life as fermentation in Japan, she showcases the significance of cultural and technical continuities with the pre-modern period in sustaining non-Western technological breakthroughs in the global economy. At a moment when twenty-first-century developments in the fields of antibiotic resistance, the microbiome, and green chemistry strongly suggest that the traditional eradication-based approach to the microbial world is unsustainable, twentieth-century Japanese microbiology provides a new, broader vantage for understanding and managing microbial interactions with society"--

Triploidy *WordFire +ORM*

For Jon and Marianna Knox, the birth of their daughter Persephone marks the happiest day of their lives. Until they learn that Persephone is suffering from a rare but fatal condition called "triploidy." Her doctors are baffled, and with good reason—because the source of the little girl's genetic malfunction is not of this Earth. It lies out beyond the orbit of Saturn. And it's coming for all of us.

We Alone: How Humans Have Conquered the Planet and Can Also Save It *Yale University Press*

A thoughtful exploration of how humans have endangered the Earth but can pull it back from the brink, as told by a renowned conservationist. This personal and thoughtful book by renowned Kenya conservationist David Western traces our global conquest from Maasai herders battling droughts in Africa to the technological frontiers of

California. Western draws on a half century of research in the savannas and his own life's journey to argue that conservation is not a modern invention. The success of all societies past and present lies in conservation practices, breaking biological barriers and learning to live in large cooperative groups able to sustain a healthy environment. Our ecological emancipation from nature enabled us to expand our horizons from conserving food and water for survival to saving whales, elephants, and our cultural heritage. In the Anthropocene, our scientific knowledge and modern sensibilities offer hope for combating global warming and creating a planet able to sustain the wealth of life, but only if we use our unique cultural capacity of cooperation to plan our future. Summary & Study Guide - A Crack in Creation Gene Editing and the Unthinkable Power to Control Evolution *LMT Press* Power and Peril of Gene Editing CRISPR/Cas9 Technology This book is a summary of "A Crack in Creation: Gene Editing and the Unthinkable Power to Control Evolution" by Jennifer A. Doudna and Samuel H. Sternberg. This book tells the story of CRISPR and "gene-editing." CRISPR is a cutting-edge gene-editing technology that mimics what happens naturally in bacteria. It enables scientists to "play god" with plant or animal DNA, with unlimited power and peril. The technology of gene editing is the most important advance in our era. The possibility of forever altering the genetic composition of humankind is frightening. Yet we can't overlook the opportunities that may lead to inventions for cures of HIV, debilitating genetic diseases, and cancers, and end food shortages. The book will demystify this exciting area of science and inspire you to seek answers to tough moral and ethical questions on the use of this technology. Read this book and get involved in the debate on the moral and ethical issues on the use of this technology. This guide includes: * Book Summary—helps you understand the key concepts. * Online Videos—cover the concepts in more depth. Value-added from this guide: * Save time * Understand key concepts * Expand your knowledge Wind Energy - The Facts A Guide to the Technology, Economics and Future of Wind Power *Earthscan* First Published in 2009. Routledge is an imprint of Taylor & Francis, an informa company. An Introduction to Genetic Engineering *Cambridge University Press* The author presents a basic introduction to the world of genetic engineering. Copyright © Libri GmbH. All rights reserved. Planning the Unthinkable How New Powers Will Use Nuclear, Biological, and Chemical Weapons *Cornell University Press* The proliferation of chemical, biological and nuclear weapons is now the single most serious security concern for governments around the world. This text compares how organisations shape the way leaders intend to employ these armaments. Birthing Techno-Sapiens Human-Technology Co-Evolution and the Future of Reproduction *Routledge* This ground-breaking book challenges us to re-think ourselves as techno-sapiens—a new species we are creating as we continually co-evolve ourselves with our technologies. While some of its chapters are imaginary, they are all empirically grounded in ethnography and richly theorized from diverse disciplines. The authors go

far beyond a techno-optimism vs. techno-pessimism stance, stretching our thinking about birthing techno-sapiens to consider not only how our cyborgian reproductive lives are constrained and/or enabled by technology but are also about emotions and spirit. The world of reproductive health care and particularly that of genetic engineering is developing exponentially, and current challenges are vastly different from those of a decade ago. The book is provocative, intended to generate debate, ideas, and future research and to influence ethical policy and practice in human techno-reproduction. It will be of interest across the social sciences and humanities, for reproductive scholars, bioethicists, techno-scientists, and those involved in the development and delivery of maternity services.

Steering Human Evolution Eighteen Theses on Homo Sapiens Metamorphosis *Taylor & Francis* Humanity must steer its evolution. As human knowledge moves a step ahead of Darwin's theories, this book presents the emergence of human-made meta-evolution shaping our alternative futures. This novel process poses fateful challenges to humanity, which require regulation of emerging science and technology which may endanger the future of our species. However, to do so successfully, a novel 'humanity-craft' has to be developed; main ideologies and institutions need redesign; national sovereignty has to be limited; a decisive global regime becomes essential; some reevaluation of widely accepted norms becomes essential; and a novel type of political leader, based on merit in addition to public support, is urgently needed. Taking into account the strength of nationalism and vested interests, it may well be that only catastrophes will teach humanity to metamorphose into a novel epoch without too high transition costs. But initial steps, such as United Nation reforms, are urgent in order to contain calamities and may soon become feasible. Being both interdisciplinary and based on personal experience of the author, this book adds up to a novel paradigm on steering human evolution. It will be of great interest to scholars and researchers of modern history, evolution sciences, future studies, political science, philosophy of action, and science and technology. It will also be of wide appeal to the general reader anxious about the future of life on Earth. Comments on the Corona pandemic add to the book's concrete significance.

The Psychic Life of Power Theories in Subjection *Stanford University Press* Judith Butler's new book considers the way in which psychic life is generated by the social operation of power, and how that social operation of power is concealed and fortified by the psyche that it produces. It combines social theory, philosophy, and psychoanalysis in novel ways, and offers a more sustained analysis of the theory of subject formation implicit in her previous books.

Technologies for Electrical Power Conversion, Efficiency, and Distribution: Methods and Processes *Methods and Processes IGI Global* "This book presents an overall description of electrical energy conversion technologies and required power electronic converters"--Provided by publisher.

The Handy Science Answer Book *Visible Ink Press* Informative, easy-to-use guide to everyday science questions,

concepts and fundamentals celebrates its twenty-fifth year and over one million copies sold! Science is everywhere, and it affects everything! DNA and CRISPR. Artificial sweeteners. Sea level changes caused by melting glaciers. Gravitational waves. Bees in a colony. The human body. Microplastics. The largest active volcano. Designer dog breeds. Molecules. The length of the Grand Canyon. Viruses and retroviruses. The weight of a cloud. Forces, motion, energy, and inertia. It can often seem complex and complicated, but it need not be so difficult to understand. The thoroughly updated and completely revised fifth edition of *The Handy Science Answer Book* makes science and its impact on the world fun and easy to understand. Clear, concise, and straightforward, this informative primer covers hundreds of intriguing topics, from the basics of math, physics, and chemistry to the discoveries being made about the human body, stars, outer space, rivers, mountains, and our entire planet. It covers plants, animals, computers, planes, trains, and cars. This friendly resource answers more than 1,600 of the most frequently asked, most interesting, and most unusual science questions, including ... When was a symbol for the concept of zero first used? How large is a google? Why do golf balls have dimples? What is a chemical bond? What is a light-year? What was the grand finale of the Cassini mission? How many exoplanets have been discovered? Where is the deepest cave in the United States? How long is the Grand Canyon? What is the difference between weather and climate? What causes a red tide? What is cell cloning and how is it used in scientific research? How did humans evolve? Do pine trees keep their needles forever? What is the most abundant group of organisms? How do insects survive the winter in cold climates? Which animals drink seawater? Why do geese fly in formation? What is FrogWatch? Why do cats' eyes shine in the dark? Which industries release the most toxic chemicals? What causes most wildfires in the United States? Which woman received the Nobel Prize in two different fields (two different years)? What is the difference between science and technology? For anyone wanting to know how the universe, Earth, plants, animals, and human beings work and fit into our world, this informative book also includes a helpful bibliography, and an extensive index, adding to its usefulness. It will help anyone's science questions!

Holiness Without the Halo Finding Unexpected Joy and Freedom in Holy Living *CLC Publications* In this engaging book by Stuart and Jill Briscoe, you will discover that there is no conflict with being thoroughly happy, truly healthy, and practically holy. And you will also learn what God is asking of you when He says, "Be holy, because I am holy." Darwin's Reach 21st Century Applications of Evolutionary Biology *CRC Press* The application of evolutionary biology addresses a wide range of practical problems in medicine, agriculture, the environment, and society. Such cutting-edge applications are emerging due to recent advances in DNA sequencing, new gene editing tools, and computational methods. This book is about applied evolution - the application of the principles of and information about evolutionary biology to diverse practical matters. Although applied

evolution has existed, unrecognized, for a very long time, today's version has a much wider scope. Evolutionary medicine has formed into its own discipline. Evolutionary approaches have long been employed in agriculture and in conservation biology. But Darwin's reach now extends beyond just these three fields. It now also includes forensic biology and the law. Ideas from evolutionary biology can be used to inform policy regarding foreign affairs and national security. Applied evolution is not only interdisciplinary, but also multidisciplinary. Consequently, this book is for experts in one field who are interested in expanding their evolutionary horizons. It is also for students, at the undergraduate and graduate levels. One of the public relations challenges faced by evolutionary biology is that most people do not see it being all that relevant to their daily lives. Even many who accept evolution do not grasp how far Darwin's reach extends. This book will change that perception. Key Features: Emphasizes the expanding role evolutionary biology has in today's world. Includes examples from medicine, law, agriculture, conservation, and even national security Summarizes new technologies and computational methods that originated as innovations based in part or whole on evolutionary theory. Current. Has extensive coverage of the COVID-19 pandemic and other recent topics. Documents the important role evolution plays in everyday life. Illustrates the broadly interdisciplinary nature of evolutionary theory. Related Titles Rogers, S. O. Integrating Molecular Evolution (ISBN 9780367869526) DeSalle, R. et al. Phylogenomics: A Primer (ISBN 9780367028497) Bard, J. Evolution: The Origins and Mechanisms of Diversity (ISBN 9780367357016) The applications of evolutionary biology are far too numerous to include in just one book. Plus, new scientific findings emerge almost every day underscoring the central role evolution plays in our lives. The author has established a blog site to highlight these fascinating discoveries. Please visit <https://darwinsreach.blog> to be inspired by "... endless forms most beautiful and most wonderful [that] have been, and are being evolved." (the last line of Charles Darwin's *The Origin of Species*). Social Science An Introduction to the Study of Society *Routledge* Now in its eighteenth edition, *Social Science: An Introduction to the Study of Society* approaches its study from a common sense perspective, rather than a formalistic perspective more common in social science texts. Readers will see how seemingly diverse disciplines intermingle and connect to one another—anthropology and economics, for example. The goal of the book is to teach students critical thinking and problem-solving skills that will allow them to approach social issues in an objective and informed way. New to this edition are significant updates on: Debates about the limits of democracy, and the developing Chinese political alternative. Political, economic, and social implications of the Covid pandemic. Assessment of the Donald Trump presidency. Political, economic, and social implications of the movement from the Trump presidency to the Biden presidency. Implications of the multitrillion-dollar budget deficits the US government has been running. The emergence of populist movements throughout the

world. The Chinese political and economic challenge to the United States. Recent developments in evolution theory. Examples, data, recommended readings, and Internet questions. Critical thinking questions. Life on the Edge The Coming of Age of Quantum Biology *Random House* Life is the most extraordinary phenomenon in the known universe; but how does it work? Even in this age of cloning and synthetic biology, the remarkable truth remains: nobody has ever made anything living entirely out of dead material. Life remains the only way to make life. Are we missing a vital ingredient in its creation? Like Richard Dawkins' *The Selfish Gene*, which provided a new perspective on evolution, *Life on the Edge* alters our understanding of life's dynamics as Jim Al-Khalili and Johnjoe Macfadden reveal the hitherto missing ingredient to be quantum mechanics. Drawing on recent ground-breaking experiments around the world, they show how photosynthesis relies on subatomic particles existing in many places at once, while inside enzymes, those workhorses of life that make every molecule within our cells, particles vanish from one point in space and instantly materialize in another. Each chapter in *Life on the Edge* opens with an engaging example that illustrates one of life's puzzles - How do migrating birds know where to go? How do we really smell the scent of a rose? How do our genes manage to copy themselves with such precision? - and then reveals how quantum mechanics delivers its answer. Guiding the reader through the maze of rapidly unfolding discovery, Al-Khalili and McFadden communicate vividly the excitement of this explosive new field of quantum biology, with its potentially revolutionary applications, and also offer insights into the biggest puzzle of all: what is life? *Sovereignty in Post-Sovereign Society A Systems Theory of European Constitutionalism* *Routledge* *Sovereignty* marks the boundary between politics and law. Highlighting the legal context of politics and the political context of law, it thus contributes to the internal dynamics of both political and legal systems. This book comprehends the persistence of sovereignty as a political and juridical concept in the post-sovereign social condition. The tension and paradoxical relationship between the semantics and structures of sovereignty and post-sovereignty are addressed by using the conceptual framework of the autopoietic social systems theory. Using a number of contemporary European examples, developments and paradoxes, the author examines topics of immense interest and importance relating to the concept of sovereignty in a globalising world. The study argues that the modern question of sovereignty permanently oscillating between *de iure* authority and *de facto* power cannot be discarded by theories of supranational and transnational globalized law and politics. Criticising quasi-theological conceptualizations of political sovereignty and its juridical form, the study reformulates the concept of sovereignty and its persistence as part of the self-referential communication of the systems of positive law and politics. The book will be of considerable interest to academics and researchers in political, legal and social theory and philosophy. *Power A Concept for Information and Communication Sciences*

Wiley-ISTE A polymorphous concept, power has imposed itself since ancient times. Whether it characterizes the phenomena of domination, exclusion or voluntary submission, it illuminates social relations and, since the 20th Century, interpersonal relations. This book offers, first of all, a daring panorama through its intertwining of different theoretical propositions relating to power, across time and across disciplines. It then presents the work of researchers in information and communication sciences who draw from these proposals the materials allowing them to develop their own analyses. These analyses revisit discursive power with respect to contemporary formations of communication and information. They investigate digital technologies by problematizing the phenomena of influence, control and access to knowledge. Finally, they reflect on the media in the light of inherent powers of social mediation, advertising and journalism. **Power Transition and International Order in Asia Issues and Challenges** *Routledge* This edited volume examines how the transition and diffusion of power in global politics is impacting on stability and order in Asia. Both in the academic field of International Relations (IR) and among policymakers, the big question today concerns the rise of China, the relative decline of the United States, and the increasing importance of Asia in global politics. The level of impact the international power transition will have in the region remains unclear, but observers agree that Asia is a potential tinderbox for crises and conflict. This volume brings together leading scholars from around the world to assess current thinking in IR on these issues. The authors apply appropriate theories and methods of analysis in their specific area of expertise to examine the likely effects of the changing global power distribution on Asia. There is also said to be an ongoing diffusion of power away from states to non-state actors in the region; hence, in addition to examining changing relations between the Great Powers, the book will also assess the implications that other actors, from terrorist groups, insurgents and organised crime syndicates, could have on stability and order. This book will be of much interest to students of Asian politics, security studies, diplomacy and international relations. **RF Power Semiconductor Generator Application in Heating and Energy Utilization** *Springer Nature* This is a specialized book for researchers and technicians of universities and companies who are interested in the fundamentals of RF power semiconductors, their applications and market penetration. Looking around, we see that products using vacuum tube technology are disappearing. For example, branch tube TVs have changed to liquid crystal TVs, and fluorescent light have turned into LED. The switch from vacuum tube technology to semiconductor technology has progressed remarkably. At the same time, high-precision functionalization, miniaturization and energy saving have advanced. On the other hand, there is a magnetron which is a vacuum tube device for generating microwaves. However, even this vacuum tube technology has come to be replaced by RF power semiconductor technology. In the last few years the price of semiconductors has dropped sharply and its application to

microwave heating and energy fields will proceed. In some fields the transition from magnetron microwave oscillator to semiconductor microwave oscillator has already begun. From now on this development will progress remarkably. Although there are several technical books on electrical systems that explain RF power semiconductors, there are no books yet based on users' viewpoints on actual microwave heating and energy fields. In particular, none have been written about exact usage and practical cases, to answer questions such as "What are the advantages and disadvantages of RF power semiconductor oscillator?", "What kind of field can be used?" and the difficulty of the market and application. Based on these issues, this book explains the RF power semiconductors from the user's point of view by covering a very wide range of fields.

Nuclear War Survival Skills Lifesaving Nuclear Facts and Self-Help Instructions *Skyhorse*
 A field-tested guide to surviving a nuclear attack, written by a revered civil defense expert. This edition of Cresson H. Kearny's iconic Nuclear War Survival Skills (originally published in 1979), updated by Kearny himself in 1987 and again in 2001, offers expert advice for ensuring your family's safety should the worst come to pass. Chock-full of practical instructions and preventative measures, Nuclear War Survival Skills is based on years of meticulous scientific research conducted by Oak Ridge National Laboratory. Featuring a new introduction by ex-Navy SEAL Don Mann, this book also includes: instructions for six different fallout shelters, myths and facts about the dangers of nuclear weapons, tips for maintaining an adequate food and water supply, a foreword by "the father of the hydrogen bomb," physicist Dr. Edward Teller, and an "About the Author" note by Eugene P. Wigner, physicist and Nobel Laureate. Written at a time when global tensions were at their peak, Nuclear War Survival Skills remains relevant in the dangerous age in which we now live.

The Origin Nature and Evolution of Protoplasmic Individuals and Their Associations Protoplasmic Action and Experience *Elsevier*
 The Origin, Nature and Evolution of Protoplasmic Individuals and their Associations explores living beings of all levels of complexity in relation to each other and to the various ambient sources that they use to survive: protoplasmic individuals and their associations, cells and their associations, animals, and man. The book considers the concepts of evolution and of living beings; the main stages in biological evolution; the organisms' individuality, nature, way of formation, phylogenetic, and ontogenetic origin; essential property of the organisms of living beings; and creature modeling. The text also discusses the phylogenesis, ontogenesis, and the nature of the soma; the spatial and temporal environment connecting biological and geological evolution; and concepts of feeding and nutrition. Three separate sections describe phylogenetic origin of the first protoplasmic individuals; the protoplasmic individual as defined by its action and experience; and evolution in protoplasmic level.

Hacking the Code of Life How gene editing will rewrite our futures *Icon Books*
 '[A]n excellent, brisk guide to what is likely to happen as opposed to the fantastically remote.' - Los Angeles Review of

Books In 2018 the world woke up to gene editing with a storm of controversy over twin girls born in China with genetic changes deliberately introduced by scientists - changes they will pass on to their own offspring. Genetic modification (GM) has been with us for 45 years now, but the new system known as CRISPR or gene editing can manipulate the genes of almost any organism with a degree of precision, ease and speed that we could only dream of ten years ago. But is it ethical to change the genetic material of organisms in a way that might be passed on to future generations? If a person is suffering from a lethal genetic disease, is it unethical to deny them this option? Who controls the application of this technology, when it makes 'biohacking' - perhaps of one's own genome - a real possibility? Nessa Carey's book is a thrilling and timely snapshot of a cutting-edge technology that will radically alter our futures and the way we prevent disease. 'A focused snapshot of a brave new world.' - Nature 'A brisk, accessible primer on the fast-moving field, a clear-eyed look at a technology that is already driving major scientific advances - and raising complex ethical questions.' - Emily Anthes, *Undark*

How to Clone a Mammoth The Science of De-Extinction *Princeton University Press* An insider's view on bringing extinct species back to life Could extinct species, like mammoths and passenger pigeons, be brought back to life? In *How to Clone a Mammoth*, Beth Shapiro, an evolutionary biologist and pioneer in ancient DNA research, addresses this intriguing question by walking readers through the astonishing and controversial process of de-extinction. From deciding which species should be restored to anticipating how revived populations might be overseen in the wild, Shapiro vividly explores the extraordinary cutting-edge science that is being used to resurrect the past. Considering de-extinction's practical benefits and ethical challenges, Shapiro argues that the overarching goal should be the revitalization and stabilization of contemporary ecosystems. Looking at the very real and compelling science behind an idea once seen as science fiction, *How to Clone a Mammoth* demonstrates how de-extinction will redefine conservation's future.

Strange Natures Conservation in the Era of Synthetic Biology *Yale University Press* A groundbreaking examination of the implications of synthetic biology for biodiversity conservation Nature almost everywhere survives on human terms. The distinction between what is natural and what is human-made, which has informed conservation for centuries, has become blurred. When scientists can reshape genes more or less at will, what does it mean to conserve nature? The tools of synthetic biology are changing the way we answer that question. Gene editing technology is already transforming the agriculture and biotechnology industries. What happens if synthetic biology is also used in conservation to control invasive species, fight wildlife disease, or even bring extinct species back from the dead? Conservation scientist Kent Redford and geographer Bill Adams turn to synthetic biology, ecological restoration, political ecology, and de-extinction studies and propose a thoroughly innovative vision for protecting nature. *UCSF Magazine* Conflict and

Cooperation Institutional and Behavioral Economics *John Wiley & Sons* Allan Schmid's innovative text, **Conflict and Cooperation: Institutional and Behavioral Economics**, investigates "the rules of the game," how institutions--both formal and informal--affect these rules, and how these rules are changed to serve competing interests. This text addresses both formal and informal institutions and the impact of alternative institutions, as well as institutional change and evolution. With its broad applications and numerous practice and discussion questions, this book will be appealing not only to students of economics, but also to those studying sociology, law, and political science. Addresses formal and informal institutions, the impact of alternative institutions, and institutional change and evolution. Presents a framework open to changing preferences, bounded rationality, and evolution. Explains how to form empirically testable hypotheses using experiments, case studies, and econometrics. Includes numerous practice and discussion questions.

The Unthinkable Revolution in Iran *Harvard University Press* The shah of Iran, Mohammad Reza Pahlavi, would remain on the throne for the foreseeable future: This was the firm conclusion of a top-secret CIA analysis issued in October 1978. One hundred days later the shah--despite his massive military, fearsome security police, and superpower support was overthrown by a popular and largely peaceful revolution. But the CIA was not alone in its myopia, as Charles Kurzman reveals in this penetrating work; Iranians themselves, except for a tiny minority, considered a revolution inconceivable until it actually occurred. Revisiting the circumstances surrounding the fall of the shah, Kurzman offers rare insight into the nature and evolution of the Iranian revolution and into the ultimate unpredictability of protest movements in general. As one Iranian recalls, The future was up in the air. Through interviews and eyewitness accounts, declassified security documents and underground pamphlets, Kurzman documents the overwhelming sense of confusion that gripped pre-revolutionary Iran, and that characterizes major protest movements. His book provides a striking picture of the chaotic conditions under which Iranians acted, participating in protest only when they expected others to do so too, the process approaching critical mass in unforeseen and unforeseeable ways. Only when large numbers of Iranians began to think the unthinkable, in the words of the U.S. ambassador, did revolutionary expectations become a self-fulfilling prophecy. A corrective to 20-20 hindsight, this book reveals shortcomings of analyses that make the Iranian revolution or any major protest movement seem inevitable in retrospect.

Military Industry and Regional Defense Policy India, Iraq and Israel *Routledge* Military Industry and Regional Defense Policy re-examines military industrialization in the developing world, focusing on policy-making in producer states and the impact of security perceptions on such policy-making.

Timothy D. Hoyt reassesses the role of regional state sub-systems in international relations, and recent historical studies of international technology and arms transfers. Looking at Israel, Iraq and India, the three most powerful

regional powers in the Cold War era, he presents an expert analysis of the three-sided phenomena of the regional hegemony, the regional competitor and the small over-achiever. This new book breaks away from existing literature on military industries in the developing world, which has focused on their economic and development costs and benefits. These past studies have used primitive methodologies that focus on the production of complete weapons systems - a misleading gauge in a world of growing international defense cooperation. They have also ignored empirical evidence of the impact of local military industrial production on Cold War regional conflict, and of the defence planning and concerns that drove development of indigenous military industries in key regional powers. This new text delivers an incisive new perspective. *The Origins of the Final Solution* Random House *The Origins of the Final Solution* is the most detailed, careful, and comprehensive analysis to date of the descent of the Nazi persecution of the Jews into mass murder: the Holocaust. Arguing that genocide was not a preconceived plan but rather a discovered possibility, Christopher Browning explains how Hitler's decision to murder the Jews en masse emerged in stages and by a process of elimination that gradually foreclosed plans for their expulsion from Europe. Only in the interval between late September and late October 1941 did the desire to "remove" the Jews intersect with the discovery of acceptable means of killing them on a large scale and with the euphoria of expected victory in Russia, all of which followed on from two years of 'race war' and 'racial imperialism' in eastern Europe that prepared 'ordinary Germans' for this fateful task. *The Annotated and Illustrated Double Helix* Simon and Schuster Published to mark the fiftieth anniversary of the Nobel Prize for Watson and Crick's discovery of the structure of DNA, an annotated and illustrated edition of this classic book gives new insights into the personal relationships between James Watson, Frances Crick, Maurice Wilkins, and Rosalind Franklin, and the making of a scientific revolution. *In Silico Dreams How Artificial Intelligence and Biotechnology Will Create the Medicines of the Future* John Wiley & Sons Learn how AI and data science are upending the worlds of biology and medicine *In Silico Dreams: How Artificial Intelligence and Biotechnology Will Create the Medicines of the Future* delivers an illuminating and fresh perspective on the convergence of two powerful technologies: AI and biotech. Accomplished genomics expert, executive, and author Brian Hilbush offers readers a brilliant exploration of the most current work of pioneering tech giants and biotechnology startups who have already started disrupting healthcare. The book provides an in-depth understanding of the sources of innovation that are driving the shift in the pharmaceutical industry away from serendipitous therapeutic discovery and toward engineered medicines and curative therapies. In this fascinating book, you'll discover: An overview of the rise of data science methods and the paradigm shift in biology that led to the in silico revolution An outline of the fundamental breakthroughs in AI and deep learning and their applications across medicine A compelling argument for

the notion that AI and biotechnology tools will rapidly accelerate the development of therapeutics A summary of innovative breakthroughs in biotechnology with a focus on gene editing and cell reprogramming technologies for therapeutic development A guide to the startup landscape in AI in medicine, revealing where investments are poised to shape the innovation base for the pharmaceutical industry Perfect for anyone with an interest in scientific topics and technology, *In Silico Dreams* also belongs on the bookshelves of decision-makers in a wide range of industries, including healthcare, technology, venture capital, and government. From *Poverty to Power How Active Citizens and Effective States Can Change the World* *Oxfam* Offers a look at the causes and effects of poverty and inequality, as well as the possible solutions. This title features research, human stories, statistics, and compelling arguments. It discusses about the world we live in and how we can make it a better place.