

## Natural Experiments Of History

**"For some time past the lack of a Text-book on Experimental Psychology has been keenly felt. The literature of the subject is now so scattered and so profuse, that a student must have at his command a small library of books and periodicals if he wishes to pursue a course of independent reading. In endeavouring to supply this want, I do not attempt to offer a "systematic" Psychology. On the contrary, I assume that the student is already familiar with the elements of general psychology. He may have had the opportunity of attending an introductory course of lectures on the subject which were accompanied by demonstrations, and in that case he will have observed how artificial is the line of cleavage between general and experimental psychology. I assume, too, that he does not approach the detailed study of experimental psychology in ignorance of the general structure and functions of the nervous system. In the following pages I may appear at times to have laid undue stress on purely physiological and physical considerations in their relation to the problems of experimental psychology. But the ultimate object, which has influenced me throughout, has been to describe the of psychological experiment, and to set forth the most important results that have been obtained in this field of research"--Preface. (PsycINFO Database Record (c) 2010 APA, all rights reserved).**

**"Eleven fully updated chapters include entries on the links between health and discrimination, income inequality, social networks and emotion, while four all-new chapters examine the role of policies in shaping health, including how to translate evidence into action with multi-level interventions."**

**The scientific method is just over a hundred years old. From debates about the evolution of the human mind to the rise of instrumental reasoning, Henry M. Cowles shows how the idea of a single "scientific method" emerged from a turn inward by psychologists that produced powerful epistemological and historical effects that are still with us today. Provides instructions for simple science experiments, using everyday materials to explore weight, water, heat and chemistry, motion, botany, and the sun.**

**The Ecology of Human Development**

**How Radical Researchers Are Changing Our World**

**Ecosystem-based Management and the Environment**

**Natural Experiments of History**

**Oxford Guide to Behavioural Experiments in Cognitive Therapy**

**How do we know which social and economic policies work, which should be continued, and which should be changed? Jim Manzi argues that throughout history, various methods have been attempted -- except for controlled experimentation. Experiments provide the feedback loop that allows us, in certain limited ways, to identify error in our beliefs as a first step to correcting them. Over the course of the first half of the twentieth century, scientists invented a methodology for executing controlled experiments to evaluate certain kinds of proposed social interventions. This technique goes by many names in different contexts (randomized control trials, randomized field experiments, clinical trials, etc.). Over the past ten to twenty years this**

has been increasingly deployed in a wide variety of contexts, but it remains the red-haired step child of modern social science. This is starting to change, and this change should be encouraged and accelerated, even though the staggering complexity of human society creates severe limits to what social science could be realistically expected to achieve. Randomized trials have shown, for example, that work requirements for welfare recipients have succeeded like nothing else in encouraging employment, that charter school vouchers have been successful in increasing educational attainment for underprivileged children, and that community policing has worked to reduce crime, but also that programs like Head Start and Job Corps, which might be politically attractive, fail to attain their intended objectives. Business leaders can also use experiments to test decisions in a controlled, low-risk environment before investing precious resources in large-scale changes -- the philosophy behind Manzi's own successful software company. In a powerful and masterfully-argued book, Manzi shows us how the methods of science can be applied to social and economic policy in order to ensure progress and prosperity. A fascinating account of how radical researchers have used experiments to overturn conventional wisdom and shaped life as we know it Experiments have consistently been used in the hard sciences, but in recent decades social scientists have adopted the practice. Randomized trials have been used to design policies to increase educational attainment, lower crime rates, elevate employment rates, and improve living standards among the poor. This book tells the stories of radical researchers who have used experiments to overturn conventional wisdom. From finding the cure for scurvy to discovering what policies really improve literacy rates, Leigh shows how randomistas have shaped life as we know it. Written in a "Gladwell-esque" style, this book provides a fascinating account of key randomized control trial studies from across the globe and the challenges that randomistas have faced in getting their studies accepted and their findings implemented. In telling these stories, Leigh draws out key lessons learned and shows the most effective way to conduct these trials.

In eight case studies by leading scholars in history, archaeology, business, economics, geography, and political science, the authors showcase the "natural experiment" or "comparative method"—well-known in any science concerned with the past—on the discipline of human history. That means, according to the editors, "comparing, preferably quantitatively and aided by statistical analyses, different systems that are similar in many respects, but that differ with respect to the factors whose influence one wishes to study." The case studies

**in the book support two overall conclusions about the study of human history: First, historical comparisons have the potential for yielding insights that cannot be extracted from a single case study alone. Second, insofar as is possible, when one proposes a conclusion, one may be able to strengthen one's conclusion by gathering quantitative evidence (or at least ranking one's outcomes from big to small), and then by testing the conclusion's validity statistically.**

**"Fascinating.... Lays a foundation for understanding human history."—Bill Gates In this "artful, informative, and delightful" (William H. McNeill, *New York Review of Books*) book, Jared Diamond convincingly argues that geographical and environmental factors shaped the modern world. Societies that had had a head start in food production advanced beyond the hunter-gatherer stage, and then developed religion --as well as nasty germs and potent weapons of war --and adventured on sea and land to conquer and decimate preliterate cultures. A major advance in our understanding of human societies, *Guns, Germs, and Steel* chronicles the way that the modern world came to be and stunningly dismantles racially based theories of human history. Winner of the Pulitzer Prize, the Phi Beta Kappa Award in Science, the Rhone-Poulenc Prize, and the Commonwealth club of California's Gold Medal.**

**Making Big Data Biology**

**How to Plan, Create, and Execute Research Using Experiments**

**Experiments in Macroeconomics**

**Natural Experiments**

**Thought Experiments in the Natural Sciences**

**A Text-book of Experimental Psychology**

An award-winning professor of economics at MIT and a Harvard University political scientist and economist evaluate the reasons that some nations are poor while others succeed, outlining provocative perspectives that support theories about the importance of institutions.

Natural Experiments in History grew, in a way, out of co-editor Jared Diamond's book *Guns, Germs, and Steel: The Fates of Human Societies*. In the earlier book, he spent a chapter looking at the Polynesian expansion as a near-perfect natural experiment in which a single ancestral Polynesian culture migrated to hundreds of islands in the Pacific Ocean, each with its own different geographic features. Because the culture that settled the islands was the same, any differences that developed between separate island societies could be largely attributed to the geography of the individual islands. At the conclusion of *Guns, Germs, and Steel*, Diamond noted that there were many other such natural experiments in history, just waiting to be studied, and he called for historians to pick up where he left off and see what else could be learned. Of course, scholars have been using such natural experiments for a long time, especially in other disciplines like archaeology and anthropology, but they have not been as popular in historical scholarship. With *Natural Experiments of History* the editors and authors hope to illustrate how natural experiments can be used to bring the rigours of the hard sciences to historical scholarship, both in descriptive and statistics-based studies.

An account of the experiment conducted by the U.S. Public Health Service describes how medical treatment was withheld from Black sharecroppers infected with syphilis

The first comprehensive guide to natural experiments, providing an ideal introduction for scholars and students.

The Course of Nature

Social Epidemiology

The Natural History of Chocolate

Practising Observation and Documentation

Making the Most of Materials in the History of Experiment

Thrifty Science

***Measurement Issues in Criminology examines the techniques and procedures crucial to successful research. Topics appropriate for specific research designs, data sources, and analytic techniques are identified, as well as topics for which such measurement methods are inappropriate. Subjects explored include ethical obligations and social research, the offender's perspective, longitudinal research design, advantages of time series studies over other procedures when investigating important questions of process and change, and the strength and weakness of studies utilizing secondary data sources.***

***Introduction -- Thrifty science: oeconomy and experiment -- Making a home for experiment -- Shifty science: how to make use of things -- The power of lasting: maintenance and cleaning -- The broken world: repairs and recycling -- Secondhand science -- Auctions and the dismantling of science -- The palatial laboratory: economy and experiment -- Conclusion***

***A critique of selectionism and the proposal of an alternate theory of emergent evolution that is causally sufficient for evolutionary biology. Natural selection is commonly interpreted as the fundamental mechanism of evolution. Questions about how selection theory can claim to be the all-sufficient explanation of evolution often go unanswered by today's neo-Darwinists, perhaps for fear that any criticism of the evolutionary paradigm will encourage creationists and proponents of intelligent design. In Biological Emergences, Robert Reid argues that natural selection is not the cause of evolution. He writes that the causes of variations, which he refers to as natural experiments, are independent of natural selection; indeed, he suggests, natural selection may get in the way of evolution. Reid proposes an alternative theory to explain how emergent novelties are generated and under what conditions they can overcome the resistance of natural selection. He suggests that what causes innovative variation causes evolution, and that these phenomena are environmental as well as organismal. After an extended critique of selectionism, Reid constructs an emergence theory of evolution, first examining the evidence in three causal arenas of emergent evolution: symbiosis/association, evolutionary physiology/behavior, and developmental evolution. Based on this evidence of causation, he proposes some working hypotheses, examining mechanisms and processes common to all three arenas, and arrives at a theoretical framework that accounts for generative mechanisms and***

**emergent qualities. Without selectionism, Reid argues, evolutionary innovation can more easily be integrated into a general thesis. Finally, Reid proposes a biological synthesis of rapid emergent evolutionary phases and the prolonged, dynamically stable, non-evolutionary phases imposed by natural selection.**

**We shall examine the validity of 16 experimental designs against 12 common threats to valid inference. By experiment we refer to that portion of research in which variables are manipulated and their effects upon other variables observed. It is well to distinguish the particular role of this chapter. It is not a chapter on experimental design in the Fisher (1925, 1935) tradition, in which an experimenter having complete mastery can schedule treatments and measurements for optimal statistical efficiency, with complexity of design emerging only from that goal of efficiency. Insofar as the designs discussed in the present chapter become complex, it is because of the intransigency of the environment: because, that is, of the experimenter's lack of complete control.**

**The Cat in the Box**

**A History of Science in 100 Experiments**

**4.6 Billion Years in 12 Pithy Chapters**

**Exhibitions as Research**

**Quicklet on Natural Experiments of History edited by Jared Diamond and James A. Robinson**

**Randomistas**

Natural Experiments of History Harvard University Press

Novel collection of essays addressing contemporary trends in political science, covering a broad array of methodological and substantive topics.

Humanity is a part of Nature, yet every thinking person at one time or another asks herself or himself, "How did we get here? What makes me different from the rest of Nature?" In *The Course of Nature* an artist and a scientist ask those questions with full respect for all contexts, both scientific and not. Amy Pollack's figures stand on their own as elegant summaries of one or another aspect of Nature and our place in it. Robert Pollack's one-page essays for each illustration lay out the underlying scientific issues along with the overarching moral context for these issues. Together the authors have created a door into Nature for the non-scientist, and a door into the separate question of what is right, for both the scientist and the rest of us.

*Exhibitions as Research* contends that museums would be more attractive to both researchers and audiences if we consider exhibitions as knowledge-in-the-making rather than platforms for disseminating already-established insights. Analysing the theoretical underpinnings and practical challenges of such an approach, the book questions whether it is possible to exhibit knowledge that is still in the making, whilst also considering which concepts of "knowledge" apply to such a format. The book also considers what the role of audience might be if research is extended into the exhibition itself. Providing concrete case studies of projects where museum professionals have approached exhibition making as a knowledge-generating process, the book considers tools of application and the challenges that might emerge from pursuing such an approach. Theoretically, the volume analyses the emergence of exhibitions as research as part of recent developments within materiality theories, object-oriented ontology and participatory approaches to exhibition-making. *Exhibitions as Research* will be of interest to academics and students engaged in the study of museology, material culture, anthropology and archaeology. It will also appeal to museum professionals with an interest in current trends in exhibition-making.

*Guns, Germs, and Steel: The Fates of Human Societies (20th Anniversary Edition)*

*A Book of Drawings on Natural Selection and Its Consequences*

Evolution by Natural Experiment

Measurement Issues in Criminology

The Scientific Method

The Origins of Power, Prosperity, and Poverty

***Thought experiments are a means of imaginative reasoning that lie at the heart of philosophy, from the pre-Socratics to the modern era, and they also play central roles in a range of fields, from physics to politics. The Routledge Companion to Thought Experiments is an invaluable guide and reference source to this multifaceted subject. Comprising over 30 chapters by a team of international contributors, the Companion covers the following important areas: · the history of thought experiments, from antiquity to the trolley problem and quantum non-locality; · thought experiments in the humanities, arts, and sciences, including ethics, physics, theology, biology, mathematics, economics, and politics; · theories about the nature of thought experiments; · new discussions concerning the impact of experimental philosophy, cross-cultural comparison studies, metaphilosophy, computer simulations, idealization, dialectics, cognitive science, the artistic nature of thought experiments, and metaphysical issues. This broad ranging Companion goes backwards through history and sideways across disciplines. It also engages with philosophical perspectives from empiricism, rationalism, naturalism, skepticism, pluralism, contextualism, and neo-Kantianism to phenomenology. This volume will be valuable for anyone studying the methods of philosophy or any discipline that employs thought experiments, as well as anyone interested in the power and limits of the mind.***

***Databases have revolutionized nearly every aspect of our lives. Information of all sorts is being collected on a massive scale, from Google to Facebook and well beyond. But as the amount of information in databases explodes, we are forced to reassess our ideas about what knowledge is, how it is produced, to whom it belongs, and who can be credited for producing it. Every scientist working today draws on databases to produce scientific knowledge. Databases have become more common than microscopes, voltmeters, and test tubes, and the increasing amount of data has led to major changes in research practices and profound reflections on the proper professional roles of data producers, collectors, curators, and analysts. Collecting Experiments traces the development and use of data collections, especially in the experimental life sciences, from the early twentieth century to the present. It shows that the current revolution is best understood as the coming together of two older ways of knowing—collecting and experimenting, the museum and the laboratory. Ultimately, Bruno J. Strasser argues that by serving as knowledge repositories, as well as indispensable tools for producing new knowledge, these databases function as digital museums for the twenty-first century.***

***Volume 17 entitled 'Experiments in Macroeconomics', of the Research in Experimental Economics Book Series is the first-ever collection by leading researchers in the field of laboratory studies aimed at understanding macroeconomic phenomena.***

***Thought experiments are performed in the laboratory of the mind. Beyond this metaphor it is difficult to say just what these remarkable devices for investigating nature are or how they work. Though most scientists and philosophers would admit their great importance, there has been very little serious study of them. This volume is the first book-length investigation of thought experiments. Starting with Galileo's argument on falling bodies, Brown describes numerous examples of the most influential thought experiments from the history of science. Following this introduction to the subject, some substantial and provocative claims are made, the principle being that some thought experiments should be understood in the same way that platonists***

*understand mathematical activity: as an intellectual grasp of an independently existing abstract realm. With its clarity of style and structure, The Laboratory of the Mind will find readers among all philosophers of science as well as scientists who have puzzled over how thought experiments work.*

*Designing Experiments for the Social Sciences*

*Hobbes, Boyle, and the Experimental Life*

*Scientific History*

*Landscapes and Labscapes*

*Advances in Experimental Political Science*

*A Design-Based Approach*

From the 1950s to the digital age, Americans have pushed their children to live science-minded lives, cementing scientific discovery and youthful curiosity as inseparable ideals. In this multifaceted work, historian Rebecca Onion examines the rise of informal children's science education in the twentieth century, from the proliferation of home chemistry sets after World War I to the century-long boom in child-centered science museums. Onion looks at how the United States has increasingly focused its energies over the last century into producing young scientists outside of the classroom. She shows that although Americans profess to believe that success in the sciences is synonymous with good citizenship, this idea is deeply complicated in an era when scientific data is hotly contested and many Americans have a conflicted view of science itself. These contradictions, Onion explains, can be understood by examining the histories of popular science and the development of ideas about American childhood. She shows how the idealized concept of "science" has moved through the public consciousness and how the drive to make child scientists has deeply influenced American culture.

Communication research is evolving and changing in a world of online journals, open-access, and new ways of obtaining data and conducting experiments via the Internet. Although there are generic encyclopedias describing basic social science research methodologies in general, until now there has been no comprehensive A-to-Z reference work exploring methods specific to communication and media studies. Our entries, authored by key figures in the field, focus on special considerations when applied specifically to communication research, accompanied by engaging examples from the literature of communication, journalism, and media studies. Entries cover every step of the research process, from the creative development of research topics and

questions to literature reviews, selection of best methods (whether quantitative, qualitative, or mixed) for analyzing research results and publishing research findings, whether in traditional media or via new media outlets. In addition to expected entries covering the basics of theories and methods traditionally used in communication research, other entries discuss important trends influencing the future of that research, including contemporary practical issues students will face in communication professions, the influences of globalization on research, use of new recording technologies in fieldwork, and the challenges and opportunities related to studying online multi-media environments. Email, texting, cellphone video, and blogging are shown not only as topics of research but also as means of collecting and analyzing data. Still other entries delve into considerations of accountability, copyright, confidentiality, data ownership and security, privacy, and other aspects of conducting an ethical research program. Features: 652 signed entries are contained in an authoritative work spanning four volumes available in choice of electronic or print formats. Although organized A-to-Z, front matter includes a Reader's Guide grouping entries thematically to help students interested in a specific aspect of communication research to more easily locate directly related entries. Back matter includes a Chronology of the development of the field of communication research; a Resource Guide to classic books, journals, and associations; a Glossary introducing the terminology of the field; and a detailed Index. Entries conclude with References/Further Readings and Cross-References to related entries to guide students further in their research journeys. The Index, Reader's Guide themes, and Cross-References combine to provide robust search-and-browse in the e-version. Leviathan and the Air-Pump examines the conflicts over the value and propriety of experimental methods between two major seventeenth-century thinkers: Thomas Hobbes, author of the political treatise Leviathan and vehement critic of systematic experimentation in natural philosophy, and Robert Boyle, mechanical philosopher and owner of the newly invented air-pump. The issues at stake in their disputes ranged from the physical integrity of the air-pump to the intellectual integrity of the knowledge it might yield. Both Boyle and Hobbes were looking for ways of establishing

knowledge that did not decay into ad hominem attacks and political division. Boyle proposed the experiment as cure. He argued that facts should be manufactured by machines like the air-pump so that gentlemen could witness the experiments and produce knowledge that everyone agreed on. Hobbes, by contrast, looked for natural law and viewed experiments as the artificial, unreliable products of an exclusive guild. The new approaches taken in *Leviathan* and the *Air-Pump* have been enormously influential on historical studies of science. Shapin and Schaffer found a moment of scientific revolution and showed how key scientific givens--facts, interpretations, experiment, truth--were fundamental to a new political order. Shapin and Schaffer were also innovative in their ethnographic approach. Attempting to understand the work habits, rituals, and social structures of a remote, unfamiliar group, they argued that politics were tied up in what scientists did, rather than what they said. Steven Shapin and Simon Schaffer use the confrontation between Hobbes and Boyle as a way of understanding what was at stake in the early history of scientific experimentation. They describe the protagonists' divergent views of natural knowledge, and situate the Hobbes-Boyle disputes within contemporary debates over the role of intellectuals in public life and the problems of social order and assent in Restoration England. In a new introduction, the authors describe how science and its social context were understood when this book was first published, and how the study of the history of science has changed since then.

This book distills the history of science into 100 epic experiments that have fueled our understanding of Earth and the Universe beyond. Everything in the scientific world view is based on experiment, including observations of phenomena predicted by theories and hypotheses, such as the bending of light as it goes past the Sun. As the Nobel Prize-winning physicist Richard Feynman said, "If it disagrees with experiment, it is wrong." From the discovery of microscopic worlds and gravitational waves, to the weighing the Earth, to making electricity, this stunning book by renowned science writers John and Mary Gribbin tells the enlightening, fascinating, and somewhat oddball story of scientific innovation.

A (Very) Short History of Life on Earth  
Exploring the Lab-Field Border in Biology

**The Routledge Companion to Thought Experiments**

**The Handbook of Historical Economics**

**Experimental Methods in Museums**

**Natural Experiments in the Social Sciences**

This systematic assessment of seven prominent initiatives is the first to evaluate the effectiveness of ecosystem-based management at protecting the environment. Scholars, scientists, and policymakers have hailed ecosystem-based management (EBM) as a remedy for the perceived shortcomings of the centralized, top-down, expert-driven environmental regulatory framework established in the United States in the late 1960s and early 1970s. EBM entails collaborative, landscape-scale planning and flexible, adaptive implementation. But although scholars have analyzed aspects of EBM for more than a decade, until now there has been no systematic empirical study of the overall approach. In *Natural Experiments*, Judith Layzer provides a detailed assessment of whether EBM delivers in practice the environmental benefits it promises in theory. She does this by examining four nationally known EBM initiatives (the Balcones Canyonlands Conservation Program in Austin, Texas, the San Diego Multiple Species Program, the Comprehensive Everglades Restoration Plan, and the California Bay-Delta Program) and three comparison cases that used more conventional regulatory approaches (Arizona's Sonoran Desert Conservation Plan and efforts to restore Florida's Kissimmee River and California's Mono Basin). Layzer concludes that projects that set goals based on stakeholder collaboration, rather than through conventional politics, are less likely to result in environmental improvement, largely because the pursuit of consensus drives planners to avoid controversy and minimize short-term costs. Layzer's resolutely practical focus cuts through the ideological and theoretical arguments for and against EBM to identify strategies that hold genuine promise for restoring the ecological resilience of our landscapes.

What is it like to do field biology in a world that exalts experiments and laboratories? How have field biologists assimilated laboratory values and practices, and crafted an exact, quantitative science without losing their naturalist souls? In *Landscapes and Labs*, Robert E. Kohler explores the people, places, and practices of field biology in the United States from the 1890s to the 1950s. He takes readers into the fields and forests where field biologists learned to count and measure nature and to read the imperfect records of "nature's experiments." He shows how field researchers use nature's particularities to develop "practices of place" that achieve in nature what laboratory researchers can only do with simplified experiments. Using historical frontiers as models, Kohler shows how biologists created vigorous new border sciences of ecology and evolutionary biology.

Book Excerpt: urescit, Benzo memorante. Carol. Cluzio, l. c. Annuo justam attingens Maturitatem Spatio. Franc. Hernandez, apud Anton. Rech. In Hist. Ind. Occidental, lib. 5. c. 1.[d] It seems likely that the Spanish Authors who say there are four Kinds of this at Mexico, have no better Foundation for the difference than this; and Mons. Tournefort had reason to say after Father Plumier, that he only knew one Kind of this Tree. Cacao Speciem Unicam novi. Append. Rei Herb. pag. 660.[e] A new Voyage round the World. Tom. 1. Ch. 3. p. 69.[f] Pomet's General History of Drugs, Book vii. Ch. xiv. pag. 205. Chomel's Abridgment of usual Plants. Valentin. Hist. Simplicium reform. lib. 2.[g] New Relation of the East Indies. Tom. 1. Part 2. Ch. 19.[h] A curious Discourse

upon Chocolate, by Ant. Colmenero de Cedesma, Physician and Chirurgeon at Paris 1643.[Read More](#)

Increasingly, scholars in the humanities are calling for a reengagement with the natural sciences. Taking their cues from recent breakthroughs in genetics and the neurosciences, advocates of “big history” are reassessing long-held assumptions about the very definition of history, its methods, and its evidentiary base. In *Scientific History*, Elena Aronova maps out historians’ continuous engagement with the methods, tools, values, and scale of the natural sciences by examining several waves of their experimentation that surged highest at perceived times of trouble, from the crisis-ridden decades of the early twentieth century to the ruptures of the Cold War. The book explores the intertwined trajectories of six intellectuals and the larger programs they set in motion: Henri Berr (1863–1954), Nikolai Bukharin (1888–1938), Lucien Febvre (1878–1956), Nikolai Vavilov (1887–1943), Julian Huxley (1887–1975), and John Desmond Bernal (1901–1971). Though they held different political views, spoke different languages, and pursued different goals, these thinkers are representative of a larger motley crew who joined the techniques, approaches, and values of science with the writing of history, and who created powerful institutions and networks to support their projects. In tracing these submerged stories, Aronova reveals encounters that profoundly shaped our knowledge of the past, reminding us that it is often the forgotten parts of history that are the most revealing.

The SAGE Encyclopedia of Communication Research Methods

Six-Minute Nature Experiments

The Laboratory of the Mind

Experiments in History and Politics from the Bolshevik Revolution to the End of the Cold War

Why Nations Fail

Innocent Experiments

"This book is a must for learning about the experimental design—from forming a research question to interpreting the results this text covers it all." –Sarah El Saad, University of Texas at Arlington *Designing Experiments for the Social Sciences: How to Plan, Create, and Execute Research Using Experiments* is a practical, applied text for courses in experimental design. The text assumes that students have just a basic knowledge of the scientific method, and no statistics background is required. We focus on how to effectively design experiments, rather than how to analyze the results. The book concentrates on the stage where researchers are making decisions about the procedural aspects of the experiment before interventions and treatments are given. Renita Coleman walks readers step-by-step on how to plan and execute experiments from the beginning by discussing choosing and collecting a sample, creating the stimuli and questionnaire, doing a manipulation check or pre-test, analyzing the data, and understanding and interpreting the results. Guidelines for deciding which elements are best used in the creation of a particular kind of experiment are also given. The book offers rich pedagogy, ethical considerations, and examples pertinent to all social science disciplines.

This book consists of eight comparative studies drawn from history, archeology

economics, economic history, geography, and political science. The studies cover a wide spectrum of approaches, ranging from a non-quantitative narrative style in the earlier chapters to quantitative statistical analyses in the later chapters. The studies range from a simple two-way comparison of Haiti and the Dominican Republic, which studies the island of Hispaniola, to comparisons of 81 Pacific islands and 233 areas of India. The societies discussed are contemporary ones, literate societies of recent centuries, and non-literate past societies. Geographically, they include the United States, Mexico, Brazil, western Europe, tropical Africa, India, Siberia, Australia, New Zealand, and other Pacific islands.

Behavioural experiments are one of the central and most powerful methods of intervention in cognitive therapy. Yet until now, there has been no volume specifically dedicated to guiding physicians who wish to design and implement behavioural experiments across a wide range of clinical problems. The Oxford Guide to Behavioural Experiments in Cognitive Therapy fills this gap. It is written by clinicians for clinicians. It is a practical, easy to read handbook, which is relevant for practitioners at every level, from trainees to cognitive therapy supervisors. Following a foreword by David Clark, the first two chapters provide a theoretical and practical background for the understanding and development of behavioural experiments. Thereafter, the remaining chapters of the book focus on particular problem areas. These include problems which have been the traditional focus of cognitive therapy (depression, anxiety disorders), as well as those which have only more recently become a subject of study (bipolar disorder, psychotic symptoms), and some which are relatively new to their relative infancy (physical health problems, brain injury). The book also includes several chapters on transdiagnostic problems, such as avoidance of affect, low self-esteem, interpersonal issues, and self-injurious behaviour. A final chapter by Christopher Padesky provides some signposts for future development. Containing examples of over 200 behavioural experiments, this book will be of enormous practical value for all those involved in cognitive behavioural therapy, as well as stimulating exploration and creativity in both its readers and their patients.

This collection focuses on different expeditions and their role in the process of knowledge acquisition from the eighteenth century onwards. It investigates various forms of scientific practice conducted during, after and before expeditions, and places this discussion into the scientific context of experiments. In treating expeditions as experiments in a heuristic sense, we also propose that the expedition is a variation on the laboratory in which different practices can be conducted and where the transformation of uncertain into certain knowledge is tested. The experimental positioning of the expedition brings together an ensemble of techniques, strategies, material agents and social actors, and illuminates the steps leading from observation to facts and documentation. The chapters show the variety of scientific interests that motivated expeditions with their focus on natural history, geology, ichthyology, zoology, helminthology, speleology, physical anthropology, oceanography, meteorology and magnetism.

The Surprising Payoff of Trial-and-Error for Business, Politics, and Society

## Expeditions as Experiments

### Leviathan and the Air-Pump

### Experimental and Quasi-Experimental Designs for Research

### Childhood and the Culture of Popular Science in the United States

### Origins of words and meanings

"[A]n exuberant romp through evolution, like a modern-day Willy Wonka of genetic space. Gee's grand tour enthusiastically details the narrative underlying life's erratic and often whimsical exploration of biological form and function." —Adrian Woolfson, *The Washington Post* In the tradition of Richard Dawkins, Bill Bryson, and Simon Winchester—An entertaining and uniquely informed narration of Life's life story. In the beginning, Earth was an inhospitably alien place—in constant chemical flux, covered with churning seas, crafting its landscape through incessant volcanic eruptions. Amid all this tumult and disaster, life began. The earliest living things were no more than membranes stretched across microscopic gaps in rocks, where boiling hot jets of mineral-rich water gushed out from cracks in the ocean floor. Although these membranes were leaky, the environment within them became different from the raging maelstrom beyond. These havens of order slowly refined the generation of energy, using it to form membrane-bound bubbles that were mostly-faithful copies of their parents—a foamy lather of soap-bubble cells standing as tiny clenched fists, defiant against the lifeless world. Life on this planet has continued in much the same way for millennia, adapting to literally every conceivable setback that living organisms could encounter and thriving, from these humblest beginnings to the thrilling and unlikely story of ourselves. In *A (Very) Short History of Life on Earth*, Henry Gee zips through the last 4.6 billion years with infectious enthusiasm and intellectual rigor. Drawing on the very latest scientific understanding and writing in a clear, accessible style, he tells an enlightening tale of survival and persistence that illuminates the delicate balance within which life has always existed.

The *Handbook of Historical Economics* guides students and researchers through a quantitative economic history that uses fully up-to-date econometric methods. The book's coverage of statistics applied to the social sciences makes it invaluable to a broad readership. As new sources and applications of data in every economic field are enabling economists to ask and answer new fundamental questions, this book presents an up-to-date reference on the topics at hand. Provides an historical outline of the two cliometric revolutions, highlighting the similarities and the differences between the two Surveys the issues and principal results of the "second cliometric revolution" Explores

innovations in formulating hypotheses and statistical testing, relating them to wider trends in data-driven, empirical economics

The Talking Heads Experiment, conducted in the years 1999-2001, was the first large-scale experiment in which open populations of situated embodied agents created for the first time ever a new shared vocabulary by playing language games about real world scenes in front of them. The agents could teleport to different physical sites in the world through the Internet. Sites, in Antwerp, Brussels, Paris, Tokyo, London, Cambridge and several other locations were linked into the network. Humans could interact with the robotic agents either on site or remotely through the Internet and thus influence the evolving ontologies and languages of the artificial agents. The present book describes in detail the motivation, the cognitive mechanisms used by the agents, the various installations of the Talking Heads, the experimental results that were obtained, and the interaction with humans. It also provides a perspective on what happened in the field after these initial groundbreaking experiments. The book is invaluable reading for anyone interested in the history of agent-based models of language evolution and the future of Artificial Intelligence.

Bad Blood

Biological Emergences

An Evolution of Thinking from Darwin to Dewey

Collecting Experiments

Uncontrolled

The Talking Heads experiment