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#Martin Rudwick #Earth's History #Deep Time #Geology History #Scientific Discovery

Delve into the groundbreaking contributions of Martin Rudwick to Earth's history. This exploration highlights his crucial discoveries about 'deep time' and explains why this vast temporal scale is essential for comprehending our planet's geological evolution and its profound impact on scientific thought.

Earth's Deep History

Mammoths and dinosaurs, tropical forests in northern Europe and North America, worldwide ice ages, continents colliding and splitting apart, comets and asteroids crashing catastrophically onto the Earth - these are just some of the surprising features of the eventful history of our planet, stretched out over several billion years. But how was it all discovered, how was the evidence for the Earth's long history collected and interpreted, and what sorts of people put together this reconstruction of a deep past that no human beings could ever have witnessed? In Earth's Deep History, Martin J. S. Rudwick tells the gripping story of the gradual realization that the Earth's history has not only been unimaginably long but also astonishingly eventful in utterly unexpected ways. Rudwick, the world's premier historian of the Earth sciences, is the first to make the story of the discovery of the Earth's deep history attractively accessible to readers without prior knowledge of either the history or the science, and in so doing he reveals why it matters to us today.

Earth's Deep History

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A Mist Connection

In the summer of 1783, an unusual dry fog descended upon large parts of the northern hemisphere. The fog brought with it bloodred sunsets, a foul sulfuric odor, and a host of other peculiar weather events. Inspired by the Enlightenment, many naturalists attempted to find reasonable explanations for these occurrences. Between 8 June 1783 and 7 February 1784, a 27-kilometer-long fissure volcano erupted in the Icelandic highlands. It produced the largest volume of lava released by any volcanic eruption on planet Earth in the last millennium. In Iceland, the eruption led to the death of one-fifth of the population. The jetstream carried its volcanic gases further afield to Europe and beyond, where they settled as a fog, the origin of which puzzled naturalists and laypersons. "A Mist Connection" is an environmental history that documents the Laki eruption and its consequences for Iceland and the

wider world. The book combines methods of historical disaster research, climate history, global history, history of science, and geology in an interdisciplinary approach. Icelandic flood lava eruptions of this scale have a statistical recurrence period of 200 to 500 years; it is crucial to understand their nature so that we can prepare for the next one. An eruption of this magnitude would surely be disastrous for our modern, globalized, and interconnected world.

Exploring Animal Encounters

This collection of essays offers multifaceted explorations of animal encounters in a range of philosophical, cultural, literary, and historical contexts. Exploring Animal Encounters encourages us to think about the richness and complexity of animal lives and human-animal relations, foregrounding the intricate roles nonhuman creatures play in the always already more-than-human sphere of ethics and politics. In this way, the essays in this volume can be understood as a contribution to alternative imaginings of interspecies coexistence in a time in which the issue of human relations with earth and earth others has come to the fore with unprecedented force and severity.

The Crisis of Evangelical Christianity

In the broad context of Christianity as it developed over two millennia, and with special reference to the last three centuries, this discussion finds that Evangelicalism has repeatedly offered a reduced and distorted understanding of the faith. The evangelical outlook is much less scriptural than evangelicals generally assume. When it comes to appreciating the order of creation, our calling to develop integral Christian thinking and living, the religious significance of culture, and the coming of the kingdom, reductionist Evangelicalism struggles with its only rarely acknowledged deficiencies. As a result, we have all too often ended up with a Christianity shorn of its cosmic scope and wide cultural implications, and restricted to institutional church life and the cultivation of private spiritual experience. The consequences are frequently enervating and corrosive. Without disregarding what is important in the past, evangelicals are here challenged to take the Bible much more seriously, and thereby transcend the limitations of their habitual reductionism. Evangelicals are encouraged to embrace an integral and full-orbed understanding of Christian discipleship that will equip the faithful to address the deep and complex challenges of the twenty-first century.

Queer Milton

Queer Milton is the first book-length study dedicated to anti-heteronormative approaches to the poetry and prose of John Milton. Organized into sections on “Eroticism and Form” and “Temporality and Affect,” essays in this volume read Milton’s works through radical queer interpretive frameworks that have elsewhere animated and enriched Renaissance Studies. Leveraging insights from recent queer work and related fields, contributions demonstrate diverse possible futures for Queer Milton Studies. At the same time, Queer Milton bears witness to the capacity for queer to arbitrate debates that have shaped, and indeed continue to shape, developments in the field of Milton Studies.

Let Us Now Praise Famous Gullies

Providence Canyon State Park, also known as Georgia’s “Little Grand Canyon,” preserves a network of massive erosion gullies allegedly caused by poor farming practices during the nineteenth century. It is a park that protects the scenic results of an environmental disaster. While little known today, Providence Canyon enjoyed a modicum of fame in the 1930s. During that decade, local boosters attempted to have Providence Canyon protected as a national park, insisting that it was natural. At the same time, national and international soil experts and other environmental reformers used Providence Canyon as the apotheosis of human, and particularly southern, land abuse. Let Us Now Praise Famous Gullies uses the unlikely story of Providence Canyon—and the 1930s contest over its origins and meaning—to recount the larger history of dramatic human-induced soil erosion across the South and to highlight the role that the region and its erosive agricultural history played in the rise of soil science and soil conservation in America. More than that, though, the book is a meditation on the ways in which our persistent mental habit of separating nature from culture has stunted our ability to appreciate places like Providence Canyon and to understand the larger history of American conservation.

Apocalypse Cinema

Vivid images of the apocalypse proliferate throughout contemporary cinema, which pictures the death of civilization in wildly different ways. Some films imagine a future where humanity is wiped out entirely, while others envision humans as an endangered species, enslaved by alien invaders or hunted by zombie hordes. This book provides a lively overview of apocalypse cinema, including alien invasions, nuclear annihilation, asteroid collisions, climate change, and terrifying plagues. Covering pivotal films from the silent era to the present day, including Metropolis, Invasion of the Body Snatchers, Dr. Strangelove, Contagion, and Avengers: Endgame, Stephen Prince explores how these dark visions are rooted in religious and prophetic traditions, and he considers how our love for apocalypse cinema is tied to fundamental existential questions and anxieties that never go out of fashion.

The Routledge Handbook of Material Religion

The Routledge Handbook of Material Religion places objects and bodies at the center of scholarly studies of religious life and practice. Propelling forward the study of material religion, the Handbook first reveals the deep philosophical roots of its key categories and then advances new critical analytics, such as queer materialities, inescapable material entanglements, and hyperobjects that explode the small-scale personal view on religions. The Handbook comprises thirty chapters, written by an international team of contributors who offer a global perspective of religious pasts and presents, divided into four thematic parts: Genealogies of Material Religion Materializing the Terms of the Study of Religion Entanglements, Entrapment, Escaping Hyperobjects, or How Ginormous Things Affect Religions In these four parts, the study of material religion is redirected towards systematic, critical interrogations of the imbrication of religious structures of power with racial, economic, political, and gendered forms of domination. From Spinoza’s political theology to African philosophies of ubuntu; from the queer materialities of Mesoamerican religion to the Satanic Temple of the United States; from Islamic love and sacrifice in human-animal entanglements to Shia militants’ attachment to weaponry; from epidemic cataclysm in Latin America to vast infrastructures and the gathering of millions in India’s Kumbh Mela, the study of material religion proves to be the study par excellence of the human condition. The Handbook is essential reading for students and researchers in religious studies, anthropology, history, and media studies, and will also be of interest to those in related fields such as archeology, sociology, and philosophy.

The Last of Its Kind

How an iconic bird’s final days exposed the reality of human-caused extinction The great auk is one of the most tragic and documented examples of extinction. A flightless bird that bred primarily on the remote islands of the North Atlantic, the last of its kind were killed in Iceland in 1844. Gísli Pálsson draws on firsthand accounts from the Icelanders who hunted the last great auks to bring to life a bygone age of Victorian scientific exploration while offering vital insights into the extinction of species. Pálsson vividly recounts how British ornithologists John Wolley and Alfred Newton set out for Iceland to collect specimens only to discover that the great auks were already gone. At the time, the Victorian world viewed extinction as an impossibility or trivialized it as a natural phenomenon. Pálsson chronicles how Wolley and Newton documented the fate of the last birds through interviews with the men who killed them, and how the naturalists’ Icelandic journey opened their eyes to the disappearance of species as a subject of scientific concern—and as something that could be caused by humans. Blending a richly evocative narrative with rare, unpublished material as well as insights from ornithology, anthropology, and Pálsson’s own North Atlantic travels, The Last of Its Kind reveals how the saga of the great auk opens a window onto the human causes of mass extinction.

Monet's Minutes

A stunning exploration of the vital links between Claude Monet's Impressionism and the time technologies that helped define modernity in the nineteenth century Monet's Minutes is a revelatory account charting the relationship between the works of Claude Monet (1840-1926)--founder of French Impressionism and one of the world's best-known painters--and the modern experience of time. André Dombrowski illuminates Monet's celebration of instantaneity in the context of the late nineteenth-century time technologies that underwrote it. Monet's version of Impressionism demonstrated an acute awareness of the particularly modern pressures of time, but until now scholars have not examined the histories and technologies of time and timekeeping that informed Impressionism's major stylistic shifts. Arguing that the fascination with instantaneity rejected the dulling cultures of newly routinized and standardized time, Monet's Minutes traces the evolution of Monet's art to what were then seismic

shifts in the shape of time itself. In each chapter, Dombrowski focuses on the connections between a set of Monet's works and a specific technology or experience of time, while providing the voices of period critics responding to Impressionism. Grounded in exceptional research and analyses, this book offers new interpretations of key works by Monet and a fresh perspective on late nineteenth-century art, society, and modern temporality.

Understanding Scientific Theories of Origins

The question of origins remains a stumbling block for many. But just as the Psalmist gained insight into God's character through the observation of nature, modern scientific study can deepen and enrich our vision of the Creator and our place in his creation. In this often contentious field Bishop, Funck, Lewis, Moshier, and Walton serve as our able guides. Based on over two decades of teaching origins together in the classroom, the authors present a textbook exploring mainstream scientific theories of origins in astronomy, cosmology, chemistry, geology, biology, physical anthropology, and genetics. While many authors engage origins from a Christian perspective, this is the first work offering a full-fledged discussion of the scientific narrative of origins from the Big Bang through humankind, from biblical and theological perspectives accessible to a lay audience. Topics include Principles of biblical interpretation Close readings of relevant Genesis texts A comprehensive Trinitarian doctrine of creation Cosmic origins The geologic history of Earth The origin of life on Earth The origin of species and diversity of life Human origins New creation and creation care Science education Rather than the familiar scenario where science and faith compete, this book seeks to diffuse tensions by taking the inspiration and authority of the Bible seriously while respecting and honoring God's revelation through creation. Understanding Scientific Theories of Origins gives the reader a detailed picture of the sciences of origins along with how they fit into the story of God's creative and redemptive action. BioLogos Books on Science and Christianity invite us to see the harmony between the sciences and biblical faith on issues including cosmology, biology, paleontology, evolution, human origins, the environment, and more.

Religion in the Anthropocene

This book charts a new direction in humanities scholarship through serious engagement with the geopolitical concept of the Anthropocene. Drawing on religious stwhatudies, theology, social science, history and philosophy, and can be broadly termed the environmental humanities, this collection represents a groundbreaking critical analysis of diverse narratives on the Anthropocene. The contributors to this volume recognize that the Anthropocene began as a geological concept, the age of the humans, but that its implications are much wider than this. Will the Anthropocene have good or bad ethical outcomes? Does the Anthropocene idea challenge the possibility of a sacred Nature, which shores up many religious approaches to environmental ethics? Or is the Anthropocene a secularized theological anthropology more properly dealt with through traditional concepts from Catholic social teaching on human ecology? Do theological traditions, such as Christology, reinforce negative aspects of the Anthropocene? Not all contributors in this volume agree with the answers to these different questions. Readers will be challenged, provoked, and stimulated by this book.

Genuine Fakes

Does an authentic Andy Warhol painting need to be painted by Andy Warhol? Why do audiences feel outraged when they find out that scenes from their beloved blockbuster documentaries are staged? Can people move past assuming that a diamond grown in a lab is a fake? What happens when a forged painting or manuscript becomes more valuable than its original?This is a book about genuine fakes - the curious and complex objects that provoke these very sorts of questions. Genuine fakes fall into the space between things that are real and things that are not; whether or not we think that those things are authentic is a matter of perspective. Unsurprisingly, the world is full of genuine fakes - full of things that defy simple categorisation.From stories of audacious forgeries to feats of technological innovation, historian Lydia Pyne explores how the authenticity of eight genuine fakes depends on their unique combinations of history, science and culture. The stories of art forgeries, fake fossils, nature documentaries, synthetic flavours, museum exhibits, Maya codices and Palaeolithic replicas show that genuine fakes are both complicated and change over time.Drawing from historical archives, interviews, museum exhibits and science fiction as well as her own research, Pyne brings each genuine fake to life through unexpected and often outrageous stories. Genuine Fakes will make readers think about

all the unreal things they encounter in their daily lives, and why they invoke the reactions - surprise, wonder, understanding or annoyance - that they do.

Progress Unchained

Bowler traces ideas about progress using evolutionary biology to throw light on parallel changes in the understanding of social development.

On the Backs of Tortoises

An insightful exploration of the iconic Galápagos tortoises, and how their fate is inextricably linked to our own in a rapidly changing world. Finalist for the 2020 E.O. Wilson Literary Science Writing Award, sponsored by PEN America Literary Awards The Galápagos archipelago is often viewed as a last foothold of pristine nature. For sixty years, conservationists have worked to restore this evolutionary Eden after centuries of exploitation at the hands of pirates, whalers, and island settlers. This book tells the story of the islands' namesakes—the giant tortoises—as coveted food sources, objects of natural history, and famous icons of conservation and tourism. By doing so, it brings into stark relief the paradoxical, and impossible, goal of conserving species by trying to restore a past state of prehistoric evolution. The tortoises, Elizabeth Hennessy demonstrates, are not prehistoric, but rather microcosms whose stories show how deeply human and nonhuman life are entangled. In a world where evolution is thoroughly shaped by global history, Hennessy puts forward a vision for conservation based on reckoning with the past, rather than trying to erase it. "Fresh, insightful . . . Hennessy's melding of human and natural history makes for thought-provoking reading." —Booklist (starred review) "Gripping . . . well-researched and thought-provoking . . . whether you're well-versed in the intricacies of conservation or have only just begun to long for a look at the tortoises yourself. On the Backs of Tortoises is a natural history that asks important questions, and challenges us to think about how best to answer them." —Genevieve Valentine, NPR "Wonderfully interesting, informative, and engaging, as well as scholarly." —Janet Browne, author of Charles Darwin: Voyaging and Charles Darwin: The Power of Place

Bursting the Limits of Time

During a revolution of discovery in the late eighteenth and early nineteenth centuries, geologists reconstructed the immensely long history of the earth--and the relatively recent arrival of human life. Bursting the Limits of Time is a herculean effort by one of the world's foremost experts on the history of geology and paleontology to illuminate this scientific breakthrough that radically altered existing perceptions of a human's place in the universe as much as the theories of Copernicus and Darwin did. Rudwick examines here the ideas and practices of earth scientists throughout the Western world to show how the story of what we now call "deep time" was pieced together. He explores who was responsible for the discovery of the earth's history, refutes the concept of a rift between science and religion in dating the earth, and details how the study of the history of the earth helped define a new branch of science called geology. Bursting the Limits of Time is the first detailed account of this monumental phase in the history of science. "Bursting the Limits of Time is a massive work and is quite simply a masterpiece of science history. . . . The book should be obligatory for every geology and history of science library, and is a highly recommended companion for every civilized geologist who can carry an extra 2.4 kg in his rucksack."--Stephen Moorbath, Nature

The Meaning of Fossils

"An absorbing history of changing views of what fossils are and how they contribute to an understanding of the history of the earth. Rudwick makes ample use of primary sources ranging in time from the first book with illustrations of fossils (1565) to O.C. Marsh's study of horse evolution in the 1870s. He documents the first attempts to collect groups of fossils, determine whether they were the remains of organisms, relate the fossils to their surrounding rock strata, and integrate fossil evidence into the concept of evolution"--Back cover.

Domínio: Como o Cristianismo Transformou o Pensamento Ocidental

Um livro fundamental que mostra como a revolução cristã mudou o mundo O Cristianismo é o legado mais influente e duradouro da Antiguidade, e o seu surgimento constitui a revolução mais radical da história do Ocidente. O impacto da religião cristã deixou a sua marca em todos os campos do desenvolvimento humano. Consequentemente, apesar do número crescente de pessoas que

abandonam esta fé na atualidade, viver num país moderno é viver numa sociedade cujos instintos e tradições têm profundas raízes cristãs. Neste livro, o historiador Tom Holland relata como chegámos ao presente e como a mente ocidental foi moldada num contexto histórico mais amplo. Numa análise reveladora que se estende desde a invasão persa da Grécia em 480 a. C. até às atuais crises migratórias na Europa, o autor explica por que motivo o Cristianismo foi e é uma força revolucionária e de que modo transformou radicalmente o que significa ser humano. «Se os grandes livros nos encorajam a olhar para o mundo de um modo completamente novo, então Domínio é, sem dúvida, um grande livro.» The Sunday Times

A Global History of Literature and the Environment

In A Global History of Literature and the Environment, an international group of scholars illustrate the immense riches of environmental writing from the earliest literary periods down to the present. It addresses ancient writings about human/animal/plant relations from India, classical Greece, Chinese and Japanese literature, the Maya Popol Vuh, Islamic texts, medieval European works, eighteenth-century and Romantic ecologies, colonial/postcolonial environmental interrelations, responses to industrialization, and the emerging literatures of the world in the present Anthropocene moment. Essays range from Trinidad to New Zealand, Estonia to Brazil. Discussion of these texts indicates a variety of ways environmental criticism can fruitfully engage literary works and cultures from every continent and every historical period. This is a uniquely varied and rich international history of environmental writing from ancient Mesopotamian and Asian works to the present. It provides a compelling account of a topic that is crucial to twenty-first-century global literary studies.

A Rainbow Palate

We live in a world saturated by chemicals—our food, our clothes, and even our bodies play host to hundreds of synthetic chemicals that did not exist before the nineteenth century. By the 1900s, a wave of bright coal tar dyes had begun to transform the Western world. Originally intended for textiles, the new dyes soon permeated daily life in unexpected ways, and by the time the risks and uncertainties surrounding the synthesized chemicals began to surface, they were being used in everything from clothes and home furnishings to cookware and food. In A Rainbow Palate, Carolyn Cobbold explores how the widespread use of new chemical substances influenced perceptions and understanding of food, science, and technology, as well as trust in science and scientists. Because the new dyes were among the earliest contested chemical additives in food, the battles over their use offer striking insights and parallels into today’s international struggles surrounding chemical, food, and trade regulation.

The Trinity Circle

The Trinity Circle explores the creation of knowledge in nineteenth-century England, when any notion of a recognizably modern science was still nearly a century off, religion still infused all ways of elite knowing, and even those who denied its relevance had to work extremely hard to do so. The rise of capitalism during this period—embodied by secular faith, political radicalism, science, commerce, and industry—was, according to Anglican critics, undermining this spiritual world and challenging it with a superficial material one: a human-centric rationalist society hell-bent on measurable betterment via profit, consumption, and a prevalent notion of progress. Here, William J. Ashworth places the politics of science within a far more contested context. By focusing on the Trinity College circle, spearheaded from Cambridge by the polymath William Whewell, he details an ongoing struggle between the Established Church and a quest for change to the prevailing social hierarchy. His study presents a far from unified view of science and religion at a time when new ways of thinking threatened to divide England and even the Trinity College itself.

Zustände des Fließenden

Zwischen den 1830er und 1870er Jahren zeichnete, kritzelte und kleckste der französische Schriftsteller Victor Hugo auf tausenden kleinformatigen Papieren. So entstand eine Fülle von Bildern, die in die Bildkultur dieser Zeit passen – bis auf eine Handvoll Ausnahmen: Vier Bilder fallen heraus. Sie lassen sich wegen ihrer rudimentären oder sogar unmöglichen Identifizierbarkeit von Motiven, wegen ihrer komplexen Gemachtheit und wegen ihrer ausschließlich fluiden Faktur weder durch Hugos eigene noch durch andere gängige Bilder des 19. Jahrhunderts kontextualisieren und interpretieren. Ganz anders als die bisherige Forschung nimmt dieses Buch die Bilder nicht schon wie ‚Abstraktionen' des 20. Jahrhunderts wahr. Vielmehr werden die Bilder als historisch und kulturell spezifische Artefakte

untersucht: Folgt man Hugos Machen der fluiden Formationen – seinen mal wässrigen, mal viskosen Tintenmischungen und seinen Handgriffen des Fließenlassens – werden seine künstlerischen Inspirationsquellen sichtbar: Als Hugo diese Bilder machte, lebte er am Meer, las zum Meer und schrieb zum Meer. Seine Lektüren und Überlegungen zu den Entstehungsprozessen im Meer inspirierten ihn, diese Bilder zu machen – vom Zustandekommen von Wesen, Gestein und Lumineszenz aus Meerwasser bis zum Zustandekommen von Bildern aus Tinte. Dabei lassen sich die Bilder nie als Illustrationen von Texten lesen. Sie bewahren immer einen nur ihnen eigenen Sinn. Hugos Bildermachen erscheint somit als eine vom Schreiben eigenständige Praxis, der Andrea Haarer auf den Grund geht: Wozu fertigte Hugo diese Bilder an? Zu welchen Erkenntnissen konnte er nicht im Schreiben kommen, sondern nur im Machen dieser Bilder? Was für ein Zusammenhang von Bild und Meer oder ‚Kunst' und ‚Natur' wird in künstlerischen Prozessen erprobt und in Bildern manifest, die nichts darstellend aufnehmen? Was sagt das über Kunst im 19. Jahrhundert aus?

Sur la science qui surprend, éclaire et dérange

La science est une puissante manifestation de la curiosité humaine. Elle est une démarche qui vise à comprendre et à expliquer le monde, incluant les humains. La plupart des gens aiment la science et désirent en entendre parler ou lire sur le sujet. Si, chez certains, la science suscite curiosité et enthousiasme, chez d'autres elle provoque la crainte, l'incrédulité ou le simple déni. La science bouleverse, parfois profondément et viscéralement. Les savoirs scientifiques à la fois réconfortent et dérangent parce qu'ils abordent des questions existentielles : qui sommes-nous ? Où sommes-nous ? D'où venons-nous ? Où allons-nous ? Comme nous l'enseigne éloquemment l'histoire des sciences, la science bouge. La démarche du scientifique, qui ne s'arrête jamais, est de toujours tendre vers une meilleure appréhension du monde. Qu'est-ce qui donne à la science sa qualité intellectuelle première ? La réponse est simple : la science marche, elle fonctionne.

Finding Meaning

Winner of the Native American Literature Symposium's Beatrice Medicine Award for Published Monograph The first extensive study of contemporary Hawaiian literature, Finding Meaning examines kaona, the practice of hiding and finding meaning, for its profound connectivity. Through kaona, author Brandy Nalani McDougall affirms the tremendous power of Indigenous stories and genealogies to give lasting meaning to decolonization movements.

Religion Explained?

With contributions from founders of the field, including Justin Barrett, E. Thomas Lawson, Robert N. McCauley, Paschal Boyer, Armin Geertz and Harvey Whitehouse, as well as from younger scholars from successive stages in the field's development, this is an important survey of the first twenty-five years of the cognitive science of religion. Each chapter provides the author's views on the contributions the cognitive science of religion has made to the academic study of religion, as well as any shortcomings in the field and challenges for the future. Religion Explained? The Cognitive Science of Religion after Twenty-five Years calls attention to the field whilst providing an accessible and diverse survey of approaches from key voices, as well as offering suggestions for further research within the field. This book is essential reading for anyone in religious studies, anthropology, and the scientific study of religion.

Die kürzeste Geschichte der Erde

4 Milliarden Jahre in 8 Kapiteln Wie gut kennen Sie den Boden unter Ihren Füßen? Es ist gut möglich, dass die Erde, auf der Sie stehen, einst aus einem brodelnden Lavameer oder gewaltigen Eisdecken bestand, dass Meteoriteneinschläge sie erschütterten oder giftige Gase sie erstickten. In über vier Milliarden Jahren hat unsere Erde als Schauplatz faszinierender Naturgewalten so einiges erlebt – der renommierte Geowissenschaftler und Harvard-Professor Andrew H. Knoll unternimmt nun den waghalsigen Versuch, ihre wahrlich epische Geschichte in der denkbar kürzesten Form zu erzählen. Die Naturgeschichte unseres Planeten und der Organismen, die ihn zu allen Zeiten bevölkerten, nimmt unter Knolls überaus gelehrter Feder die Form eines spektakulären und unterhaltsamen Thrillers an. Gleichsam liegt nun erstmals eine zeitgemäße Biografie von Mutter Erde vor, die auf rigorose Weise Mut zur kundigen Lücke erweist – und zudem für ein tieferes Verständnis des gegenwärtigen Klimawandels sorgen wird.

The Star-Crossed Stone

Throughout the four hundred thousand years that humanity has been collecting fossils, sea urchin fossils, or echinoids, have continually been among the most prized, from the Paleolithic era, when they decorated flint axes, to today, when paleobiologists study them for clues to the earth's history. In The Star-Crossed Stone, Kenneth J. McNamara, an expert on fossil echinoids, takes readers on an incredible fossil hunt, with stops in history, paleontology, folklore, mythology, art, religion, and much more. Beginning with prehistoric times, when urchin fossils were used as jewelry, McNamara reveals how the fossil crept into the religious and cultural lives of societies around the world—the roots of the familiar five-pointed star, for example, can be traced to the pattern found on urchins. But McNamara's vision is even broader than that: using our knowledge of early habits of fossil collecting, he explores the evolution of the human mind itself, drawing striking conclusions about humanity's earliest appreciation of beauty and the first stirrings of artistic expression. Along the way, the fossil becomes a nexus through which we meet brilliant eccentrics and visionary archaeologists and develop new insights into topics as seemingly disparate as hieroglyphics, Beowulf, and even church organs. An idiosyncratic celebration of science, nature, and human ingenuity, The Star-Crossed Stone is as charming and unforgettable as the fossil at its heart.

Worlds Before Adam

In the late eighteenth and early nineteenth centuries, scientists reconstructed the immensely long history of the earth—and the relatively recent arrival of human life. The geologists of the period, many of whom were devout believers, agreed about this vast timescale. But despite this apparent harmony between geology and Genesis, these scientists still debated a great many questions: Had the earth cooled from its origin as a fiery ball in space, or had it always been the same kind of place as it is now? Was prehuman life marked by mass extinctions, or had fauna and flora changed slowly over time? The first detailed account of the reconstruction of prehuman geohistory, Martin J. S. Rudwick's Worlds Before Adam picks up where his celebrated Bursting the Limits of Time leaves off. Here, Rudwick takes readers from the post-Napoleonic Restoration in Europe to the early years of Britain's Victorian age, chronicling the staggering discoveries geologists made during the period: the unearthing of the first dinosaur fossils, the glacial theory of the last ice age, and the meaning of igneous rocks, among others. Ultimately, Rudwick reveals geology to be the first of the sciences to investigate the historical dimension of nature, a model that Charles Darwin used in developing his evolutionary theory. Featuring an international cast of colorful characters, with Georges Cuvier and Charles Lyell playing major roles and Darwin appearing as a young geologist, Worlds Before Adam is a worthy successor to Rudwick's magisterial first volume. Completing the highly readable narrative of one of the most momentous changes in human understanding of our place in the natural world, Worlds Before Adam is a capstone to the career of one of the world's leading historians of science.

The Earth on Show

At the turn of the nineteenth century, geology—and its claims that the earth had a long and colorful prehuman history—was widely dismissedasdangerous nonsense. But just fifty years later, it was the most celebrated of Victorian sciences. Ralph O'Connor tracks the astonishing growth of geology's prestige in Britain, exploring how a new geohistory far more alluring than the standard six days of Creation was assembled and sold to the wider Bible-reading public. Shrewd science-writers, O'Connor shows, marketed spectacular visions of past worlds, piquing the public imagination with glimpses of man-eating mammoths, talking dinosaurs, and sea-dragons spawned by Satan himself. These authors—including men of science, women, clergymen, biblical literalists, hack writers, blackmailers, and prophets—borrowed freely from the Bible, modern poetry, and the urban entertainment industry, creating new forms of literature in order to transport their readers into a vanished and alien past. In exploring the use of poetry and spectacle in the promotion of popular science, O'Connor proves that geology's success owed much to the literary techniques of its authors. An innovative blend of the history of science, literary criticism, book history, and visual culture, The Earth on Show rethinks the relationship between science and literature in the nineteenth century.

The Great Devonian Controversy

"Arguably the best work to date in the history of geology."—David R. Oldroyd, Science "After a superficial first glance, most readers of good will and broad knowledge might dismiss [this book] as being too much about too little. They would be making one of the biggest mistakes in their

intellectual lives. . . . [It] could become one of our century's key documents in understanding science and its history."—Stephen Jay Gould, New York Review of Books "Surely one of the most important studies in the history of science of recent years, and arguably the best work to date in the history of geology."—David R. Oldroyd, Science

Scenes from Deep Time

How did the earth look in prehistoric times? Scientists and artists collaborated during the half-century prior to the publication of Darwin's Origin of Species to produce the first images of dinosaurs and the world they inhabited. Their interpretations, informed by recent fossil discoveries, were the first efforts to represent the prehistoric world based on sources other than the Bible. Martin J. S. Rudwick presents more than a hundred rare illustrations from the eighteenth and nineteenth centuries to explore the implications of reconstructing a past no one has ever seen.

Strata

"The story starts with William Smith's early years, from apprentice to surveyor for hire, and from publication of his groundbreaking 1815 geological strata map to imprisonment for debt. Smith's 1799 geological map of Bath and table of strata, his first strata map of England and Wales, published in 1801, and photographs of some of Smith's collection of 2,000 fossils illustrate the tale. The remainder of the book is organized into four parts, each beginning with four sheets from Smith's hand-colored, 1815 strata map, accompanied by related geological cross sections and county maps (1819-24), and followed by sections of Sowerby's fossil illustrations (1816-19), organized by strata. Interleaved between the sections are essays by scholars that focus on the people and industries that benefited from the knowledge imparted by Smith's work. Concluding the volume are reflections on Smith's later years as an itinerant geologist and surveyor, plagiarism by a rival, receipt of the first Wollaston Medal in recognition of his achievements, and the influence of his geological mapping and biostratigraphical theories on the sciences, which culminated in the establishment of the modern geological timescale"--

Climate in Motion

Today, predicting the impact of human activities on the earth’s climate hinges on tracking interactions among phenomena of radically different dimensions, from the molecular to the planetary. Climate in Motion shows that this multiscalar, multicausal framework emerged well before computers and satellites. Extending the history of modern climate science back into the nineteenth century, Deborah R. Coen uncovers its roots in the politics of empire-building in central and eastern Europe. She argues that essential elements of the modern understanding of climate arose as a means of thinking across scales in a state—the multinational Habsburg Monarchy, a patchwork of medieval kingdoms and modern laws—where such thinking was a political imperative. Led by Julius Hann in Vienna, Habsburg scientists were the first to investigate precisely how local winds and storms might be related to the general circulation of the earth’s atmosphere as a whole. Linking Habsburg climatology to the political and artistic experiments of late imperial Austria, Coen grounds the seemingly esoteric science of the atmosphere in the everyday experiences of an earlier era of globalization. Climate in Motion presents the history of modern climate science as a history of “scaling”—that is, the embodied work of moving between different frameworks for measuring the world. In this way, it offers a critical historical perspective on the concepts of scale that structure thinking about the climate crisis today and the range of possibilities for responding to it.

Worlds of Natural History

Explores the development of natural history since the Renaissance and contextualizes current discussions of biodiversity.

Darwin-Inspired Learning

Charles Darwin has been extensively analysed and written about as a scientist, Victorian, father and husband. However, this is the first book to present a carefully thought out pedagogical approach to learning that is centered on Darwin’s life and scientific practice. The ways in which Darwin developed his scientific ideas, and their far reaching effects, continue to challenge and provoke contemporary teachers and learners, inspiring them to consider both how scientists work and how individual humans ‘read nature’. Darwin-inspired learning, as proposed in this international collection of essays, is an

enquiry-based pedagogy, that takes the professional practice of Charles Darwin as its source. Without seeking to idealise the man, Darwin-inspired learning places importance on: • active learning • hands-on enquiry • critical thinking • creativity • argumentation • interdisciplinarity. In an increasingly urbanised world, first-hand observations of living plants and animals are becoming rarer. Indeed, some commentators suggest that such encounters are under threat and children are living in a time of ‘nature-deficit’. Darwin-inspired learning, with its focus on close observation and hands-on enquiry, seeks to re-engage children and young people with the living world through critical and creative thinking modeled on Darwin’s life and science.

A History of the Warfare of Science with Theology in Christendom

Making the Geologic Now announces shifts in cultural sensibilities and practices. It offers early sightings of an increasingly widespread turn toward the geologic as source of explanation, motivation, and inspiration for creative responses to conditions of the present moment. In the spirit of a broadside, this edited collection circulates images and short essays from over 40 artists, designers, architects, scholars, and journalists who are actively exploring and creatively responding to the geologic depth of "now." Contributors' ideas and works are drawn from architecture, design, contemporary philosophy and art. They are offered as test sites for what might become thinkable or possible if humans were to collectively take up the geologic as our instructive co-designer-as a partner in designing thoughts, objects, systems, and experiences. A new cultural sensibility is emerging. As we struggle to understand and meet new material realities of earth and life on earth, it becomes increasingly obvious that the geologic is not just about rocks. We now cohabit with the geologic in unprecedented ways, in teeming assemblages of exchange and interaction among geologic materials and forces and the bio, cosmo, socio, political, legal, economic, strategic, and imaginary. As a reading and viewing experience, Making the Geologic Now is designed to move through culture, sounding an alert from the unfolding edge of the "geologic turn" that is now propagating through contemporary ideas and practices. Contributors include: Matt Baker, Jarrod Beck, Stephen Becker, Brooke Belisle, Jane Bennett, David Benque, Canary Project (Susannah Sayler, Edward Morris), Center for Land Use Interpretation, Brian Davis, Seth Denizen, Anthony Easton, Elizabeth Ellsworth, Valeria Federighi, William L. Fox, David Gersten, Bill Gilbert, Oliver Goodhall, John Gordon, Ilana Halperin, Lisa Hirmer, Rob Holmes, Katie Holten, Jane Hutton, Julia Kagan, Wade Kavanaugh, Oliver Kellhammer, Elizabeth Kolbert, Janike Kampevold Larsen, Jamie Kruse, William Lamson, Tim Maly, Geoff Manaugh, Don McKay, Rachel McRae, Brett Milligan, Christian MilNeil, Laura Moriarity, Stephen Nguyen, Erika Osborne, Trevor Paglen, Anne Reeve, Chris Rose, Victoria Sambunaris, Paul Lloyd Sargent, Antonio Stoppani, Rachel Sussman, Shimpei Takeda, Chris Taylor, Ryan Thompson, Etienne Turpin, Nicola Twilley, Bryan M. Wilson.

The Book Review Digest

An anniversary edition of an influential book that introduced a groundbreaking approach to the study of science, technology, and society. This pioneering book, first published in 1987, launched the new field of social studies of technology. It introduced a method of inquiry—social construction of technology, or SCOT—that became a key part of the wider discipline of science and technology studies. The book helped the MIT Press shape its STS list and inspired the Inside Technology series. The thirteen essays in the book tell stories about such varied technologies as thirteenth-century galleys, eighteenth-century cooking stoves, and twentieth-century missile systems. Taken together, they affirm the fruitfulness of an approach to the study of technology that gives equal weight to technical, social, economic, and political questions, and they demonstrate the illuminating effects of the integration of empirics and theory. The approaches in this volume—collectively called SCOT (after the volume's title) have since broadened their scope, and twenty-five years after the publication of this book, it is difficult to think of a technology that has not been studied from a SCOT perspective and impossible to think of a technology that cannot be studied that way.

Making the Geologic Now

The Social Construction of Technological Systems, anniversary edition