

Origins Fourteen Billion Years Of Cosmic Evolution Neil Degrasse Tyson

AN INSTANT #1 NEW YORK TIMES BESTSELLER “How To will make you laugh as you learn...With How To, you can't help but appreciate the glorious complexity of our universe and the amazing breadth of humanity's effort to comprehend it. If you want some lightweight edification, you won't go wrong with How To.” —CNET “[How To] has science and jokes in it, so 10/10 can recommend.” —Simone Giertz The world's most entertaining and useless self-help guide from the brilliant mind behind the wildly popular webcomic xkcd and the bestsellers What If? and Thing Explainer For any task you might want to do, there's a right way, a wrong way, and a way so monumentally complex, excessive, and inadvisable that no one would ever try it. How To is a guide to the third kind of approach. It's full of highly impractical advice for everything from landing a plane to digging a hole. Bestselling author and cartoonist Randall Munroe explains how to predict the weather by analyzing the pixels of your Facebook photos. He teaches you how to tell if you're a baby boomer or a 90's kid by measuring the radioactivity of your teeth. He offers tips for taking a selfie with a telescope, crossing a river by boiling it, and powering your house by destroying the fabric of space-time. And if you want to get rid of the book once you're done with it, he walks you through your options for proper disposal, including dissolving it in the ocean, converting it to a vapor, using tectonic plates to subduct it into the Earth's mantle, or launching it into the Sun. By exploring the most complicated ways to do simple tasks, Munroe doesn't just make things difficult for himself and his readers. As he did so brilliantly in What If?, Munroe invites us to explore the most absurd reaches of the possible. Full of clever infographics and fun illustrations, How To is a delightfully mind-bending way to better understand the science and technology underlying the things we do every day.

A new window opens onto the cosmos... Almost every day we are challenged by new information from the outermost reaches of space. Using straightforward language, One Universe explores the physical principles that govern the workings of our own world so that we can appreciate how they operate in the cosmos around us. Bands of color in a sunlit crystal and the spectrum of starlight in giant telescopes, the arc of a hard-hit baseball and the orbit of the moon, traffic patterns on a freeway and the spiral arms in a galaxy full of stars--they're all tied together in grand and simple ways. We can understand the vast cosmos in which we live by exploring three basic concepts: motion, matter, and energy. With these as a starting point, One Universe shows how the physical principles that operate in our kitchens and backyards are actually down-to-Earth versions of cosmic processes. The book then takes us to the limits of our knowledge, asking the ultimate questions about the origins and existence of life as we know it and where the universe came from--and where it is going. Glorious photographs--many seen for the first time in these pages--and original illustrations expand and enrich our understanding. Evocative and clearly written, One Universe explains complex ideas in ways that every reader can grasp and enjoy. This book captures the grandeur of the heavens while making us feel at home in the cosmos. Above all, it helps us realize that galaxies, stars, planets, and we ourselves all belong to One Universe.

"[Tyson] tackles a great range of subjects...with great humor, humility, and—most important—humanity." —Entertainment Weekly

Loyal readers of the monthly "Universe" essays in Natural History magazine have long recognized Neil deGrasse Tyson's talent for guiding them through the mysteries of the cosmos with clarity and enthusiasm. Bringing together more than forty of Tyson's favorite essays, *Death by Black Hole* explores a myriad of cosmic topics, from what it would be like to be inside a black hole to the movie industry's feeble efforts to get its night skies right. One of America's best-known astrophysicists, Tyson is a natural teacher who simplifies the complexities of astrophysics while sharing his infectious fascination for our universe.

The New York Times bestseller: "You gotta read this. It is the most exciting book about Pluto you will ever read in your life." —Jon Stewart When the Rose Center for Earth and Space at the American Museum of Natural History reclassified Pluto as an icy comet, the New York Times proclaimed on page one, "Pluto Not a Planet? Only in New York." Immediately, the public, professionals, and press were choosing sides over Pluto's planethood. Pluto is entrenched in our cultural and emotional view of the cosmos, and Neil deGrasse Tyson, award-winning author and director of the Rose Center, is on a quest to discover why. He stood at the heart of the controversy over Pluto's demotion, and consequently Plutophiles have freely shared their opinions with him, including endless hate mail from third-graders. With his inimitable wit, Tyson delivers a minihistory of planets, describes the oversized characters of the people who study them, and recounts how America's favorite planet was ousted from the cosmic hub.

Covering 13.8 billion years in some 100 pages, a concise, wryly intelligent history of everything, from the Big Bang to the advent of human civilization. With wonder, wit, and flair—and in record time and space—geophysicist David Bercovici explains how everything came to be everywhere, from the creation of stars and galaxies to the formation of Earth's atmosphere and oceans, to the origin of life and human civilization. Bercovici marries humor and legitimate scientific intrigue, rocketing readers across nearly fourteen billion years and making connections between the essential theories that give us our current understanding of topics as varied as particle physics, plate tectonics, and photosynthesis. Bercovici's unique literary endeavor is a treasure trove of real, compelling science and fascinating history, providing both science lovers and complete neophytes with an unforgettable introduction to the fields of cosmology, geology, genetics, climate science, human evolution, and more. "For determined minds hoping for cogent, clever explanations for what we know of the history of the universe, Bercovici nails it." —Shelf Awareness "Explaining life, the universe and everything in 100 pages may be a tall order, but physicist and volcano enthusiast Bercovici rises to the challenge. . . . Origins delivers on its promise—and (bonus!) it's even fun to read." —Discover "Clear, concise, comprehensive, and written with verve and a sense of humor, *The Origins of Everything* is a delightful journey through time from the big bang to the present day." —Doug Macdougall, author of *Frozen Earth*

Astronomers have recently discovered thousands of exotic planets that orbit stars throughout our Milky Way galaxy. With his characteristic wit and style, Donald Goldsmith shows how these observations have already broadened our planetary horizons, and tells us what may come next, including the ultimate discovery: life beyond our home planet.

Bringing demonstrations of the principles of nature into the living room, Tyson writes in a lucid, easygoing style that finally makes scientific literacy possible for enthusiasts and those with math and science phobias alike.

“A compelling appeal, at just the right time, for continuing to look up.”—Air & Space America’s space program is at a turning point. After decades of global primacy, NASA has ended the space-shuttle program, cutting off its access to space. No astronauts will be launched in an American craft, from American soil, until the 2020s, and NASA may soon find itself eclipsed by other countries’ space programs. With his signature wit and thought-provoking insights, Neil deGrasse Tyson—one of our foremost thinkers on all things space—illuminates the past, present, and future of space exploration and brilliantly reminds us why NASA matters now as much as ever. As Tyson reveals, exploring the space frontier can profoundly enrich many aspects of our daily lives, from education systems and the economy to national security and morale. For America to maintain its status as a global leader and a technological innovator, he explains, we must regain our enthusiasm and curiosity about what lies beyond our world. Provocative, humorous, and wonderfully readable, *Space Chronicles* represents the best of Tyson’s recent commentary, including a must-read prologue on NASA and partisan politics. Reflecting on topics that range from scientific literacy to space-travel missteps, Tyson gives us an urgent, clear-eyed, and ultimately inspiring vision for the future.

The classic manifesto of the liberated woman, this book explores every facet of a woman's life.

Presents an illustrated guide to the universe and to Earth's relationship to it, moving from theories of creation to humankind's discovery of the cosmos, to general relativity, to space missions, and beyond.

This edition of *Science and Creationism* summarizes key aspects of several of the most important lines of evidence supporting evolution. It describes some of the positions taken by advocates of creation science and presents an analysis of these claims. This document lays out for a broader audience the case against presenting religious concepts in science classes. The document covers the origin of the universe, Earth, and life; evidence supporting biological evolution; and human evolution. (Contains 31 references.) (CCM)

Jo Dunkley combines her expertise as an astrophysicist with her talents as a writer and teacher to present an elegant introduction to the structure, history, and enduring mysteries of the universe. Among the cutting-edge phenomena discussed are the accelerating expansion of the universe and the possibility that our universe is only one of many.

An astronomer recounts the investigation by NASA scientists into a group of ancient asteroids that fell from Mars to Earth and that revealed signs of primitive life on Mars, and explores the implications of that discovery. Reprint.

Discusses the century-long search for planets outside our solar system, including the October 1995 announcement of the first discovered by astronomers and an explanation of where more planets might be found.

Taking advantage of recent advances throughout the sciences, Matthew Hedman brings the distant past closer to us than it has ever been. Here, he shows how scientists have determined the age of everything from the colonization of the New World over 13,000 years ago to the origin of the universe nearly fourteen billion years ago. Hedman details, for example, how interdisciplinary studies of the Great Pyramids of Egypt can determine exactly when and how these incredible structures were built. He shows how the remains of humble trees can illuminate how the surface of the sun has changed over the past ten millennia. And he also explores how the origins of the earth, solar system, and universe are being discerned with help from rocks that fall from the sky, the light from distant stars, and even the static seen on television sets. Covering a wide range of time scales, from the Big Bang to human history, *The Age of Everything* is a provocative and far-ranging look at how science has determined the age of everything from modern mammals to the oldest stars, and will be indispensable for all armchair

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time travelers. “We are used to being told confidently of an enormous, measurable past: that some collection of dusty bones is tens of thousands of years old, or that astronomical bodies have an age of some billions. But how exactly do scientists come to know these things? That is the subject of this quite fascinating book. . . . As told by Hedman, an astronomer, each story is a marvel of compressed exegesis that takes into account some of the most modern and intriguing hypotheses.”—Steven Poole, *Guardian* “Hedman is worth reading because he is careful to present both the power and peril of trying to extract precise chronological data. These are all very active areas of study, and as you read Hedman you begin to see how researchers have to be both very careful and incredibly audacious, and how much of our understanding of ourselves—through history, through paleontology, through astronomy—depends on determining the age of everything.”—Anthony Doerr, *Boston Globe*

Origins: Fourteen Billion Years of Cosmic Evolution W. W. Norton & Company

New York Times Bestseller A luminous companion to the phenomenal bestseller *Astrophysics for People in a Hurry*. Astrophysicist Neil deGrasse Tyson has attracted one of the world’s largest online followings with his fascinating, widely accessible insights into science and our universe. Now, Tyson invites us to go behind the scenes of his public fame by revealing his correspondence with people across the globe who have sought him out in search of answers. In this hand-picked collection of 101 letters, Tyson draws upon cosmic perspectives to address a vast array of questions about science, faith, philosophy, life, and of course, Pluto. His succinct, opinionated, passionate, and often funny responses reflect his popularity and standing as a leading educator. Tyson’s 2017 bestseller *Astrophysics for People in a Hurry* offered more than one million readers an insightful and accessible understanding of the universe. Tyson’s most candid and heartfelt writing yet, *Letters from an Astrophysicist* introduces us to a newly personal dimension of Tyson’s quest to explore our place in the cosmos.

Here is the essential companion to *Welcome to the Universe*, a New York Times bestseller that was inspired by the enormously popular introductory astronomy course for non science majors that Neil deGrasse Tyson, Michael A. Strauss, and J. Richard Gott taught together at Princeton. This problem book features more than one hundred problems and exercises used in the original course—ideal for anyone who wants to deepen their understanding of the original material and to learn to think like an astrophysicist. Whether you’re a student or teacher, citizen scientist or science enthusiast, your guided tour of the cosmos just got even more hands-on with *Welcome to the Universe: The Problem Book*. The essential companion book to the acclaimed bestseller *Features the problems used in the original introductory astronomy course for non science majors at Princeton University Organized according to the structure of Welcome to the Universe, empowering readers to explore real astrophysical problems that are conceptually introduced in each chapter Problems are designed to stimulate physical insight into the frontier of astrophysics Problems develop quantitative skills, yet use math no more advanced than high school algebra Problems are often multipart, building critical thinking and quantitative skills and developing readers’ insight into what astrophysicists do Ideal for course use—either in tandem with *Welcome to the Universe* or as a supplement to courses using standard astronomy textbooks—or self-study Tested in the classroom over numerous semesters for more than a decade Prefaced with a review of relevant concepts and equations Full solutions and explanations are provided, allowing students and other readers to check their own understanding*

“Extraordinary.... A feast of history, an expert tour through thousands of years of war and conquest.” —Jennifer Carson, *New York Times Book Review* In this far-reaching foray into the millennia-long relationship between science and military power, acclaimed astrophysicist Neil deGrasse Tyson and co-author Avis Lang examine how the methods and tools of astrophysics have been enlisted in the service of war. Spanning early celestial navigation to satellite-enabled warfare, *Accessory to War* is a richly researched and provocative examination of the

intersection of science, technology, industry, and power that will introduce Tyson's millions of fans to yet another dimension of how the universe has shaped our lives and our world.

From the #1 New York Times bestselling author of *Astrophysics for People in a Hurry* comes a follow-up guide to more of the most popular questions about the universe. In this companion volume to *Merlin's Tour of the Universe*, Neil de Grasse Tyson presents a completely new collection of questions and answers about the cosmos for stargazers of all ages. Whether waxing about Earth and its environs, the Sun and its stellar siblings, the world of light, physical laws, or galaxies near and far, Merlin--a fictional visitor from Planet Omniscia and our guide to the universe--is easy to understand, often humorous, and always entertaining. Merlin fields a wide range of questions from many curious mortals, and in so doing draws on his own vast knowledge as well as the expertise of many close friends, including Archimedes, Galileo, Einstein, and Santa. Merlin hasn't been stumped yet, responding to questions including: If aliens exploded our moon, what effect would it have on us? What are your thoughts on the theory that a star named Nemesis is circling our solar system and was responsible for killing off the dinosaurs? Is it true that if I leave a container on my roof for a period of time, I can actually collect space particles from outer space? Delightfully illustrated throughout, *Just Visiting This Planet* is a timeless book for lovers of the universe by one of its brightest lights.

From what actually happened in the Big Bang to the accidental discovery of post-it notes, the history of science is packed with surprising discoveries. Did you know, for instance, that if you were to get too close to a black hole it would suck you up like a noodle (it's called spaghettification), why your keyboard is laid out in QWERTY (it's not to make it easier to type) or why animals never evolved wheels? *New Scientist* does. And now they and award-winning illustrator Jennifer Daniel want to take you on a colorful, whistle-stop journey from the start of our universe (through the history of stars, galaxies, meteorites, the Moon and dark energy) to our planet (through oceans and weather and oil) and life (through dinosaurs to emotions and sex) to civilization (from cities to alcohol and cooking), knowledge (from alphabets to alchemy) ending up with technology (computers to rocket science). Witty essays explore the concepts alongside enlightening infographics that zoom from how many people have ever lived, to showing you how a left-wing brain differs from a right-wing one...

Australopithecines, dinosaurs, trilobites--such fossils conjure up images of lost worlds filled with vanished organisms. But in the full history of life, ancient animals, even the trilobites, form only the half-billion-year tip of a nearly four-billion-year iceberg. Andrew Knoll explores the deep history of life from its origins on a young planet to the incredible Cambrian explosion, presenting a compelling new explanation for the emergence of biological novelty. The very latest discoveries in paleontology--many of them made by the author and his students--are integrated with emerging insights from molecular biology and earth system science to forge a broad understanding of how the biological diversity that surrounds us came to be. Moving from Siberia to Namibia to the Bahamas, Knoll shows how life and environment have evolved together through Earth's history. Innovations in biology have helped shape our air and oceans, and, just as surely, environmental change has influenced the course of evolution, repeatedly closing off opportunities for some species while opening avenues for others. Readers go into the field to confront fossils, enter the lab to discern the inner workings of cells, and alight on Mars to ask how our terrestrial experience can guide exploration for life beyond our planet. Along the way, Knoll brings us up-to-date on some of science's hottest questions, from the oldest fossils and claims of life beyond the Earth to the hypothesis of global glaciation and Knoll's own unifying concept of "permissive ecology." In laying bare Earth's deepest biological roots, *Life on a Young Planet* helps us understand our own place in the universe--and our responsibility as stewards of a world four billion years in the making. In a new preface, Knoll describes how the field has broadened and deepened in the decade since the book's original publication.

Introduces young readers to Catholic beliefs as expressed in the Catechism of the Catholic Church.

"An accessible and extremely well-written exploration of the deep waters of cosmology, astrophysics, and exobiology."—?Kirkus Reviews?
Our true origins are not just human, or even terrestrial, but in fact cosmic. Drawing on recent scientific breakthroughs and the current cross-pollination among geology, biology, astrophysics, and cosmology, ?Origins? explains the soul-stirring leaps in our understanding of the cosmos. From the first image of a galaxy birth to Spirit Rover's exploration of Mars, to the discovery of water on one of Jupiter's moons, coauthors Neil deGrasse Tyson and Donald Goldsmith conduct a galvanizing tour of the cosmos with clarity and exuberance.

In the present book, *How to Win Friends and Influence People*, Dale Carnegie says, "You can make someone want to do what you want them to do by seeing the situation from the other person's point of view and arousing in the other person an eager want." You learn how to make people like you, win people over to your way of thinking, and change people without causing offense or arousing resentment. For instance, "let the other person feel that the idea is his or hers" and "talk about your own mistakes before criticizing the other person." This book is all about building relationships. With good relationships, personal and business successes are easy and swift to achieve. *Twelve Ways to Win People to Your Way of Thinking*

1. The only way to get the best of an argument is to avoid it.
2. Show respect for the other person's opinions. Never say "You're wrong."
3. If you're wrong, admit it quickly and emphatically.
4. Begin in a friendly way.
5. Start with questions to which the other person will answer yes.
6. Let the other person do a great deal of the talking.
7. Let the other person feel the idea is his or hers.
8. Try honestly to see things from the other person's point of view.
9. Be sympathetic with the other person's ideas and desires.
10. Appeal to the nobler motives.
11. Dramatize your ideas.
12. Throw down a challenge.

This illustrated companion to the popular podcast and National Geographic Channel show is an eye-opening journey for anyone curious about our universe, space, astronomy and the complexities of the cosmos. For decades, beloved astrophysicist Neil deGrasse Tyson has interpreted science with a combination of brainpower and charm that resonates with fans everywhere. This pioneering, provocative book brings together the best of *StarTalk*, his beloved podcast and television show devoted to solving the most confounding mysteries of Earth, space, and what it means to be human. Filled with brilliant sidebars, vivid photography, and unforgettable quotes from Tyson and his brilliant cohort of science and entertainment luminaries, *StarTalk* will help answer all of your most pressing questions about our world—from how the brain works to the physics of comic book superheroes. Fun, smart, and laugh-out-loud funny, this book is the perfect guide to everything you ever wanted to know about the universe—and beyond. This business classic features straight-talking advice you'll never hear in school. Featuring a new foreword by Ariel Emanuel and Patrick Whitesell Mark H. McCormack, one of the most successful entrepreneurs in American business, is widely credited as the founder of the modern-day sports marketing industry. On a handshake with Arnold Palmer and less than a thousand dollars, he started International Management Group and, over a four-decade period, built the company into a multimillion-dollar enterprise with offices in more than forty countries. To this day, McCormack's business classic remains a must-read for executives and managers at every level. Relating his proven method of "applied people sense" in key chapters on sales, negotiation, reading

others and yourself, and executive time management, McCormack presents powerful real-world guidance on • the secret life of a deal • management philosophies that don't work (and one that does) • the key to running a meeting—and how to attend one • the positive use of negative reinforcement • proven ways to observe aggressively and take the edge • and much more Praise for What They Don't Teach You at Harvard Business School “Incisive, intelligent, and witty, What They Don't Teach You at Harvard Business School is a sure winner—like the author himself. Reading it has taught me a lot.”—Rupert Murdoch, executive chairman, News Corp, chairman and CEO, 21st Century Fox “Clear, concise, and informative . . . Like a good mentor, this book will be a valuable aid throughout your business career.”—Herbert J. Siegel, chairman, Chris-Craft Industries, Inc. “Mark McCormack describes the approach I have personally seen him adopt, which has not only contributed to the growth of his business, but mine as well.”—Arnold Palmer “There have been what we love to call dynasties in every sport. IMG has been different. What this one brilliant man, Mark McCormack, created is the only dynasty ever over all sport.”—Frank Deford, senior contributing writer, Sports Illustrated

What happened before the primordial fire of the Big Bang: a theory about the ultimate origin of the universe. In the beginning was the Big Bang: an unimaginably hot fire almost fourteen billion years ago in which the first elements were forged. The physical theory of the hot nascent universe—the Big Bang—was one of the most consequential developments in twentieth-century science. And yet it leaves many questions unanswered: Why is the universe so big? Why is it so old? What is the origin of structure in the cosmos? In *An Infinity of Worlds*, physicist Will Kinney explains a more recent theory that may hold the answers to these questions and even explain the ultimate origins of the universe: cosmic inflation, before the primordial fire of the Big Bang. Kinney argues that cosmic inflation is a transformational idea in cosmology, changing our picture of the basic structure of the cosmos and raising unavoidable questions about what we mean by a scientific theory. He explains that inflation is a remarkable unification of inner space and outer space, in which the physics of the very large (the cosmos) meets the physics of the very small (elementary particles and fields), closing in a full circle at the first moment of time. With quantum uncertainty its fundamental feature, this new picture of cosmic origins introduces the possibility that the origin of the universe was of a quantum nature. Kinney considers the consequences of eternal cosmic inflation. Can we come to terms with the possibility that our entire observable universe is one of infinitely many, forever hidden from our view?

A pocket-style edition based on the New York Times bestseller *A Brief Welcome to the Universe* offers a breathtaking tour of the cosmos, from planets, stars, and galaxies to black holes and time loops. Bestselling authors and acclaimed astrophysicists Neil deGrasse Tyson, Michael A. Strauss, and J. Richard Gott take readers on an unforgettable journey of exploration to reveal how our universe actually works. Propelling you from our home solar system to the outermost frontiers of space, this book builds your cosmic insight and perspective through a marvelously entertaining narrative. How do stars live and die? What are the prospects of intelligent life elsewhere in the universe? How did the universe begin? Why is it expanding and accelerating? Is our universe alone or part of an infinite multiverse? Exploring these and many other questions, this pocket-friendly book is your passport into the

wonders of our evolving cosmos.

A Princeton astrophysicist explores whether journeying to the past or future is scientifically possible in this “intriguing” volume (Neil deGrasse Tyson). It was H. G. Wells who coined the term “time machine”—but the concept of time travel, both forward and backward, has always provoked fascination and yearning. It has mostly been dismissed as an impossibility in the world of physics; yet theories posited by Einstein, and advanced by scientists including Stephen Hawking and Kip Thorne, suggest that the phenomenon could actually occur. Building on these ideas, J. Richard Gott, a professor who has written on the subject for *Scientific American*, *Time*, and other publications, describes how travel to the future is not only possible but has already happened—and contemplates whether travel to the past is also conceivable. This look at the surprising facts behind the science fiction of time travel “deserves the attention of anyone wanting wider intellectual horizons” (Booklist). “Impressively clear language. Practical tips for chrononauts on their options for travel and the contingencies to prepare for make everything sound bizarrely plausible. Gott clearly enjoys his subject and his excitement and humor are contagious; this book is a delight to read.”
—Publishers Weekly

“Who can ask for better cosmic tour guides to the universe than Drs. Tyson and Goldsmith?” —Michio Kaku, author of *Hyperspace and Parallel Worlds* Our true origins are not just human, or even terrestrial, but in fact cosmic. Drawing on recent scientific breakthroughs and the current cross-pollination among geology, biology, astrophysics, and cosmology, *Origins* explains the soul-stirring leaps in our understanding of the cosmos. From the first image of a galaxy birth to Spirit Rover's exploration of Mars, to the discovery of water on one of Jupiter's moons, coauthors Neil deGrasse Tyson and Donald Goldsmith conduct a galvanizing tour of the cosmos with clarity and exuberance.

From the author of *Astrophysics for People in a Hurry* and the host of *Cosmos: A Spacetime Odyssey*, a memoir about growing up and a young man's budding scientific curiosity. This is the absorbing story of Neil deGrasse Tyson's lifelong fascination with the night sky, a restless wonder that began some thirty years ago on the roof of his Bronx apartment building and eventually led him to become the director of the Hayden Planetarium. A unique chronicle of a young man who at one time was both nerd and jock, Tyson's memoir could well inspire other similarly curious youngsters to pursue their dreams. Like many athletic kids he played baseball, won medals in track and swimming, and was captain of his high school wrestling team. But at the same time he was setting up a telescope on winter nights, taking an advanced astronomy course at the Hayden Planetarium, and spending a summer vacation at an astronomy camp in the Mojave Desert. Eventually, his scientific curiosity prevailed, and he went on to graduate in physics from Harvard and to earn a Ph.D. in astrophysics from Columbia. There followed postdoctoral research at Princeton. In 1996, he became the director of the Hayden Planetarium, where some twenty-five years earlier he had been awed by the spectacular vista in the sky theater. Tyson pays tribute to the key teachers and mentors who recognized his precocious interests and abilities, and helped him succeed. He intersperses personal reminiscences with thoughts on scientific literacy, careful science vs. media hype, the possibility that a meteor could someday hit the Earth, dealing with society's racial stereotypes, what

science can and cannot say about the existence of God, and many other interesting insights about science, society, and the nature of the universe. Now available in paperback with a new preface and other additions, this engaging memoir will enlighten and inspire an appreciation of astronomy and the wonders of our universe.

It was a catastrophe without precedent in recorded history: for months on end, starting in A.D. 535, a strange, dusky haze robbed much of the earth of normal sunlight. Crops failed in Asia and the Middle East as global weather patterns radically altered. Bubonic plague, exploding out of Africa, wiped out entire populations in Europe. Flood and drought brought ancient cultures to the brink of collapse. In a matter of decades, the old order died and a new world—essentially the modern world as we know it today—began to emerge. In this fascinating, groundbreaking, totally accessible book, archaeological journalist David Keys dramatically reconstructs the global chain of revolutions that began in the catastrophe of A.D. 535, then offers a definitive explanation of how and why this cataclysm occurred on that momentous day centuries ago. The Roman Empire, the greatest power in Europe and the Middle East for centuries, lost half its territory in the century following the catastrophe. During the exact same period, the ancient southern Chinese state, weakened by economic turmoil, succumbed to invaders from the north, and a single unified China was born. Meanwhile, as restless tribes swept down from the central Asian steppes, a new religion known as Islam spread through the Middle East. As Keys demonstrates with compelling originality and authoritative research, these were not isolated upheavals but linked events arising from the same cause and rippling around the world like an enormous tidal wave. Keys's narrative circles the globe as he identifies the eerie fallout from the months of darkness: unprecedented drought in Central America, a strange yellow dust drifting like snow over eastern Asia, prolonged famine, and the hideous pandemic of the bubonic plague. With a superb command of ancient literatures and historical records, Keys makes hitherto unrecognized connections between the "wasteland" that overspread the British countryside and the fall of the great pyramid-building Teotihuacan civilization in Mexico, between a little-known "Jewish empire" in Eastern Europe and the rise of the Japanese nation-state, between storms in France and pestilence in Ireland. In the book's final chapters, Keys delves into the mystery at the heart of this global catastrophe: Why did it happen? The answer, at once surprising and definitive, holds chilling implications for our own precarious geopolitical future. Wide-ranging in its scholarship, written with flair and passion, filled with original insights, Catastrophe is a superb synthesis of history, science, and cultural interpretation.

#1 NEW YORK TIMES BESTSELLER • OPRAH'S BOOK CLUB PICK • NATIONAL BOOK AWARD LONGLIST • "An instant American classic and almost certainly the keynote nonfiction book of the American century thus far."—Dwight Garner, *The New York Times* The Pulitzer Prize-winning, bestselling author of *The Warmth of Other Suns* examines the unspoken caste system that has shaped America and shows how our lives today are still defined by a hierarchy of human divisions. **NAMED THE #1 NONFICTION BOOK OF THE YEAR BY TIME, ONE OF THE TEN BEST BOOKS OF THE YEAR BY People • The Washington Post • Publishers Weekly AND ONE OF THE BEST BOOKS OF THE YEAR BY The New York Times Book Review • O: The Oprah Magazine • NPR • Bloomberg • Christian Science Monitor • New York Post • The New York Public Library • Fortune •**

Smithsonian Magazine • Marie Claire • Town & Country • Slate • Library Journal • Kirkus Reviews • LibraryReads • PopMatters Winner of the Los Angeles Times Book Prize • National Book Critics Circle Award Finalist • Dayton Literary Peace Prize Finalist • PEN/John Kenneth Galbraith Award for Nonfiction Finalist • PEN/Jean Stein Book Award Longlist “As we go about our daily lives, caste is the wordless usher in a darkened theater, flashlight cast down in the aisles, guiding us to our assigned seats for a performance. The hierarchy of caste is not about feelings or morality. It is about power—which groups have it and which do not.” In this brilliant book, Isabel Wilkerson gives us a masterful portrait of an unseen phenomenon in America as she explores, through an immersive, deeply researched narrative and stories about real people, how America today and throughout its history has been shaped by a hidden caste system, a rigid hierarchy of human rankings. Beyond race, class, or other factors, there is a powerful caste system that influences people’s lives and behavior and the nation’s fate. Linking the caste systems of America, India, and Nazi Germany, Wilkerson explores eight pillars that underlie caste systems across civilizations, including divine will, bloodlines, stigma, and more. Using riveting stories about people—including Martin Luther King, Jr., baseball’s Satchel Paige, a single father and his toddler son, Wilkerson herself, and many others—she shows the ways that the insidious undertow of caste is experienced every day. She documents how the Nazis studied the racial systems in America to plan their out-cast of the Jews; she discusses why the cruel logic of caste requires that there be a bottom rung for those in the middle to measure themselves against; she writes about the surprising health costs of caste, in depression and life expectancy, and the effects of this hierarchy on our culture and politics. Finally, she points forward to ways America can move beyond the artificial and destructive separations of human divisions, toward hope in our common humanity. Beautifully written, original, and revealing, *Caste: The Origins of Our Discontents* is an eye-opening story of people and history, and a reexamination of what lies under the surface of ordinary lives and of American life today.

Revealing the mechanics of evolutionary theory, the scientist, engineer and inventor presents a compelling argument for the scientific unviability of creationism and insists that creationism's place in the science classroom is harmful not only to our children, but to the future of the greater world as well.

Neil deGrasse Tyson’s #1 New York Times best-selling guide to the cosmos, adapted for young readers. From the basics of physics to big questions about the nature of space and time, celebrated astrophysicist and science communicator Neil deGrasse Tyson breaks down the mysteries of the cosmos into bite-sized pieces. *Astrophysics for Young People in a Hurry* describes the fundamental rules and unknowns of our universe clearly—and with Tyson’s characteristic wit, there’s a lot of fun thrown in, too. This adaptation by Gregory Mone includes full-color photos, infographics, and extra explanations to make even the trickiest concepts accessible. Building on the wonder inspired by outer space, *Astrophysics for Young People in a Hurry* introduces an exciting field and the principles of scientific inquiry to young readers.

The New York Times bestselling tour of the cosmos from three of today's leading astrophysicists *Welcome to the Universe* is a personal guided tour of the cosmos by three of today's leading astrophysicists. Inspired by the enormously popular introductory

astronomy course that Neil deGrasse Tyson, Michael A. Strauss, and J. Richard Gott taught together at Princeton, this book covers it all—from planets, stars, and galaxies to black holes, wormholes, and time travel. Describing the latest discoveries in astrophysics, the informative and entertaining narrative propels you from our home solar system to the outermost frontiers of space. How do stars live and die? Why did Pluto lose its planetary status? What are the prospects of intelligent life elsewhere in the universe? How did the universe begin? Why is it expanding and why is its expansion accelerating? Is our universe alone or part of an infinite multiverse? Answering these and many other questions, the authors open your eyes to the wonders of the cosmos, sharing their knowledge of how the universe works. Breathtaking in scope and stunningly illustrated throughout, *Welcome to the Universe* is for those who hunger for insights into our evolving universe that only world-class astrophysicists can provide. An introduction to evolutionary biology, with sixteen essays about the history and philosophy of the field, related empirical and theoretical questions about topics such as speciation, adaptation, and development, and articles on important figures, social and political issues, and related religious topics.

From the primeval fire and the first big bang that generated both space and time, the universe has been moving gradually toward disintegration. One day it will come to stardom - the ultimate catastrophe. The sun will burn out, the galaxies will turn into giant graveyards, and space-time will be overwhelmed as black holes swallow up whole stars and star systems and coalesce to form superholes. Without the use of complex formulas or symbols Paul Davies explains some of these mind-boggling concepts, telling as exciting a story as any that can ever be. He explores, too, the place of intelligent life in a universe moving inexorably to obliteration, suggesting the outlines of a new supertechnology that may allow survival.

In this thought-provoking follow-up to his acclaimed *StarTalk* book, uber astrophysicist Neil deGrasse Tyson tackles the world's most important philosophical questions about the universe with wit, wisdom, and cutting-edge science. For science geeks, space and physics nerds, and all who want to understand their place in the universe, this enlightening new book from Neil deGrasse Tyson offers a unique take on the mysteries and curiosities of the cosmos, building on rich material from his beloved *StarTalk* podcast. In these illuminating pages, illustrated with dazzling photos and revealing graphics, Tyson and co-author James Trefil, a renowned physicist and science popularizer, take on the big questions that humanity has been posing for millennia--How did life begin? What is our place in the universe? Are we alone?--and provide answers based on the most current data, observations, and theories. Populated with paradigm-shifting discoveries that help explain the building blocks of astrophysics, this relatable and entertaining book will engage and inspire readers of all ages, bring sophisticated concepts within reach, and offer a window into the complexities of the cosmos.

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