

The Double Helix A Personal Account Of The Discovery Of The Structure Of Dna Norton Critical Editions Paperback 1980 Author James D Watson Gunther S Stent

Explorers of the Black Box is a scientific adventure story. The "Black Box" is the brain. The "Explorers" are neuroscientists in search of how nerve cells record memories, and they are as ruthless and dauntless as any soldiers of fortune. The book centers around the early, often-controversial research Nobel Prize-winner Eric Kandel. It takes readers behind the scenes of laboratories at Woods Hole, Columbia, Yale, and Princeton to create an absorbing account of how the brain works and of how science itself works.

The autobiography of Lord Todd of Trumpington is a general account of his life until 1980 with emphasis on the events that shaped his career as a distinguished scientist. In 1957 Alexander Todd was awarded the Nobel Prize for Chemistry. From 1963 to 1965 he was President of the International Union of Pure and Applied Chemistry. For five years he was President of the Royal Society. He made major contributions to the advancement of science education in Britain, and in the University of Cambridge. This delightfully presented autobiography is supplemented by extracts from five Presidential Addresses to the Royal Society. This book will appeal to anyone who enjoys reading biography. It will also have a special interest for professional chemists and those who study the making on contemporary science policy in Britain.

"Venter instills awe for biology as it is, and as it might become in our hands." —Publishers Weekly On May 20, 2010, headlines around the world announced one of the most extraordinary accomplishments in modern science: the creation of the world's first synthetic lifeform. In *Life at the Speed of Light*, scientist J. Craig Venter, best known for sequencing the human genome, shares the dramatic account of how he led a team of researchers in this pioneering effort in synthetic genomics—and how that work will have a profound impact on our existence in the years to come. This is a fascinating and authoritative study that provides readers an opportunity to ponder afresh the age-old question "What is life?" at the dawn of a new era of biological engineering.

Presents the frequently overlooked story of the woman who helped discover the double helix structure of DNA, detailing the contributions of scientist Rosalind Franklin to the work of Watson, Crick, and Wilkins.

This biographical study illuminates the important yet misunderstood figure of Barbara McClintock, the Nobel Prize winning geneticist. Comfort replaces the myth with a new story, rich with new understandings of women in science.

This unique look at the study of DNA goes beyond the science and explores the lives of four great scientists: James Watson, Francis Crick, Maurice Wilkins, and Rosalind Franklin. It was through their complex personal interactions and their devotion to the science that led to breakthroughs surrounding the structure of DNA and our modern understanding of genetics. Readers can learn that science is not about one individual and his or her discoveries, but is the work of many. Numerous scientific breakthroughs can be attributed to competition and rivalry.

Francis Crick—the quiet genius who led a revolution in biology by discovering, quite literally, the secret of life—will be bracketed with Galileo, Darwin, and Einstein as one of the greatest scientists of all time. In his fascinating biography of the scientific pioneer who uncovered the genetic code—the digital cipher at the heart of heredity that distinguishes living from non-living things—acclaimed bestselling science writer Matt Ridley traces Crick's life from middle-class mediocrity in the English Midlands through a lackluster education and six years designing magnetic mines for the Royal Navy to his leap into biology at the age of thirty-one and its astonishing consequences. In the process, Ridley sheds a brilliant light on the man who forever changed our world and how we understand it.

"If you're mystified by DNA and genetics, relax. Settle into a comfy chair as we explain what DNA is and how it works its apparent magic, revealing it's not so magical after all. We'll also cover chromosomes, genes and genomics, and how they impact our daily lives. These initial pages provide a quick overview of some common questions folks have about DNA: what it is, what you should know about it, where it comes from. If it seems like we're glossing over your favorite topic, be patient, as we'll explore these and many other topics in greater depth in the subsequent chapters. For now, settle in! It's time to unpack some mysteries and explode some myths, while still marveling at the awesome star power of DNA. Like all celebrities, DNA carries a mystique, a compelling story combining remarkable skills with some manufactured hype. 'It's in our DNA' is now a standard refrain for marketers and individuals trumpeting some essential virtue: honesty, courage, integrity, permanence, the spirit of discovery¹. The aura of DNA sells everything from colleges and companies to cars, electric fences, and even literary agents. The marketing hype is often misplaced, but DNA is undoubtedly a wondrous molecule. It's the only known molecule capable of reproducing itself, and is present in all living things. DNA is, indeed, the essence of life itself. Between the Presidential citations, popular television shows such as CSI (Crime Scene Investigation) and a multitude of gratuitous marketing clichés, almost everyone knows "DNA". Or, at least, they think they know about DeoxyriboNucleic Acid, aka "DNA". The New York Times index shows over 500 news articles on DNA in the first half of 2019 alone, an average of over two stories per day.² Yet many otherwise well-informed readers don't know what DNA is or how it works."--

A unique travelogue records the author's search for true moonlight throughout the world, seeking places of sanctuary from light pollution in such locales as a Buddhist full-moon ceremony in Japan, a beach in northern France, the Arizona desert and a lunar eclipse atop the snowbound Welsh hills.

Eighteen-year-old Eli discovers a shocking secret about his life and his family while working for a Nobel Prize-winning scientist whose specialty is genetic engineering.

The classic personal account of Watson and Crick's groundbreaking discovery of the structure of DNA, now with an introduction by Sylvia Nasar, author of *A Beautiful Mind*. By identifying the structure of DNA, the molecule of life, Francis Crick and James Watson revolutionized biochemistry and won themselves a Nobel Prize. At the time, Watson was only twenty-four, a young scientist hungry to make his mark. His uncompromisingly honest account of the heady days of their thrilling sprint against other world-class researchers to solve one of science's greatest mysteries gives a dazzlingly clear picture of a world of brilliant scientists with great gifts, very human ambitions, and bitter rivalries. With humility unspoiled by false modesty, Watson relates his and Crick's desperate efforts to beat Linus Pauling to the Holy Grail of life sciences, the identification of the basic building block of life. Never has a scientist been so truthful in capturing in words the flavor of his work.

100 Best Non Fiction Books has its origins in the recent 2 year-long Observer serial which every week featured a work of non fiction). It is also a companion volume to McCrum's very successful 100 Best Novels published by Galileo in 2015. The list of books starts in 1611 with the King James Bible and ends in 2014 with Elizabeth Kolbert's *The Sixth Extinction*. And in between, on this extraordinary voyage through the written treasures of our culture we meet Pepys' Diaries, Charles Darwin's *The Origin of Species*, Stephen Hawking's *A Brief History of Time* and a whole host of additional works.

Now completely up-to-date with the latest research advances, the Seventh Edition retains the distinctive character of earlier editions. Twenty-two concise chapters, co-authored by six highly distinguished biologists, provide current, authoritative coverage of an exciting, fast-changing discipline.

Updated to include new findings in gene editing, epigenetics, agricultural chemistry, as well as two new chapters on personal genomics and cancer research

The Nobel Prize for the discovery of the structure of DNA was given to three scientists - James Watson, Francis Crick, and Maurice Wilkins. It was the experimental work of Wilkins and his colleague Rosalind Franklin that provided the clues to the structure. Here, Wilkins, who died in 2004, gives us his own account of his life, his early work in physics, the tensions and exhilaration of working on DNA, and his much discussed difficult relationship with his colleague Rosalind. This is a highly readable, and often moving account from a highly distinguished scientist who played one of the key roles in the historic discovery of the molecule behind inheritance.

"In Francis Crick: Hunter of Life's Secrets, Robert Olby presents a full-length intellectual biography of Crick's life in science. After early life in Northampton, Crick gained experience as a scientist for the Royal Navy during World War II, before beginning academic studies in biophysics. His pioneering work in molecular biology in the 1950s and 1960s took place in Cambridge, and was followed by his move to the United States in 1976 and his work in neuroscience at the Salk Institute. Olby's detailed exploration of Crick's scientific life up to the famous 1953 discovery and beyond provides a clear demonstration of how chance does indeed favor the prepared mind."

Unraveling the Double Helix covers the most colorful period in the history of DNA, from the discovery of "nuclein" in the late 1860s to the publication of James Watson's *The Double Helix* in 1968. These hundred years included the establishment of the Nobel Prize, antibiotics, x-ray crystallography, the atom bomb and two devastating world wars—events which are strung along the thread of DNA like beads on a necklace. The story of DNA is a saga packed with awful mistakes as well as brilliant science, with a wonderful cast of heroes and villains. Surprisingly, much of it is unfamiliar. The elucidation of the double helix was one of the most brilliant gems of twentieth century science, but some of the scientists who paved the way have been airbrushed out of history. James Watson and Francis Crick solved a magnificent mystery, but Gareth Williams shows that their contribution was the last few pieces of a gigantic jigsaw puzzle assembled over several decades. The book is comprehensive in scope, covering the first century of the history of DNA in its entirety, including the eight decades that have been neglected by other authors. It also explores the personalities of the main players, the impact of their entanglement with DNA, and what unique qualities make great scientists tick.

In 1962, Maurice Wilkins, Francis Crick, and James Watson received the Nobel Prize, but it was Rosalind Franklin's data and photographs of DNA that led to their discovery. Brenda Maddox tells a powerful story of a remarkably single-minded, forthright, and tempestuous young woman who, at the age of fifteen, decided she was going to be a scientist, but who was airbrushed out of the greatest scientific discovery of the twentieth century.

In 1953 Watson and Crick discovered the double helical structure of DNA and Watson's personal account of the discovery, *The Double Helix*, was published in 1968. *Genes, Girls and Gamow* is also autobiographical, covering the period from when *The Double Helix* ends, in 1953, to a few years later, and ending with a Postscript bringing the story up to date. Here is Watson adjusting to new-found fame, carrying out tantalizing experiments on the role of RNA in biology, and falling in love. The book is enlivened with copies of handwritten letters from the larger than life character George Gamow, who had made significant contributions to physics but became intrigued by genes, RNA and the elusive genetic code. This is a tale of heartbreak, scientific excitement and ambition, laced with travelogue and '50s atmosphere.

Fifty years ago, James D. Watson, then just twentyfour, helped launch the greatest ongoing scientific quest of our time. Now, with unique authority and sweeping vision, he gives us the first full account of the genetic revolution—from Mendel's garden to the double helix to the sequencing of the human genome and beyond. Watson's lively, panoramic narrative begins with the fanciful speculations of the ancients as to why "like begets like" before skipping ahead to 1866, when an Austrian monk named Gregor Mendel first deduced the basic laws of inheritance. But genetics as we recognize it today—with its capacity, both thrilling and sobering, to manipulate the very essence of living things—came into being only with the rise of molecular investigations culminating in the breakthrough discovery of the structure of DNA, for which Watson shared a Nobel prize in 1962. In the DNA molecule's graceful curves was the key to a whole new science. Having shown that the secret of life is chemical, modern genetics has set mankind off on a journey unimaginable just a few decades ago. Watson provides the general reader with clear explanations of molecular processes and emerging technologies. He shows us how DNA continues to alter our understanding of human origins, and of our identities as groups and as individuals. And with the insight of one who has remained close to every advance in research since the double helix, he reveals how genetics has unleashed a wealth of possibilities to alter the human condition—from genetically modified foods to genetically modified babies—and transformed itself from a domain of pure research into one of big business as well. It is a sometimes topsy-turvy world full of great minds and great egos, driven by ambitions to improve the human condition as well as to improve investment portfolios, a world vividly captured in these pages. Facing a future of choices and social and ethical implications of which we dare not remain uninformed, we could have no better guide than James Watson, who leads us with the same bravura storytelling that made *The Double Helix* one of the most successful books on science ever published. Infused with a scientist's awe at nature's marvels and a humanist's profound sympathies, DNA is destined to become the classic telling of the defining scientific saga of our age.

A deeply reported look at home genetic testing and the seismic shock it has had on our culture and on individual lives You swab your cheek or spit in a vial, then send it away to a lab somewhere. Weeks later you get a report that might tell you where your ancestors came from or if you carry certain genetic risks. Or, the report could reveal a long-buried family secret that upends your entire sense of identity. Soon a lark becomes an obsession, a relentless drive to find answers to questions at the core of your being, like "Who am I?" and "Where did I come from?" Welcome to the age of home genetic testing. In *The Lost Family*, journalist Libby Copeland investigates what happens when we embark on a vast social experiment with little understanding of the ramifications. She explores the culture of genealogy buffs, the science of DNA, and the business of companies like Ancestry and 23andMe, all while tracing the story of one woman, her unusual results, and a relentless methodical drive for answers that becomes a thoroughly modern genetic detective story. Gripping and masterfully told, *The Lost Family* is a spectacular book on a big, timely subject.

A collection of outspoken and topical essays, speeches, and reports by J. D. Watson, co-discoverer of the structure of DNA in 1953 and best-selling author of *The Double Helix*. These often controversial pieces cover the advance of molecular genetics, the prospect of curing cancer over the next decade, how human genetic knowledge is likely to be used, for good or bad, and Watson's early life and career. *The Man in the Monkeynut Coat* tells the story of a neglected pioneer whose vital role in one of the biggest scientific discoveries of all time has largely been forgotten. Working at Leeds in the 1930s, the physicist William T. Astbury was the first person to make successful X-ray studies of the structure of DNA, the molecule of heredity. In the course of this work, he laid the foundations for the ground-breaking discovery of the double-helical structure of DNA by James Watson and Francis Crick in 1953, and also transformed biology, leaving a scientific legacy that is still felt in medicine today. Whilst Watson and Crick went on to win the Nobel Prize, Astbury's name is largely unknown. This is perhaps a classic case of history being written by the winners, but his name surely deserves far greater recognition for, as this book shows, without him Watson and Crick would almost certainly have been left empty-handed.

Traces the life of the research scientist who helped discover the structure of DNA, and discusses his work in cancer research and with the National Center for Human Genome Research

BY THE WINNER OF THE 2020 NOBEL PRIZE IN CHEMISTRY | Finalist for the Los Angeles Times Book Prize "A powerful mix of science and ethics . . . This book is required reading for every concerned

citizen—the material it covers should be discussed in schools, colleges, and universities throughout the country.”— New York Review of Books Not since the atomic bomb has a technology so alarmed its inventors that they warned the world about its use. That is, until 2015, when biologist Jennifer Doudna called for a worldwide moratorium on the use of the gene-editing tool CRISPR—a revolutionary new technology that she helped create—to make heritable changes in human embryos. The cheapest, simplest, most effective way of manipulating DNA ever known, CRISPR may well give us the cure to HIV, genetic diseases, and some cancers. Yet even the tiniest changes to DNA could have myriad, unforeseeable consequences, to say nothing of the ethical and societal repercussions of intentionally mutating embryos to create “better” humans. Writing with fellow researcher Sam Sternberg, Doudna—who has since won the Nobel Prize for her CRISPR research—shares the thrilling story of her discovery and describes the enormous responsibility that comes with the power to rewrite the code of life. “The future is in our hands as never before, and this book explains the stakes like no other.” — George Lucas “An invaluable account . . . We owe Doudna several times over.” — Guardian

We can change the world with genetic modification--but should we? CRISPR stands for clustered regularly interspaced short palindromic repeats. If it sounds complicated, it is--but it's also one of the most powerful ways we can shape the future. And it's poised to completely upend the way we think about science. Author Yolanda Ridge tackles this topic in a friendly and accessible tone, with two introductory chapters covering the basics of DNA and genetic modification before taking readers through the ways that this ground-breaking science could affect them by potentially: - eliminating diseases like malaria and cancer, - improving the stability of our food supply, and - helping to manage conservation efforts for threatened animals and environments. But all of these possible advancements come with risks, the biggest being that the consequences are unknown. Chapters end with "Stop, Go, Yield" sections encouraging readers to consider the pros and cons of using CRISPR. "Cutting Questions" give readers the opportunity to further reflect on the ethics of the science. CRISPR is a game changer. This important book, with detailed scientific illustrations, brings much needed clarity to a topic that will affect readers for generations to come.

Written by a noted historian of science, this in-depth account traces how Watson and Crick achieved one of science's most dramatic feats: their 1953 discovery of the molecular structure of DNA. The sister of the molecular biologist describes Rosalind Franklin's life, including her early education, her relations with her family, her time as a student at Cambridge University, and her scientific achievements. An authoritative history of the race to unravel DNA's structure, by one of our most prominent medical historians. James Watson and Francis Crick's 1953 discovery of the double helix structure of DNA is the foundation of virtually every advance in our modern understanding of genetics and molecular biology. But how did Watson and Crick do it--and why were they the ones who succeeded? In truth, the discovery of DNA's structure is the story of five towering minds in pursuit of the advancement of science, and for almost all of them, the prospect of fame and immortality: Watson, Crick, Rosalind Franklin, Maurice Wilkins, and Linus Pauling. Each was fascinating and brilliant, with strong personalities that often clashed. Howard Markel skillfully re-creates the intense intellectual journey, and fraught personal relationships, that ultimately led to a spectacular breakthrough. But it is Rosalind Franklin--fiercely determined, relentless, and an outsider at Cambridge and the University of London in the 1950s, as the lone Jewish woman among young male scientists--who becomes a focal point for Markel. *The Secret of Life* is a story of genius and perseverance, but also a saga of cronyism, misogyny, anti-Semitism, and misconduct. Drawing on voluminous archival research, including interviews with James Watson and with Franklin's sister, Jenifer Glynn, Markel provides a fascinating look at how science is done, how reputations are undone, and how history is written, and revised. A vibrant evocation of Cambridge in the 1950s, Markel also provides colorful depictions of Watson and Crick--their competitiveness, idiosyncrasies, and youthful immaturity--and compelling portraits of Wilkins, Pauling, and most cogently, Rosalind Franklin. *The Secret of Life* is a lively and sweeping narrative of this landmark discovery, one that finally gives the woman at the center of this drama her due.

From Nobel Prize-winning scientist James D. Watson, a living legend for his work unlocking the structure of DNA, comes this candid and entertaining memoir, filled with practical advice for those starting out their academic careers. In *Avoid Boring People*, Watson lays down a life's wisdom for getting ahead in a competitive world. Witty and uncompromisingly honest, he shares his thoughts on how young scientists should choose the projects that will shape their careers, the supreme importance of collegiality, and dealing with competitors within the same institution. It's an irreverent romp through Watson's colorful career and an indispensable guide to anyone interested in nurturing the life of the mind.

Candid, provocative, and disarming, this is the widely-praised memoir of the co-discoverer of the double helix of DNA.

Energy Changes in Biochemical Reactions outlines some of the principles of classical and of molecular-statistical energetics. An effort has been made to delineate clearly the axioms of each of these branches of energetics and to show how some of the theorems may be developed from these axioms. Finally, some of the ideas of energetic have been applied to a few biochemical problems to illustrate the types of insight which this branch of science provides for understanding and predicting. It is hoped that a reader who has conscientiously worked his way through this volume will acquire not only a cocktail-party knowledge of thermodynamics but will be able to apply it to some simple biochemical or chemical reactions.

The most influential scientist of the last century, James Watson has been at dead center in the creation of modern molecular biology. This masterful biography brings to life the extraordinary achievements not only of Watson but also all those working on this cutting edge of scientific discovery, such as Walter Gilbert, Francis Crick, Francois Jacob, and David Baltimore. From the ruthless competition in the race to identify the structure of DNA to a near mutiny in the Harvard biology department, to clashes with ethicists over issues in genetics, Watson has left a wake of detractors as well as fans. Victor McElheny probes brilliantly behind the veil of Watson's own invented persona, bringing us close to the relentless genius and scientific impresario who triggered and sustained a revolution in science.

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