

zero the biography of a dangerous idea

zero the biography of a dangerous idea explores the fascinating journey of the number zero, delving into its historical origins, mathematical significance, philosophical implications, and its transformative impact on science and technology. This article provides a comprehensive overview of zero, examining its evolution from ancient civilizations to modern mathematics, and why it was considered a revolutionary—sometimes even dangerous—concept. Readers will discover how zero challenged traditional beliefs, redefined arithmetic and algebra, and became a cornerstone of numerous scientific advancements. By understanding the biography of zero, one can appreciate the profound influence this seemingly simple idea has had on human thought and progress. The article also discusses the controversies and cultural resistance surrounding zero, and highlights its ongoing relevance in fields ranging from physics to computer science.

- Historical Origins of Zero
- Zero's Mathematical Revolution
- Cultural and Philosophical Implications of Zero
- Zero in Science and Technology
- Controversies and Challenges Surrounding Zero
- Legacy and Ongoing Influence of Zero

Historical Origins of Zero

The story of zero begins in ancient civilizations where the concept of nothingness was both mysterious and controversial. Early counting systems often lacked a symbol for zero, reflecting a world where absence was not easily quantified. The biography of zero traces its earliest roots to the Babylonians, who used a placeholder but did not treat zero as a number. Over time, Indian mathematicians made a groundbreaking leap by formalizing zero as both a placeholder and a number, revolutionizing mathematics.

Early Civilizations and the Placeholder Concept

Babylonians employed a space or a symbol to indicate the absence of a value in their base-60 numeral system, but this was not a true zero. Egyptian and Roman numerals also lacked a zero, complicating calculations and limiting mathematical progress. The placeholder concept marked the beginning of zero's biography, setting the stage for its future acceptance.

Indian Mathematicians and the Birth of Zero

Around the 5th century CE, Indian scholars such as Brahmagupta defined zero as a number with its own properties, including rules for addition and subtraction. This innovation allowed for more advanced arithmetic and algebra, and was later transmitted to the Islamic world and Europe through trade and scholarship.

Spread to the Western World

Zero's journey continued as Arabic mathematicians embraced and refined its use, translating Indian works and integrating zero into their sophisticated mathematical systems. European scholars were initially resistant, but by the Middle Ages, zero was firmly embedded in the Western numerical framework, paving the way for modern mathematics.

Zero's Mathematical Revolution

Zero's inclusion in the number system was not merely a mathematical convenience; it was a radical transformation that reshaped algebra, calculus, and the very foundation of arithmetic. The biography of zero is marked by its pivotal role in solving equations, representing empty sets, and facilitating the development of negative numbers and infinity.

Zero in Arithmetic and Algebra

- Zero as an identity element in addition
- Zero's role in subtraction and multiplication
- Defining division by zero and its paradoxes

Zero acts as the additive identity, meaning any number plus zero equals the original number. In multiplication, any number times zero yields zero, reinforcing its fundamental place in arithmetic. However, division by zero remains undefined, presenting intriguing mathematical challenges and paradoxes.

Advancements in Calculus and Set Theory

Zero enabled the formalization of limits, continuity, and the concept of the infinitesimal in calculus. In set theory, zero represents the cardinality of the empty set, a foundational idea in modern mathematics. These advancements underscore zero's profound influence on mathematical thought.

Cultural and Philosophical Implications of Zero

Zero's biography is inseparable from cultural and philosophical debates about nothingness, void, and existence. The idea of representing nothing as something provoked deep questions and resistance across societies and eras.

Religious and Philosophical Resistance

Many ancient cultures viewed zero with suspicion, associating it with the void or chaos. Philosophers grappled with the paradox of nothingness being represented by something tangible—a symbol or a number. These debates contributed to zero's reputation as a dangerous idea.

Zero in Art and Literature

Zero inspired artists and writers, who used the concept to explore themes of emptiness, infinity, and the limits of human understanding. Its influence extends beyond mathematics into the realms of metaphysics and creativity, illustrating the breadth of its biography.

Zero in Science and Technology

Zero has become indispensable in the development of science and technology, serving as a foundation for innovations that have shaped the modern world. Its inclusion in the number system enabled precise calculations and complex modeling in physics, engineering, and computing.

Zero in Physics and Engineering

- Zero as a reference point for temperature and energy
- Role in measurements and scientific notation
- Facilitating the understanding of absolute zero and vacuum

In physics, zero serves as a baseline for measurements such as temperature (absolute zero) and energy states. Engineers rely on zero in calculations involving force, voltage, and motion, demonstrating its practical utility across disciplines.

Zero's Role in Computing and Digital Systems

Binary code, the foundation of modern computing, is built upon zeros and ones. The biography of zero includes its critical role in digital technology, where it represents off-

states, null values, and empty data structures. Without zero, the digital revolution would not have been possible.

Controversies and Challenges Surrounding Zero

Despite its acceptance in contemporary mathematics and science, zero's biography is punctuated by controversy and challenge. Its paradoxical nature has led to debates, misunderstandings, and even philosophical crises.

Division by Zero and Mathematical Paradoxes

Dividing by zero produces undefined or infinite results, posing difficulties for mathematicians and physicists. These paradoxes have prompted ongoing research into the limits and boundaries of mathematical logic, emphasizing the complexity of zero's biography.

Zero in Economic and Social Contexts

Zero is often associated with concepts of loss, poverty, or absence in economic and social discussions. Its symbolic meaning extends beyond mathematics, influencing perceptions and policies in various fields.

Legacy and Ongoing Influence of Zero

Zero the biography of a dangerous idea concludes with an assessment of zero's lasting legacy. From ancient controversies to its modern indispensability, zero remains a powerful and sometimes provocative force in human thought.

Zero's Enduring Impact

- Transformation of mathematics and science
- Shaping philosophical and cultural discourse
- Driving technological innovation

Zero continues to inspire, challenge, and redefine boundaries in mathematics, science, philosophy, and technology. Its biography is a testament to the power of ideas and the enduring quest to understand the nature of nothingness and infinity.

Trending Questions and Answers about Zero the Biography of a Dangerous Idea

Q: What is the main theme of "Zero: The Biography of a Dangerous Idea"?

A: The main theme is the historical and intellectual journey of zero, exploring how this concept revolutionized mathematics, challenged philosophical norms, and transformed science and technology.

Q: Why was zero considered a dangerous idea?

A: Zero was considered dangerous because it represented the concept of nothingness, which conflicted with religious and philosophical beliefs about existence, order, and the universe, often provoking resistance and controversy.

Q: Who were the key figures in the development of zero?

A: Key figures include Indian mathematicians like Brahmagupta, Arabic scholars who spread the concept to the West, and European thinkers who integrated zero into modern mathematics.

Q: How did zero change mathematics?

A: Zero enabled the development of advanced arithmetic, algebra, and calculus, allowing for the representation of empty sets, formulation of equations, and exploration of infinity and limits.

Q: What role does zero play in computer science?

A: Zero is fundamental in computer science as part of binary code, representing off-states, null values, and empty data structures, making modern computing possible.

Q: What challenges does zero present in mathematics?

A: Division by zero leads to undefined or infinite results, creating paradoxes and ongoing debates in mathematical theory.

Q: How did different cultures respond to the concept of zero?

A: Many ancient cultures resisted zero due to its association with the void or chaos, while

others, such as Indian and Arabic civilizations, embraced and developed its use in mathematics.

Q: How is zero used in physics and engineering?

A: Zero serves as a reference point for measurements like temperature (absolute zero), energy states, and calculations involving force and motion.

Q: What philosophical implications does zero have?

A: Zero raises questions about existence, nothingness, and infinity, influencing philosophical debates about the nature of reality and abstract concepts.

Q: Why is zero still relevant today?

A: Zero remains essential in mathematics, science, technology, and philosophy, continuing to shape innovations, theories, and cultural discussions worldwide.

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Zero: The Biography of a Dangerous Idea - A Deep Dive into the Power of Nothing

Are you fascinated by the seemingly paradoxical power of nothingness? Have you ever considered the profound impact the concept of "zero" has had on the world? This isn't just a mathematical symbol; it's a revolutionary idea that reshaped civilizations and continues to underpin our modern technological world. In this comprehensive blog post, we'll delve into Charles Seife's captivating book, "Zero: The Biography of a Dangerous Idea," exploring its historical context, cultural impact, and the enduring legacy of this seemingly simple concept. We'll uncover the fascinating story behind zero's journey from a philosophical enigma to the cornerstone of our modern understanding of numbers and computation.

H2: The Mysterious Origins of Zero: From Nothingness to Number

The concept of zero didn't emerge spontaneously. It evolved over centuries, a testament to humanity's gradual understanding of abstract concepts. Ancient civilizations like the Babylonians and Mayans utilized placeholder symbols, suggesting an awareness of the absence of a quantity, but they didn't fully grasp zero as a number in itself. Seife's book meticulously traces the development of this crucial concept, highlighting its slow but steady progression. We see how different cultures grappled with the idea of nothingness, often associating it with religious or philosophical concepts before embracing its numerical significance.

H3: The Babylonian Influence: A Seed of an Idea

The Babylonians, known for their advanced mathematical systems, employed a placeholder symbol to represent the absence of a value within a larger number. This was a significant step, but it wasn't the zero we recognize today. It served primarily as a positional notation device, rather than a number that could be used in calculations. This early understanding paved the way for later breakthroughs.

H3: The Indian Revolution: Zero Takes Shape

India stands out as the birthplace of the zero we know today. Seife vividly depicts the Indian mathematicians' contribution, their groundbreaking work recognizing zero not just as a placeholder but as a number with its own unique properties. This innovation was revolutionary, enabling the development of the decimal system and paving the way for more advanced mathematical operations. The adoption of zero dramatically simplified calculations and opened new avenues for mathematical exploration.

H2: The Spread of Zero: A Global Conquest

The journey of zero from India wasn't a straightforward one. It spread through various routes, encountering resistance and acceptance in equal measure. Islamic scholars played a crucial role in transmitting the knowledge of zero to the West, integrating it into their own mathematical systems. This transmission is a fascinating historical narrative, demonstrating how the exchange of ideas can shape the trajectory of civilizations.

H3: The Islamic Golden Age: Preserving and Expanding the Concept

The Islamic Golden Age witnessed significant advancements in mathematics, with scholars like al-Khwarizmi playing a pivotal role in integrating zero into algebraic calculations. Their contributions were instrumental in disseminating the understanding of zero across the globe. The preservation and expansion of Indian mathematical innovations were vital for its eventual acceptance in the West.

H3: The European Encounter: Acceptance and Resistance

The introduction of zero to Europe wasn't without its challenges. Initial resistance stemmed from philosophical and religious beliefs surrounding the concept of nothingness. However, the undeniable utility of zero gradually overcame these obstacles, leading to its widespread acceptance and integration into European mathematics. This adoption marked a pivotal moment in the history of Western science and mathematics.

H2: Zero's Impact: Shaping Modernity

The impact of zero is far-reaching and profound. It underpins modern computing, enabling digital technologies that are integral to our daily lives. From simple arithmetic to complex algorithms, zero is a fundamental building block of modern technology. Seife brilliantly connects the historical development of zero with its present-day applications.

H3: The Digital Age: Zero as the Foundation

The binary code—the language of computers—relies heavily on zero and one, highlighting the fundamental role zero plays in the digital age. Without the concept of zero, the computer revolution would have been inconceivable.

H3: Beyond Computation: Zero's Broader Influence

Beyond its mathematical and technological significance, zero holds cultural and philosophical weight. Its representation of nothingness has inspired artists, writers, and thinkers for centuries. It serves as a symbol of potential, a void ripe for creation and innovation.

H2: The Enduring Legacy of a Dangerous Idea

"Zero: The Biography of a Dangerous Idea" isn't just a history of a mathematical symbol; it's a story of human ingenuity, cultural exchange, and the power of abstract thought. It underscores the interconnectedness of history, mathematics, and technology, demonstrating how a seemingly simple concept can fundamentally alter the course of human civilization. Seife's book is a testament to the enduring influence of seemingly simple ideas and their transformative power.

Conclusion

Charles Seife's "Zero: The Biography of a Dangerous Idea" is a captivating exploration of a fundamental concept that shaped our world. The book skillfully weaves together history, mathematics, and philosophy to provide a compelling narrative of zero's journey from obscurity to its indispensable role in modern society. Reading this book provides a deeper appreciation for the

often-overlooked power of nothingness.

FAQs

1. What makes zero a "dangerous" idea? The book uses "dangerous" to highlight the revolutionary and disruptive nature of zero, challenging existing mathematical systems and beliefs about nothingness.
2. What other civilizations contributed to the development of zero besides India? While India is credited with the modern concept of zero, Babylonian and Mayan civilizations used placeholder symbols that laid groundwork for the later development.
3. How did zero impact the development of algebra? Zero enabled the development of more sophisticated algebraic equations and operations, significantly advancing the field.
4. What is the significance of zero in modern computing? Zero is fundamental to binary code, the basis of all digital computation. Without zero, computers as we know them would not exist.
5. Where can I find more information about the history of mathematics? Numerous academic journals, books on the history of mathematics, and online resources offer in-depth information on this topic.

zero the biography of a dangerous idea: *Zero* Charles Seife, 2019-11-28 A NEW YORK TIMES NOTABLE BOOK The Babylonians invented it, the Greeks banned it, the Hindus worshipped it, and the Christian Church used it to fend off heretics. Today it's a timebomb ticking in the heart of astrophysics. For zero, infinity's twin, is not like other numbers. It is both nothing and everything. Zero has pitted East against West and faith against reason, and its intransigence persists in the dark core of a black hole and the brilliant flash of the Big Bang. Today, zero lies at the heart of one of the biggest scientific controversies of all time: the quest for a theory of everything. Within the concept of zero lies a philosophical and scientific history of humanity. Charles Seife's elegant and witty account takes us from Aristotle to superstring theory by way of Egyptian geometry, Kabbalism, Einstein, the Chandrasekhar limit and Stephen Hawking. Covering centuries of thought, it is a concise tour of a world of ideas, bound up in the simple notion of nothing.

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Big Bang. Today, zero lies at the heart of one of the biggest scientific controversies of all time: the quest for a theory of everything.

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zero the biography of a dangerous idea: Proofiness Charles Seife, 2010-09-23 The bestselling author of *Zero* shows how mathematical misinformation pervades-and shapes-our daily lives. According to MSNBC, having a child makes you stupid. You actually lose IQ points. Good Morning America has announced that natural blondes will be extinct within two hundred years. Pundits estimated that there were more than a million demonstrators at a tea party rally in Washington, D.C., even though roughly sixty thousand were there. Numbers have peculiar powers-they can disarm skeptics, befuddle journalists, and hoodwink the public into believing almost anything. *Proofiness*, as Charles Seife explains in this eye-opening book, is the art of using pure mathematics for impure ends, and he reminds readers that bad mathematics has a dark side. It is used to bring down beloved government officials and to appoint undeserving ones (both Democratic and Republican), to convict the innocent and acquit the guilty, to ruin our economy, and to fix the outcomes of future elections. This penetrating look at the intersection of math and society will appeal to readers of *Freakonomics* and the books of Malcolm Gladwell.

zero the biography of a dangerous idea: Finding Zero Amir D. Aczel, 2015-01-06 "A captivating story, not just an intellectual quest but a personal one . . . gripping [and] filled with the passion and wonder of numbers." —The New York Times Virtually everything in our lives is digital, numerical, or quantified. But the story of how and where we got these numerals, which we so depend on, has for thousands of years been shrouded in mystery. *Finding Zero* is the saga of Amir Aczel's lifelong obsession: to find the original sources of our numerals, perhaps the greatest abstraction the human mind has ever created. Aczel has doggedly crisscrossed the ancient world, scouring dusty, moldy texts, cross-examining so-called scholars who offered wildly differing sets of facts, and ultimately penetrating deep into a Cambodian jungle to find a definitive proof. Here, he takes the reader along for the ride. The history begins with Babylonian cuneiform numbers, followed by Greek and Roman letter numerals. Then Aczel asks: Where do the numbers we use today, the so-called Hindu-Arabic numerals, come from? It is this search that leads him to explore uncharted territory on a grand quest into India, Thailand, Laos, Vietnam, and ultimately into the wilds of Cambodia. There he is blown away to find the earliest zero—the keystone of our entire system of numbers—on a crumbling, vine-covered wall of a seventh-century temple adorned with eaten-away erotic sculptures. While on this odyssey, Aczel meets a host of fascinating characters: academics in search of truth, jungle trekkers looking for adventure, surprisingly honest politicians, shameless smugglers, and treacherous archaeological thieves—who finally reveal where our numbers come from. "A historical adventure that doubles as a surprisingly engaging math lesson . . . rip-roaring exploits and escapades." —Publishers Weekly

zero the biography of a dangerous idea: The Book Of Nothing John D. Barrow, 2011-02-15

How do you begin to understand the concept of nothing? Where does it begin and where does it end? From the zeros of the mathematician to the void of the philosophers, from Shakespeare to the empty set, from the ether to the quantum vacuum, from being and nothingness to creatio ex nihilo, there is much ado about nothing at the heart of things. Recent exciting discoveries in astronomy are shown to shed new light on the nature of the vacuum and its dramatic effect upon the explanation of the Universe. This remarkable book ranges over every nook and cranny of nothingness to reveal how the human mind has had to make something of nothing in every field of human enquiry.

zero the biography of a dangerous idea: *The History of Zero* Tika Downey, 2010-01-01 Looks at counting systems and the history of the number zero.

zero the biography of a dangerous idea: *Alpha And Omega* Charles Seife, 2011-06-30 Since A BRIEF HISTORY OF TIME scientists have been in the midst of a revolution in cosmology. Gradually, astronomers and physicists are answering questions that have plagued mankind since prehistory: how was the universe born, how will it end? They are even now peering into the cradle of the universe - and into its grave. By the beginning of next year, scientists will have a clue to some of the answers. These will be among the greatest triumphs of science. This book tells that story and will reveal results of the most advanced experiments in cosmology ever conducted. It's a tale of men solving the insoluble, of the controversy and anger of rivals after the same goal. Even more thrillingly - it is a lucid explanation of new scientific ideas that stretch man's powers of understanding to their highest levels.

zero the biography of a dangerous idea: *The Nothing that is* , 2000 In the tradition of Longitude, a small and engagingly written book on the history and meaning of zero--a tour de force of science history that takes us through the hollow circle that leads to infinity. 32 illustrations.

zero the biography of a dangerous idea: *Hawking Hawking* Charles Seife, 2021-04-06 How Stephen Hawking became the most brilliant man alive When Stephen Hawking died, he was widely recognized as the world's best physicist, and even its smartest person. He was neither. In *Hawking Hawking*, science journalist Charles Seife explores how Stephen Hawking came to be thought of as humanity's greatest genius. Hawking spent his career grappling with deep questions in physics, but his renown didn't rest on his science. He was a master of self-promotion, hosting parties for time travelers, declaring victory over problems he had not solved, and wooing billionaires. Confined to a wheelchair and physically dependent on a cadre of devotees, Hawking still managed to captivate the people around him-and use them for his own purposes. A brilliant exposé and powerful biography, *Hawking Hawking* uncovers the authentic Hawking buried underneath the fake. It is the story of a man whose brilliance in physics was matched by his genius for building his own myth.

zero the biography of a dangerous idea: *Sun in a Bottle* Charles Seife, 2009-10-27 With his knack for translating science into understandable, anecdotal prose and his trademark dry humor, award-winning science writer Charles Seife presents the first narrative account of the history of fusion for general readers in more than a decade. Tracing the story from its beginning into the twenty-first century, *Sun in a Bottle* reveals fusion's explosive role in some of the biggest scientific scandals of all time. Throughout this journey, he introduces us to the daring geniuses, villains, and victims of fusion science. With the giant international fusion project ITER (International Thermonuclear Experimental Reactor) now under construction, it's clear that the science of wishful thinking is as strong as ever. This book is our key to understanding why.

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online relationship. Let the clicker beware.

zero the biography of a dangerous idea: ELADATL Sesshu Foster, Arturo Ernesto Romo, 2021-04-06 A breathtaking free fall into the long-buried (and fictional) history of a utopian era in American lighter-than-air travel, as told by its death-defying, aero-acrobatic heroes. Foster and Romo's 'real fake dream' of the future-past history of the East Los Angeles Dirigible Air Transport Lines is a superb and loving phantasmagoria that gobbles up real histories for breakfast and spits out the seeds.—Jonathan Lethem, author of *Motherless Brooklyn* In the early years of the twentieth-century, the use of airships known as dirigibles—some as large as one thousand feet long—was being promulgated in Southern California by a semi-clandestine lighter-than-air movement. Groups like the East LA Balloon Club and the Bessie Coleman Aero Club were hard at work to revolutionize travel, with an aim to literally lift oppressed people out of racism and poverty. *ELADATL* tells the story of this little-known period of American air travel in a series of overlapping narratives told by key figures, accompanied by a number of historic photographs and recently discovered artifacts, with appendices provided to fill in the missing links. The story of the rise and fall of this ill-fated airship movement investigates its long-buried history, replete with heroes, villains, and moments of astonishing derring-do and terrifying disaster. Written and presented as an “actual history of a fictional company,” this surrealist, experimental novel is a tour de force of politicized fantastic fiction, a work of hybrid art-making distilled into a truly original literary form. Developed over a ten-year period of collaborations, community interventions, and staged performances, *ELADATL* is a furiously hilarious send-up of academic histories, mainstream narratives, and any traditional notions of the time-space continuum. Poet Foster (Atomik Aztex) and artist Romo deliver a maddeningly accomplished inquiry into the secret history of East Los Angeles. . . . This is as much fun to read as it must have been to make.—Publishers Weekly, Starred Review One of the wildest, most creative and deeply-cutting novels I’ve read in years, a genuine piece of newness in both content and form. To wade through this surreal narrative archeology is to experience, in the finest sense, literature as fever dream.—Omar El Akkad, author of *American War: A Novel Visionary*, hilarious, anarchic, this assemblage of breakneck dialog, blisteringly brilliant film criticism, bureaucratic documents, revolutionary chatter, mass transit, and fake dreams of the secret police, is the counterfactual novel to beat all counterfactual novels.—Mark Doten, author of *Trump Sky Alpha* Hilarious and prophetic and profound, truer than truth, and realer than all realities currently available for purchase, *ELADATL* is strong medicine against the erasures of history, a mega-vitamin for struggles yet to come. This book combats despair.—Ben Ehrenreich, author of *Desert Notebooks: A Road Map for the End of Time*

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zero the biography of a dangerous idea: Einstein's Heroes Robyn Arianrhod, 2006 Blending science, history, and biography, this book reveals the mysteries of mathematics, focusing on the life and work of three of Albert Einstein's heroes: Isaac Newton, Michael Faraday, and James Clerk Maxwell.

zero the biography of a dangerous idea: Ground Zero Alan Gratz, 2021-02-02 The instant #1 New York Times bestseller. In time for the twentieth anniversary of 9/11, master storyteller Alan Gratz (Refugee) delivers a pulse-pounding and unforgettable take on history and hope, revenge and fear -- and the stunning links between the past and present. September 11, 2001, New York City: Brandon is visiting his dad at work, on the 107th floor of the World Trade Center. Out of nowhere, an airplane slams into the tower, creating a fiery nightmare of terror and confusion. And Brandon is in the middle of it all. Can he survive -- and escape? September 11, 2019, Afghanistan: Reshmina has grown up in the shadow of war, but she dreams of peace and progress. When a battle erupts in her village, Reshmina stumbles upon a wounded American soldier named Taz. Should she help Taz -- and put herself and her family in mortal danger? Two kids. One devastating day. Nothing will ever be the

same.

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zero the biography of a dangerous idea: A History of Pi Petr Beckmann, 1971 Traces the history of the mathematical constant pi from the stone age through the computer age, discussing the background of the times when pi progressed, and when it did not.

zero the biography of a dangerous idea: Nothing New Scientist, 2016-09-01 Zero, zip, nada, zilch. It's all too easy to ignore the fascinating possibilities of emptiness and non-existence, and we may well wonder what there is to say about nothing. But scientists have known for centuries that nothing is the key to understanding absolutely everything, from why particles have mass to the expansion of the universe; without nothing we'd be precisely nowhere. With chapters by 22 science writers, including top names such as Ian Stewart, Marcus Chown, Helen Pilcher, Nigel Henbest, Michael Brooks, Linda Geddes, Paul Davies, Jo Marchant and David Fisher, this fascinating and intriguing book revels in a subject that has tantalised the finest minds for centuries, and shows there's more to nothing than meets the eye.

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zero the biography of a dangerous idea: Zero History William Gibson, 2010-09-02 'Gibson is having tremendous fun' Independent ----- THE THIRD NOVEL IN THE BLUE ANT TRILOGY - READ PATTERN RECOGNITION AND SPOOK COUNTRY FOR MORE Hubertus Bigend, the Machiavellian head of global ad-agency Blue Ant, wants to uncover the maker of an obscurely fashionable denim that is taking subculture by storm. Ex-musician Henry Hollis knows nothing about fashion, but Bigend decides she is the woman for the job anyway. Soon, though, it becomes clear that Bigend's interest in underground labels might have sinister applications. Powerful parties, who'll do anything to get what they want, are showing their hand. And Hollis is about to find herself in the crossfire. A gripping spy thriller by William Gibson, bestselling author of Neuromancer. Part prophesy, part satire, Zero History skewers the absurdity of modern life with the lightest and most engaging of touches. Readers of Neal Stephenson, Ray Bradbury and Iain M. Banks won't be able to put this book down. ----- 'An ideas-swarm, coated with a hipster glaze' Herald 'Gibson's writing

is thrillingly tight' New York Times Book Review

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'What is a self and how can a self come out of inanimate matter?' This is the riddle that drove Douglas Hofstadter to write this extraordinary book. In order to impart his original and personal view on the core mystery of human existence - our intangible sensation of 'I'-ness - Hofstadter defines the playful yet seemingly paradoxical notion of 'strange loop', and explicates this idea using analogies from many disciplines.

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SHORTLISTED FOR THE 2017 ROYAL SOCIETY SCIENCE BOOK PRIZE Even small children know there are infinitely many whole numbers - start counting and you'll never reach the end. But there are also infinitely many decimal numbers between zero and one. Are these two types of infinity the same? Are they larger or smaller than each other? Can we even talk about 'larger' and 'smaller'?

when we talk about infinity? In *Beyond Infinity*, international maths sensation Eugenia Cheng reveals the inner workings of infinity. What happens when a new guest arrives at your infinite hotel - but you already have an infinite number of guests? How does infinity give Zeno's tortoise the edge in a paradoxical foot-race with Achilles? And can we really make an infinite number of cookies from a finite amount of cookie dough? Wielding an armoury of inventive, intuitive metaphor, Cheng draws beginners and enthusiasts alike into the heart of this mysterious, powerful concept to reveal fundamental truths about mathematics, all the way from the infinitely large down to the infinitely small.

zero the biography of a dangerous idea: Zero O'Clock C.J. Farley, 2021-09-07 For sixteen-year-old Geth Montego, zero o'clock begins on March 11, 2020. By June, she wonders if it will ever end. "An insightful, eye-opening, and inventive story. C.J. Farley has penned a novel that sheds an important light on real issues facing young people today." —Angie Thomas, author of *The Hate U Give* In early March 2020 in New Rochelle, New York, teenager Geth Montego is fumbling with the present and uncertain about her future. She only has three friends: her best friend Tovah, who's been acting weird ever since they started applying to college; Diego, who she wants to ask to prom; and the K-pop band BTS, because the group always seems to be there for her when she needs them (at least in her head). She could use some help now. Geth's small city becomes one of the first COVID-19 containment zones in the US. As her community is upended by the virus and stirred up by the growing Black Lives Matter protests, Geth faces a choice and a question: Is she willing to risk everything to fight for her beliefs? And if so, what exactly does she believe in? C.J. Farley captures a moment in spring 2020 no teenager will ever forget. It sucks watching the world fall apart. But sometimes you have to start from zero.

zero the biography of a dangerous idea: Number, the Language of Science Tobias Dantzig, 1959

zero the biography of a dangerous idea: The Elf on the Shelf Carol V. Aebersold, Chanda A. Bell, 2012-02-01 *The Elf on the Shelf: A Christmas Tradition* is an activity the entire family will enjoy. Based on the tradition Carol Aebersold began with her family in the 1970s, this cleverly rhymed children's book explains that Santa knows who is naughty and/or nice because he sends a scout elf to every home. During the holiday season, the elf watches children by day and reports to Santa each night. When children awake, the elf has returned from the North Pole and can be found hiding in a different location. This activity allows *The Elf on the Shelf* to become a delightful hide-and-seek game.

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zero the biography of a dangerous idea: Mathematics From the Birth of Numbers Jan Gullberg, 1997-01-07 A gently guided, profusely illustrated Grand Tour of the world of mathematics. This extraordinary work takes the reader on a long and fascinating journey--from the dual invention of numbers and language, through the major realms of arithmetic, algebra, geometry, trigonometry, and calculus, to the final destination of differential equations, with excursions into mathematical logic, set theory, topology, fractals, probability, and assorted other mathematical byways. The book is unique among popular books on mathematics in combining an engaging, easy-to-read history of the subject with a comprehensive mathematical survey text. Intended, in the author's words, for the benefit of those who never studied the subject, those who think they have forgotten what they once learned, or those with a sincere desire for more knowledge, it links mathematics to the humanities,

linguistics, the natural sciences, and technology. Contains more than 1000 original technical illustrations, a multitude of reproductions from mathematical classics and other relevant works, and a generous sprinkling of humorous asides, ranging from limericks and tall stories to cartoons and decorative drawings.

zero the biography of a dangerous idea: Euclid's Window Leonard Mlodinow, 2010-09-28
Through Euclid's Window Leonard Mlodinow brilliantly and delightfully leads us on a journey through five revolutions in geometry, from the Greek concept of parallel lines to the latest notions of hyperspace. Here is an altogether new, refreshing, alternative history of math revealing how simple questions anyone might ask about space -- in the living room or in some other galaxy -- have been the hidden engine of the highest achievements in science and technology. Based on Mlodinow's extensive historical research; his studies alongside colleagues such as Richard Feynman and Kip Thorne; and interviews with leading physicists and mathematicians such as Murray Gell-Mann, Edward Witten, and Brian Greene, Euclid's Window is an extraordinary blend of rigorous, authoritative investigation and accessible, good-humored storytelling that makes a stunningly original argument asserting the primacy of geometry. For those who have looked through Euclid's Window, no space, no thing, and no time will ever be quite the same.

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zero the biography of a dangerous idea: My Year Zero Rachel Gold, 2016-03-01 Lauren thinks she has a pretty good life—so why is it that she feels crazy most of the time? She figures it's nothing she can't fix by getting her first girlfriend and doing better at school. But how is she ever going to find a girlfriend in Duluth, Minnesota? When she meets a group of kids who are telling a science fiction story online and gets invited down to the Twin Cities, she gets more attention than she ever expected, from two very different girls: charming Sierra and troublesome Blake. Blake helps Lauren understand that she's not the crazy one in her life. But Blake's attention—and insights into life and living with bipolar disorder—threaten to destroy everything Lauren has created for herself, including her relationship with Sierra.

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