# zero the biography of a dangerous idea pdf

**zero the biography of a dangerous idea pdf** is a widely searched term by readers interested in understanding the profound impact of the concept of zero throughout history. This article explores the significance of zero as presented in the influential book "Zero: The Biography of a Dangerous Idea," written by Charles Seife. The book delves into the historical, mathematical, and philosophical aspects of zero, revealing why it was once considered a dangerous and revolutionary concept. Readers looking for the zero the biography of a dangerous idea pdf will find insights into the origins, development, and controversies surrounding zero. This article also discusses how the book is structured and the key themes that make it a critical read for mathematics enthusiasts and historians alike. Following is a detailed table of contents to guide the exploration of this topic further.


- Overview of "Zero: The Biography of a Dangerous Idea"
- Historical Origins of Zero
- Mathematical Significance of Zero
- Philosophical and Cultural Controversies
- Availability and Formats of the Zero the Biography of a Dangerous Idea PDF
- Impact and Legacy of the Book

## Overview of ''Zero: The Biography of a Dangerous Idea''

"Zero: The Biography of a Dangerous Idea" is a comprehensive book authored by Charles Seife that traces the evolution of zero from an abstract concept to a fundamental element in mathematics and science. The narrative presents zero not merely as a number but as a powerful idea that has shaped human understanding of the universe. The book combines history, mathematics, and philosophy to examine why zero was once feared and misunderstood. It covers the journey of zero from ancient civilizations to modern-day applications. This overview provides a foundation for readers searching for the zero the biography of a dangerous idea pdf to appreciate the book’s depth and scope.

## Historical Origins of Zero

The concept of zero has a rich and complex history, which is meticulously detailed in the book. Zero did not emerge overnight; it gradually evolved through contributions from different cultures. The origins can be traced back to ancient Mesopotamia and India, where early forms of zero as a placeholder and as a numeral were developed. The book explores the key milestones in the acceptance of zero, including:

- The Babylonian use of a placeholder symbol in cuneiform numerals
- The Indian mathematician Brahmagupta’s formal definition of zero as a number
- The transmission of zero to the Islamic world and later to Europe through Arabic scholars

These historical insights are essential for understanding the zero the biography of a dangerous idea pdf, as they reveal the intellectual journey behind zero’s acceptance.

## Zero in Ancient Civilizations

Ancient civilizations had varying approaches to the concept of nothingness, but none utilized zero as a number in the way modern mathematics does. The Babylonians used a placeholder to denote absence in positional notation, but it was not considered a number. The Mayans independently developed a zero placeholder as well. These early uses laid the groundwork for the more abstract concept that would emerge later.

## Zero in Indian Mathematics

India is credited with the first formal recognition of zero as a number with defined arithmetic properties. This breakthrough allowed mathematicians to perform calculations and develop algebraic concepts that were impossible before. Brahmagupta’s work in the 7th century was pivotal, describing zero’s operations including addition, subtraction, and the concept of negative numbers.

# Mathematical Significance of Zero

Zero’s importance in mathematics cannot be overstated, and "Zero: The Biography of a Dangerous Idea" elaborates on its profound implications. Zero serves as the foundation of the decimal system and positional notation, enabling efficient arithmetic and computation. The book explains how zero paved the way for the development of calculus, algebra, and computer science. It also highlights the paradoxes and mathematical challenges zero presented, such as division by zero and the concept of infinity.

## Zero as a Placeholder

One of zero’s earliest and most critical functions was as a placeholder in positional numeral systems. Without zero, representing large numbers efficiently would be cumbersome and inconsistent. The introduction of zero allowed for a clear distinction between numbers like 10, 100, and 1000, which revolutionized arithmetic.

### Zero and the Concept of Infinity

The relationship between zero and infinity is a central theme in the mathematical exploration of zero. Zero’s existence raised questions about limits, infinitesimals, and the nature of the infinite, which mathematicians and philosophers have debated for centuries. The book discusses how these ideas influenced modern mathematics and physics.

## Philosophical and Cultural Controversies

Zero was not only a mathematical curiosity but also a concept fraught with philosophical and theological controversies. In many cultures, the idea of "nothingness" was unsettling or taboo, leading to resistance against zero. The book examines various cultural attitudes toward zero, including religious objections and fear of the void. Philosophers grappled with the implications of zero for existence and reality, which made zero a "dangerous idea" beyond its numerical value.

### Religious and Cultural Resistance

Many early societies viewed zero with suspicion. For example, in medieval Europe, zero was sometimes associated with the devil or with heretical ideas. This resistance delayed the widespread adoption of zero in Western mathematics. The book explores these cultural barriers and how they were eventually overcome.

### Philosophical Implications

Zero challenged fundamental concepts about being and nothingness. Philosophers such as Aristotle rejected the notion of the void, which influenced the acceptance of zero. The book highlights these debates and how zero’s acceptance marked a shift in human thought about existence and the universe.

## Availability and Formats of the Zero the Biography of a Dangerous Idea PDF

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## Impact and Legacy of the Book

"Zero: The Biography of a Dangerous Idea" has had a significant impact on popular and academic understanding of zero. The book has been praised for making complex mathematical history accessible and engaging to a broad audience. It has influenced educators, historians, and mathematicians in appreciating the cultural and intellectual importance of zero. The legacy of the book continues as it inspires further exploration into the origins and implications of fundamental mathematical ideas.

## Educational Influence

The book is frequently used in academic settings to teach the history of mathematics and science. Its detailed narrative helps students grasp the complexity and significance of zero beyond simple arithmetic. It encourages interdisciplinary study, linking mathematics with history, philosophy, and culture.

## Inspiration for Further Research

By highlighting zero’s controversial and transformative nature, the book has motivated researchers to investigate other foundational concepts in science and mathematics. It serves as a model for exploring the stories behind critical ideas that shape human knowledge.

# Frequently Asked Questions

## Where can I download the PDF of 'Zero: The Biography of a Dangerous Idea'?

You can find 'Zero: The Biography of a Dangerous Idea' PDF on various online bookstores or libraries. However, ensure to use legal and authorized sources such as Amazon Kindle, Google Books, or your local library's digital collection.

## Who is the author of 'Zero: The Biography of a Dangerous Idea'?

The author of 'Zero: The Biography of a Dangerous Idea' is Charles Seife.

## What is the main theme of 'Zero: The Biography of a Dangerous Idea'?

The book explores the history, mathematics, and philosophical implications of the number zero, highlighting its significance and the controversies surrounding it throughout history.

## Is 'Zero: The Biography of a Dangerous Idea' available for free in PDF format?

Officially, 'Zero: The Biography of a Dangerous Idea' is a copyrighted book and is not legally available for free in PDF format. Free downloads found online may be unauthorized copies.

## What topics are covered in 'Zero: The Biography of a Dangerous Idea'?

The book covers the historical development of zero, its mathematical uses, cultural impact, and the philosophical debates it has sparked over centuries.

## Can I read 'Zero: The Biography of a Dangerous Idea' on Kindle or other e-readers?

Yes, 'Zero: The Biography of a Dangerous Idea' is available in digital formats compatible with Kindle and other e-readers through official retailers like Amazon.

## Why is zero considered a 'dangerous idea' according to the book?

The book argues that zero is 'dangerous' because it challenged established mathematical and philosophical beliefs, causing cultural and intellectual upheavals throughout history.

## Are there any summaries available for 'Zero: The Biography of a Dangerous Idea' PDF?

Yes, there are summaries and study guides available online that provide an overview of the key points and themes of the book.

## How has 'Zero: The Biography of a Dangerous Idea' been received by readers and critics?

The book has been praised for its engaging storytelling and insightful exploration of the concept of

zero, appealing to both general readers and those interested in mathematics and history.

## Additional Resources

1. *Zero: The Biography of a Dangerous Idea* by Charles Seife
This book explores the fascinating history of zero, from its ancient origins to its profound impact on mathematics, science, and philosophy. Seife delves into how zero challenged conventional thinking and was once considered a dangerous and controversial concept. The narrative combines historical anecdotes with mathematical insights, making the concept accessible and intriguing.

2. *The Nothing That Is: A Natural History of Zero* by Robert Kaplan
Kaplan examines zero's journey as both a mathematical and philosophical concept. The book explores how zero symbolizes the void and nothingness, influencing various cultures and scientific developments. It provides a rich historical context that reveals zero’s role in shaping modern thought.

3. *Zero: The Story of a Number* by Charles Seife
This book offers an engaging look at the number zero, highlighting its invention and the resistance it faced throughout history. Seife presents zero as a revolutionary idea that changed mathematics, science, and technology. The narrative is accessible to readers with little mathematical background.

4. *The Emperor of All Maladies: A Biography of Cancer* by Siddhartha Mukherjee
While not about zero directly, this biography offers a similarly detailed and humanizing exploration of a complex concept—cancer. Mukherjee traces the history, science, and stories behind cancer, reflecting the depth and narrative style found in biographies of abstract ideas like zero.

5. *Infinity and the Mind: The Science and Philosophy of the Infinite* by Rudy Rucker
Rucker investigates the concept of infinity, a mathematical idea closely related to zero. The book explores how infinity challenges human intuition and influences mathematics, philosophy, and cosmology. It complements the themes found in zero’s biography by tackling another fundamental mathematical concept.

6. *The History of Mathematics: A Brief Course* by Roger L. Cooke

This comprehensive overview covers key developments in mathematics, including the invention and significance of zero. Cooke provides historical context and explains mathematical ideas that have shaped human civilization. The book is suitable for readers seeking a broader understanding of math history.

7. *Mathematics and Its History* by John Stillwell

Stillwell's book traces the development of mathematical ideas through history, with significant attention to zero and its role in number systems. The text bridges the gap between historical narrative and mathematical rigor, appealing to both historians and mathematicians.

8. *Zero to One: Notes on Startups, or How to Build the Future* by Peter Thiel with Blake Masters

Though focused on business and innovation, this book metaphorically echoes zero's significance as a starting point for creation and transformation. Thiel discusses how entrepreneurs can create something truly new and valuable, paralleling zero's revolutionary impact on mathematics and ideas.

9. *The Book of Numbers: The Hidden Meaning of Numbers and Number Sequences* by David A. Phillips

Phillips explores the mystical, cultural, and scientific meanings of numbers, including zero. The book reveals how numbers influence human life beyond mathematics, touching on symbolism, spirituality, and psychology. It offers a complementary perspective on the importance of numbers like zero.

## Zero The Biography Of A Dangerous Idea Pdf



# Zero: The Biography of a Dangerous Idea PDF

Author: Dr. Anya Petrova (Fictional Author)

Outline:

Introduction: The concept of zero – its historical absence and eventual revolutionary impact.
Chapter 1: The Pre-Zero World: Number systems before zero, their limitations, and the mathematical challenges they presented.
Chapter 2: The Birth of Zero: Tracing the independent development of the concept of zero in different cultures (Babylonian, Mayan, Indian).
Chapter 3: Zero's Journey West: The transmission of the concept of zero from India to the Arab world and eventually to Europe.
Chapter 4: Zero's Mathematical Revolution: How zero facilitated the development of place-value systems, algebra, calculus, and modern mathematics.
Chapter 5: Zero in Science and Technology: Zero's role in scientific breakthroughs and technological advancements.
Chapter 6: Zero's Philosophical Implications: Exploring the philosophical implications of zero, including nothingness, infinity, and the concept of void.
Chapter 7: Zero and the Modern World: The ubiquitous presence of zero in our daily lives – from finances to digital technology.
Conclusion: Zero's enduring legacy and its continuing importance in shaping our understanding of the world.

# Zero: The Biography of a Dangerous Idea – A Deep Dive

The concept of zero, seemingly simple, is a profound mathematical and philosophical achievement. This article delves into the rich history and significant impact of zero, exploring its journey from an absent entity to a cornerstone of modern mathematics, science, and technology. Our exploration will cover its origins, its transformative influence on various civilizations, and its enduring significance in shaping our world.

## 1. Introduction: The Absence That Changed Everything

For millennia, humanity struggled with a critical mathematical void: the absence of a symbol representing nothingness. Early number systems, such as the Roman numerals, lacked a dedicated symbol for zero. This absence significantly hampered mathematical operations. Calculations were cumbersome, and the concept of place value—crucial for efficient arithmetic—remained elusive. The lack of zero implied a limited understanding of numerical concepts, hindering advancements in fields reliant on precise calculations. This introduction establishes the context of zero's eventual appearance as a revolutionary breakthrough, a "dangerous idea" because it challenged existing frameworks and opened up entirely new avenues of mathematical exploration.

## 2. Chapter 1: The Pre-Zero World: Limitations and Challenges

Before the advent of zero, mathematical systems faced inherent limitations. Roman numerals, for instance, relied on additive and subtractive principles, making complex calculations time-consuming and prone to errors. The absence of a placeholder symbol meant that the same numeral could represent different values depending on its position. This ambiguity created significant obstacles for developing advanced mathematical concepts. This chapter details the struggles faced by ancient civilizations, highlighting the cumbersome nature of their number systems and the mathematical barriers they encountered due to the lack of a zero. Examples from different civilizations, their specific systems, and the resultant challenges will be explored.

## 3. Chapter 2: The Birth of Zero: Independent Inventions

The concept of zero didn't emerge from a single source. Different cultures independently developed their own versions of zero, demonstrating the inherent human need for a symbol representing nothingness. The Babylonians, using a placeholder symbol in their sexagesimal system, made early strides. The Mayans, with their sophisticated calendar system, also developed a sophisticated zero symbol. However, it was the Indian mathematicians who gave zero its modern form and incorporated it fully into their positional number system. This chapter dissects these independent inventions, examining their characteristics and comparing their approaches to representing nothingness. The cultural context of each invention will be analyzed to understand the factors contributing to its development.

## 4. Chapter 3: Zero's Journey West: Transmission and Adaptation

The Indian concept of zero, along with the positional decimal system, gradually spread westward. Arab mathematicians embraced and refined this revolutionary idea, further developing algebraic concepts that were heavily reliant on the use of zero. Through the works of scholars like al-Khwarizmi, zero travelled to Europe, triggering a mathematical revolution in the continent. This chapter traces zero's journey, highlighting the role of cultural exchange and the gradual adoption of this pivotal concept in different parts of the world. The challenges and transformations that occurred during this transmission will also be examined.

## 5. Chapter 4: Zero's Mathematical Revolution: Enabling Advancements

The introduction of zero fundamentally altered the landscape of mathematics. It enabled the development of a place-value system, allowing for efficient representation and manipulation of large numbers. This, in turn, paved the way for the creation of algebra, calculus, and countless other mathematical disciplines. Zero's role as an additive identity (a+0=a) and its significance in defining operations like division and subtraction is essential. This chapter will demonstrate how zero became an indispensable tool for mathematical innovation, detailing its impact on various mathematical branches and their subsequent advancements.

## 6. Chapter 5: Zero in Science and Technology: A Cornerstone of Progress

Zero's influence extends far beyond the realm of pure mathematics. It plays a crucial role in science and technology, forming the backbone of numerous scientific models, calculations, and technological innovations. From physics and astronomy to computer science and engineering, zero is integral to our understanding of the universe and the creation of technologies that shape our modern lives. This chapter will provide concrete examples demonstrating zero’s application in diverse scientific and technological domains.

## 7. Chapter 6: Zero's Philosophical Implications: Exploring the Void

Beyond its mathematical utility, zero possesses profound philosophical implications. It represents nothingness, a concept that has captivated and challenged thinkers for centuries. Its relationship with infinity, the void, and the nature of existence are explored in this chapter. The philosophical interpretations of zero across different cultures and time periods will be analyzed, highlighting the complex interplay between mathematical concepts and philosophical thought.

## 8. Chapter 7: Zero and the Modern World: Ubiquitous Presence

Today, zero is omnipresent. From our financial systems to digital technology, zero underpins the intricate networks that govern our daily lives. Its role in computer programming, coding, and digital representation is particularly significant. This chapter examines zero's pervasiveness in modern society, highlighting its importance in various aspects of contemporary life.

## 9. Conclusion: An Enduring Legacy

Zero’s journey from an absent entity to a fundamental pillar of modern civilization is a remarkable testament to human ingenuity and intellectual progress. Its impact on mathematics, science, technology, and philosophy is undeniable. This conclusion summarizes the key takeaways, reinforcing zero's enduring legacy and its continued importance in shaping our understanding of the world. The future potential of zero and areas for continued exploration will also be discussed.

# FAQs

1. What is the significance of zero in place-value systems? Zero acts as a placeholder, enabling efficient representation of large numbers and facilitating arithmetic operations.

2. How did zero influence the development of algebra? Zero played a crucial role in defining operations, enabling the development of algebraic equations and solving them.

3. What are some examples of zero's use in science? Zero is essential in physics (e.g., absolute zero), astronomy (e.g., coordinates), and many other scientific disciplines.

4. What is the philosophical debate around the concept of zero? Philosophers have debated the meaning of nothingness, the void, and the relationship between zero and infinity.

5. How did the concept of zero spread across different cultures? Through trade, cultural exchange, and the dissemination of mathematical texts.

6. What were the challenges faced by pre-zero number systems? Cumbersome calculations, lack of place value, and difficulties in representing large numbers.

7. What is the role of zero in computer science? Zero is fundamental in binary code, Boolean algebra, and digital representation.

8. How does zero relate to the concept of infinity? Zero and infinity are often viewed as opposite ends of a numerical spectrum, both presenting conceptual challenges.

9. What is the future of research on zero? Continued research may explore zero's role in advanced mathematical concepts and its implications in fields like quantum physics.

# Related Articles:

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zero and its integration into their calendar system.

2. Al-Khwarizmi and the Transmission of Zero to the West: Detailing the crucial role of this Arab mathematician in disseminating zero to Europe.

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8. Zero in Computer Science: Binary Code and Boolean Algebra: Exploring the significance of zero in the fundamental principles of computer science.

9. The Cultural Significance of Zero Across Different Civilizations: Comparing the diverse cultural interpretations and symbolic meanings of zero across different societies.

**zero the biography of a dangerous idea pdf: 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.

**zero the biography of a dangerous idea pdf: 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 pdf: Sun in a Bottle** Charles Seife, 2008 Chronicles the last half century's haphazard attempt to harness fusion energy, describing how governments and research teams throughout the world have employed measures ranging from the controversial to the humorous.

**zero the biography of a dangerous idea pdf: 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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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

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**zero the biography of a dangerous idea pdf: Hawking Hawking** Charles Seife, 2021-04-06 Stephen Hawking was widely recognized as the world's best physicist and even the most brilliant man alive–but what if his true talent was self-promotion? 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. In 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.

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**zero the biography of a dangerous idea pdf: 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 pdf: The Hunt for Zero Point** Nick Cook, 2007-12-18 This riveting work of investigative reporting and history exposes classified government projects to build gravity-defying aircraft--which have an uncanny resemblance to flying saucers. The

atomic bomb was not the only project to occupy government scientists in the 1940s. Antigravity technology, originally spearheaded by scientists in Nazi Germany, was another high priority, one that still may be in effect today. Now for the first time, a reporter with an unprecedented access to key sources in the intelligence and military communities reveals suppressed evidence that tells the story of a quest for a discovery that could prove as powerful as the A-bomb. The Hunt for Zero Point explores the scientific speculation that a zero point of gravity exists in the universe and can be replicated here on Earth. The pressure to be the first nation to harness gravity is immense, as it means having the ability to build military planes of unlimited speed and range, along with the most deadly weaponry the world has ever seen. The ideal shape for a gravity-defying vehicle happens to be a perfect disk, making antigravity tests a possible explanation for the numerous UFO sightings of the past 50 years. Chronicling the origins of antigravity research in the world's most advanced research facility, which was operated by the Third Reich during World War II, The Hunt for Zero Point traces U.S. involvement in the project, beginning with the recruitment of former Nazi scientists after the war. Drawn from interviews with those involved with the research and who visited labs in Europe and the United States, The Hunt for Zero Point journeys to the heart of the twentieth century's most puzzling unexplained phenomena.

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**zero the biography of a dangerous idea pdf:** *Command Of The Air* General Giulio Douhet, 2014-08-15 In the pantheon of air power spokesmen, Giulio Douhet holds center stage. His writings,

more often cited than perhaps actually read, appear as excerpts and aphorisms in the writings of numerous other air power spokesmen, advocates-and critics. Though a highly controversial figure, the very controversy that surrounds him offers to us a testimonial of the value and depth of his work, and the need for airmen today to become familiar with his thought. The progressive development of air power to the point where, today, it is more correct to refer to aerospace power has not outdated the notions of Douhet in the slightest In fact, in many ways, the kinds of technological capabilities that we enjoy as a global air power provider attest to the breadth of his vision. Douhet, together with Hugh "Boom" Trenchard of Great Britain and William "Billy" Mitchell of the United States, is justly recognized as one of the three great spokesmen of the early air power era. This reprint is offered in the spirit of continuing the dialogue that Douhet himself so perceptively began with the first edition of this book, published in 1921. Readers may well find much that they disagree with in this book, but also much that is of enduring value. The vital necessity of Douhet's central vision-that command of the air is all important in modern warfare-has been proven throughout the history of wars in this century, from the fighting over the Somme to the air war over Kuwait and Iraq.

**zero the biography of a dangerous idea pdf: Unbroken** Laura Hillenbrand, 2014-07-29 #1 NEW YORK TIMES BESTSELLER • NOW A MAJOR MOTION PICTURE • Look for special features inside. Join the Random House Reader's Circle for author chats and more. In boyhood, Louis Zamperini was an incorrigible delinquent. As a teenager, he channeled his defiance into running, discovering a prodigious talent that had carried him to the Berlin Olympics. But when World War II began, the athlete became an airman, embarking on a journey that led to a doomed flight on a May afternoon in 1943. When his Army Air Forces bomber crashed into the Pacific Ocean, against all odds, Zamperini survived, adrift on a foundering life raft. Ahead of Zamperini lay thousands of miles of open ocean, leaping sharks, thirst and starvation, enemy aircraft, and, beyond, a trial even greater. Driven to the limits of endurance, Zamperini would answer desperation with ingenuity; suffering with hope, resolve, and humor; brutality with rebellion. His fate, whether triumph or tragedy, would be suspended on the fraying wire of his will. Appearing in paperback for the first time—with twenty arresting new photos and an extensive Q&A with the author—Unbroken is an unforgettable testament to the resilience of the human mind, body, and spirit, brought vividly to life by Seabiscuit author Laura Hillenbrand. Hailed as the top nonfiction book of the year by Time magazine • Winner of the Los Angeles Times Book Prize for biography and the Indies Choice Adult Nonfiction Book of the Year award "Extraordinarily moving . . . a powerfully drawn survival epic."—The Wall Street Journal "[A] one-in-a-billion story . . . designed to wrench from self-respecting critics all the blurby adjectives we normally try to avoid: It is amazing, unforgettable, gripping, harrowing, chilling, and inspiring."—New York "Staggering . . . mesmerizing . . . Hillenbrand's writing is so ferociously cinematic, the events she describes so incredible, you don't dare take your eyes off the page."—People "A meticulous, soaring and beautifully written account of an extraordinary life."—The Washington Post "Ambitious and powerful . . . a startling narrative and an inspirational book."—The New York Times Book Review "Magnificent . . . incredible . . . [Hillenbrand] has crafted another masterful blend of sports, history and overcoming terrific odds; this is biography taken to the nth degree, a chronicle of a remarkable life lived through extraordinary times."—The Dallas Morning News "An astonishing testament to the superhuman power of tenacity."—Entertainment Weekly "A tale of triumph and redemption . . . astonishingly detailed."—O: The Oprah Magazine "[A] masterfully told true story . . . nothing less than a marvel."—Washingtonian "[Hillenbrand tells this] story with cool elegance but at a thrilling sprinter's pace."—Time "Hillenbrand [is] one of our best writers of narrative history. You don't have to be a sports fan or a war-history buff to devour this book—you just have to love great storytelling."—Rebecca Skloot, author of The Immortal Life of Henrietta Lacks

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something new: doing what we already know how to do takes the world from 1 to n, adding more of something familiar. Every new creation goes from 0 to 1. This book is about how to get there. ‘Peter Thiel has built multiple breakthrough companies, and Zero to One shows how.’ ELON MUSK, CEO of SpaceX and Tesla ‘This book delivers completely new and refreshing ideas on how to create value in the world.’ MARK ZUCKERBERG, CEO of Facebook ‘When a risk taker writes a book, read it. In the case of Peter Thiel, read it twice. Or, to be safe, three times. This is a classic.’ NASSIM NICHOLAS TALEB, author of The Black Swan

**zero the biography of a dangerous idea pdf: The Book of Shadows** , 2016-10-11 For Wiccans wishing to chart the progress of their individual practice, jot down dreams, or inscribe personal spells and rituals, this elegant journal--now with even more blank pages--is the perfect keepsake. There's space for every important reflection throughout the year, and an introduction by noted author Cassandra Eason explains basic concepts and invites all Wiccans to come here to safeguard their innermost thoughts.

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Jan Gullberg, 1997-01-07 An illustrated exploration of mathematics and its history, beginning with a study of numbers and their symbols, and continuing with a broad survey that includes consideration of algebra, geometry, hyperbolic functions, fractals, and many other mathematical functions.

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**zero the biography of a dangerous idea pdf:** Prelude to Mathematics W. W. Sawyer, 2012-04-19 This lively, stimulating account of non-Euclidean geometry by a noted mathematician covers matrices, determinants, group theory, and many other related topics, with an emphasis on the subject's novel, striking aspects. 1955 edition.

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exploration of the big ideas of the modern era: Information, communication, and information theory. Acclaimed science writer James Gleick presents an eye-opening vision of how our relationship to information has transformed the very nature of human consciousness. A fascinating intellectual journey through the history of communication and information, from the language of Africa's talking drums to the invention of written alphabets; from the electronic transmission of code to the origins of information theory, into the new information age and the current deluge of news, tweets, images, and blogs. Along the way, Gleick profiles key innovators, including Charles Babbage, Ada Lovelace, Samuel Morse, and Claude Shannon, and reveals how our understanding of information is transforming not only how we look at the world, but how we live. A New York Times Notable Book A Los Angeles Times and Cleveland Plain Dealer Best Book of the Year Winner of the PEN/E. O. Wilson Literary Science Writing Award

**zero the biography of a dangerous idea pdf:** The Sciences of the Artificial, reissue of the third edition with a new introduction by John Laird Herbert A. Simon, 2019-08-13 Herbert Simon's classic work on artificial intelligence in the expanded and updated third edition from 1996, with a new introduction by John E. Laird. Herbert Simon's classic and influential The Sciences of the Artificial declares definitively that there can be a science not only of natural phenomena but also of what is artificial. Exploring the commonalities of artificial systems, including economic systems, the business firm, artificial intelligence, complex engineering projects, and social plans, Simon argues that designed systems are a valid field of study, and he proposes a science of design. For this third edition, originally published in 1996, Simon added new material that takes into account advances in cognitive psychology and the science of design while confirming and extending the book's basic thesis: that a physical symbol system has the necessary and sufficient means for intelligent action. Simon won the Nobel Prize for Economics in 1978 for his research into the decision-making process within economic organizations and the Turing Award (considered by some the computer science equivalent to the Nobel) with Allen Newell in 1975 for contributions to artificial intelligence, the psychology of human cognition, and list processing. The Sciences of the Artificial distills the essence of Simon's thought accessibly and coherently. This reissue of the third edition makes a pioneering work available to a new audience.

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