



## Newton's Football: The Science Behind America's Game

By Allen St. John, Ainissa Ramirez

Download now

Read Online 

**Newton's Football: The Science Behind America's Game** By Allen St. John, Ainissa Ramirez

**In the bestselling tradition of *Freakonomics* and *Scorecasting* comes a clever and accessible look at the big ideas underlying the science of football.**

Did you hear the one about the MacArthur genius physicist and the NFL coach? It's not a joke. It's actually an innovative way to understand chaos theory, and the remarkable complexity of modern professional football.

In *Newton's Football*, journalist and *New York Times* bestselling author Allen St. John and TED talker and former Yale professor Ainissa Ramirez explore the unexpected science behind America's Game. Whether it's Jerry Rice finding the common ground between quantum physics and the West Coast offense or an Ivy League biologist explaining--at a granular level--exactly how a Big Mac morphs into an outside linebacker, *Newton's Football* illuminates football--and science--through funny, insightful stories told by some of the world's sharpest minds.

With a clear-eyed empirical approach--and an exuberant affection for the game--St. John and Ramirez address topics that have long beguiled scientists and football fans alike, including:

- \* the unlikely evolution of the football (or, as they put it, "The Divine Random Bounce of the Prolate Spheroid")
- \* what Vince Lombardi has in common with Isaac Newton
- \* how the hardwired behavior of monkeys can explain a head coach's reluctance to go for it on fourth-down
- \* why a gruesome elevator accident jump-started the evolution of placekicking
- \* how Teddy Roosevelt saved football using the same behavioral science concept that Dreamworks would use to save *Shrek*
- \* why woodpeckers don't get concussions
- \* how better helmets actually made the game more dangerous

Every Sunday the NFL shares a secret with only its savviest fans: The game isn't just a clash of bodies, it's a clash of ideas. The greatest minds in football have always possessed an instinctual grasp of science, understanding the big ideas and

gritty realities that inform the game's rich past, as well as its increasingly uncertain future.

Blending smart reporting, counterintuitive creativity, and compelling narrative, *Newton's Football* takes gridiron analysis to the next level, giving fans a book that entertains, enlightens, and explains the game anew.

 [Download Newton's Football: The Science Behind America ...pdf](#)

 [Read Online Newton's Football: The Science Behind Ameri ...pdf](#)

# Newton's Football: The Science Behind America's Game

By Allen St. John, Ainissa Ramirez

**Newton's Football: The Science Behind America's Game** By Allen St. John, Ainissa Ramirez

**In the bestselling tradition of *Freakonomics* and *Scorecasting* comes a clever and accessible look at the big ideas underlying the science of football.**

Did you hear the one about the MacArthur genius physicist and the NFL coach? It's not a joke. It's actually an innovative way to understand chaos theory, and the remarkable complexity of modern professional football.

In *Newton's Football*, journalist and *New York Times* bestselling author Allen St. John and TED talker and former Yale professor Ainissa Ramirez explore the unexpected science behind America's Game. Whether it's Jerry Rice finding the common ground between quantum physics and the West Coast offense or an Ivy League biologist explaining--at a granular level--exactly how a Big Mac morphs into an outside linebacker, *Newton's Football* illuminates football--and science--through funny, insightful stories told by some of the world's sharpest minds.

With a clear-eyed empirical approach--and an exuberant affection for the game--St. John and Ramirez address topics that have long beguiled scientists and football fans alike, including:

- \* the unlikely evolution of the football (or, as they put it, "The Divine Random Bounce of the Prolate Spheroid")
- \* what Vince Lombardi has in common with Isaac Newton
- \* how the hardwired behavior of monkeys can explain a head coach's reluctance to go for it on fourth-down
- \* why a gruesome elevator accident jump-started the evolution of placekicking
- \* how Teddy Roosevelt saved football using the same behavioral science concept that Dreamworks would use to save *Shrek*
- \* why woodpeckers don't get concussions
- \* how better helmets actually made the game more dangerous

Every Sunday the NFL shares a secret with only its savviest fans: The game isn't just a clash of bodies, it's a clash of ideas. The greatest minds in football have always possessed an instinctual grasp of science, understanding the big ideas and gritty realities that inform the game's rich past, as well as its increasingly uncertain future.

Blending smart reporting, counterintuitive creativity, and compelling narrative, *Newton's Football* takes gridiron analysis to the next level, giving fans a book that entertains, enlightens, and explains the game anew.

**Newton's Football: The Science Behind America's Game** By Allen St. John, Ainissa Ramirez

## Bibliography

- Sales Rank: #684049 in Books
- Published on: 2013-11-19

- Released on: 2013-11-19
- Original language: English
- Number of items: 1
- Dimensions: 9.53" h x 1.02" w x 6.35" l, 1.03 pounds
- Binding: Hardcover
- 272 pages

 [Download Newton's Football: The Science Behind America ...pdf](#)

 [Read Online Newton's Football: The Science Behind Ameri ...pdf](#)

**Download and Read Free Online Newton's Football: The Science Behind America's Game By Allen St. John, Ainissa Ramirez**

---

## Editorial Review

From [Booklist](#)

What prepared Vince Lombardi for phenomenal success in professional football? St. John and Ramirez believe it was the eight years Lombardi spent teaching high-school math and physics. For behind Lombardi's six NFL titles in the 1960s, the authors discern a brilliant application of Newtonian physics in the Green Bay Packers' famous power sweep and of probability theory in the Packers' run-oriented game plans. But Lombardi's storied career is but one gridiron setting in which readers discover hidden scientific and mathematical concepts. Readers will marvel, for instance, at how chaos theory connects an injury to a key player with the beginning of the West Coast offense. Just as amazing is the Boolean logic governing quarterback reads. Other analyses deploy the science of dynamic feedback to explain how adding a face mask to the helmet put players at greater risk of concussions, and combine the physics of pass-blocking with the thermodynamics of nutrition (and steroids?) to account for behemoth linemen. A delightfully improbable book putting science nerds and sports fans on the same page. --Bryce Christensen

Review

“It was with great interest that I read *Newton's Football*. I'm a fan of applying of science to sport and *Newton's Football* truly delivers. The stories are as engaging as they are informative. This is a great read for all football fans.”—**Mark Cuban**

“A delightfully improbable book putting science nerds and sports fans on the same page.”—**Booklist**

“This breezily-written but informative book should pique the interest of any serious football fan in the twenty-first century.”—**The American Spectator**

“The authors have done a worthy job of combining popular science and sports into a work that features enough expertise on each topic to satisfy nerds and jocks alike. . . . The writers succeed in their task thanks to in-depth scientific knowledge, a wonderful grasp of football's past and present, interviews with a wide array of experts, and witty prose. . . . [*Newton's Football* is] fun and thought-provoking, proving that football is a mind game as much as it is a ball game.”—**Publishers Weekly**

“Journalist St. John and former Yale engineering professor Ramirez use scientific principles to give a greater understanding of the spectacle of competitive violence that is American professional football. . . . What makes this book so enjoyable is the authors' revealing of how academic disciplines such as Boolean algebra and paleontology are present in such a brutish sport.”—**Kirkus Reviews**

“Equal parts Isaac Newton and Cam Newton, this book is as thoroughly entertaining and engrossing as a fall Sunday afternoon on the couch.”—**L. Jon Wertheim, executive editor of *Sports Illustrated* and bestselling co-author of *Scorecasting***

“Nothing is more bipartisan than America's love for football. And *Newton's Football* will unite readers of all stripes by merging science and sports in a fresh and fascinating fashion. Read this book and you'll never again watch a game the same way.”—**Chris Mooney, *New York Times* bestselling author of *The Republican War on Science***

“What do you get when you pair a journalist and bestselling author with a materials scientist turned science

‘evangelist,’ and have them collaborate on a book about football? With any luck, you get *Newton’s Football*, a breezily informative and fun exploration of the science behind this popular pastime, from Vince Lombardi’s use of game theory to helmet design and why woodpeckers don’t get concussions.”—**Jennifer Ouellette, author of *The Calculus Diaries***

“Football is a great game to watch, but Allen St. John and Ainissa Ramirez make it a great game to think about as well. Where else are you going to find a discussion of Heisenberg’s influence on the NFL or a serious comparison of Isaac Newton and Vince Lombardi? This book is a terrific read.”—**James Trefil, Clarence J. Robinson Professor of Physics at George Mason University and co-author of *The Dictionary of Cultural Literacy***

“A fascinating melding of science and sport, at once lively and illuminating, rich with knowledge of the game and arresting explanations of its winning strategies.”—**Daniel J. Kevles, Yale University**

#### About the Author

An award-winning journalist, **Allen St. John** is the author of seven books, including *The Billion Dollar Game* and *Clapton’s Guitar*, and co-author of *The Mad Dog 100*. He has written for *The Wall Street Journal*, *The New York Times Magazine*, *U.S. News & World Report*, *Men’s Journal*, *Maxim*, *Playboy*, *Rolling Stone*, *The Village Voice*, Esquire.com, theatlantic.com, and Salon.com, and he blogs for Forbes.com. His work has been featured in *The Best American Sports Writing*. A graduate of the University of Chicago, he lives in Montclair, New Jersey, with his family.

**Ainissa G. Ramirez, Ph.D.**, is dedicated to making science fun for people of all ages. She is the author of the TED Book *Save Our Science*, based on her TED talk on improving science education. She has also been an engineering professor at Yale University. She received her Ph.D. from Stanford University in materials science and engineering and holds several patents, one of which was awarded MIT’s top 100 young innovators award.

#### Users Review

##### From reader reviews:

###### **Janice Nolan:**

The particular book *Newton's Football: The Science Behind America's Game* has a lot associated with on it. So when you make sure to read this book you can get a lot of gain. The book was authored by the very famous author. McDougal makes some research just before write this book. This book very easy to read you can get the point easily after scanning this book.

###### **Celia Redmond:**

This *Newton's Football: The Science Behind America's Game* is fresh way for you who has attention to look for some information because it relieves your hunger associated with. Getting deeper you in it getting knowledge more you know or you who still having small amount of digest in reading this *Newton's Football: The Science Behind America's Game* can be the light food for you because the information inside this kind of book is easy to get by simply anyone. These books produce itself in the form which is reachable by anyone, that's why I mean in the e-book contact form. People who think that in book form make them feel tired even dizzy this reserve is the answer. So there is absolutely no in reading a reserve especially this one. You can find what you are looking for. It should be here for you actually. So, don't miss the idea! Just read

this e-book variety for your better life as well as knowledge.

**Ida Resler:**

You can get this Newton's Football: The Science Behind America's Game by check out the bookstore or Mall. Simply viewing or reviewing it could possibly to be your solve problem if you get difficulties for ones knowledge. Kinds of this guide are various. Not only by means of written or printed but additionally can you enjoy this book by means of e-book. In the modern era including now, you just looking because of your mobile phone and searching what their problem. Right now, choose your personal ways to get more information about your publication. It is most important to arrange you to ultimately make your knowledge are still upgrade. Let's try to choose right ways for you.

**Patrick Duenas:**

As a pupil exactly feel bored for you to reading. If their teacher questioned them to go to the library as well as to make summary for some guide, they are complained. Just small students that has reading's heart or real their interest. They just do what the trainer want, like asked to go to the library. They go to generally there but nothing reading significantly. Any students feel that studying is not important, boring as well as can't see colorful images on there. Yeah, it is to get complicated. Book is very important for you personally. As we know that on this era, many ways to get whatever we wish. Likewise word says, many ways to reach Chinese's country. So , this Newton's Football: The Science Behind America's Game can make you experience more interested to read.

**Download and Read Online Newton's Football: The Science Behind America's Game By Allen St. John, Ainissa Ramirez  
#XVRU42IQ17M**

# **Read Newton's Football: The Science Behind America's Game By Allen St. John, Ainissa Ramirez for online ebook**

Newton's Football: The Science Behind America's Game By Allen St. John, Ainissa Ramirez Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Newton's Football: The Science Behind America's Game By Allen St. John, Ainissa Ramirez books to read online.

## **Online Newton's Football: The Science Behind America's Game By Allen St. John, Ainissa Ramirez ebook PDF download**

**Newton's Football: The Science Behind America's Game By Allen St. John, Ainissa Ramirez Doc**

**Newton's Football: The Science Behind America's Game By Allen St. John, Ainissa Ramirez MobiPocket**

**Newton's Football: The Science Behind America's Game By Allen St. John, Ainissa Ramirez EPub**