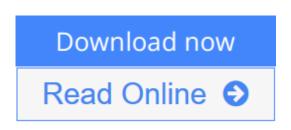


Fight Like a Physicist: The Incredible Science Behind Martial Arts (Martial Science)

By Jason Thalken



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CRUSHES MYTHS. UTTERLY BRILLIANT!

An in-depth look into the physics behind martial arts

Whether you are an experienced martial artist or a curious enthusiast, this book gives you an "unfair advantage" by unraveling the complex science of effective fighting techniques and examining the core principles that make them work. Did you know?

- Momentum is for knocking people over
- Energy is for breaking bones and causing pain
- A haymaker travels 3.14159 times farther than a jab
- You are only an "object" when you are rigid

Fight Like a Physicist blends inquiry, skepticism, and irreverent humor—all while punching holes in myth and mysticism.

Highlights include

• Making physics your "unfair advantage," in the ring and on the street

• Examining center of mass, pi, levers, wedges, angular momentum, and linear momentum for martial artists

- Reducing traumatic brain injury in contact sports
- Exposing the illusion of safety provided by gloves and helmets

- Overturning conventional wisdom on compliance during an assault
- Busting up Hollywood action clichés

Fight Like a Physicist reads like a manifesto on the rational practice of martial arts. It's intelligent, fun, and dangerous—and nothing short of iconoclastic.

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Editorial Review

Review

Thalken explores how physics can be applied to martial arts. More than a body of facts, Thalken sees physics as a practical discipline: an approach that can be applied to any number of pursuits. His chosen pursuit is martial arts. As in physics, the author says, no authority or status can make a martial artist's technique effective. Testable and reproducible results hold all the power. His thesis is that by understanding the way the human body moves and balances, a martial artist can gain the upper hand on opponents who do not approach their sport scientifically. Thalken outlines the way concepts from physics reveal strategies in fighting?the center of mass is important for leg sweeps and grappling, hits that travel shorter distances will arrive with greater force and speed, etc. He also debunks common misconceptions about equipment. For example, boxing gloves are not "safer" than bare knuckles; while they distribute force over a wider area, causing fewer breaks in the skin, they allow the fist to strike with more momentum and hit hard surfaces (like the head) more frequently. He also delves into many of the myths propagated by media portrayals of martial arts as well as the pseudoscience propagated by practitioners of martial arts themselves. A relatively short book, the work is more primer than instruction manual, advocating a perspective as opposed to promoting individual exercises or training regimens. There is an infectious energy to Thalken's prose, one that sells both the no-nonsense combat analysis and the cool skepticism of the physics discussion. As a guidebook, the text has very little fat: section titles like, "Where Is My Center of Mass, and Why Do I Care?" keep readers assured Thalken isn't trying to force more information on them than needed. The author is an apt communicator of even the more abstract ideas, putting them into a simple, intuitive context. It's unclear if thinking like a physicist can actually win a fighter matches, but it certainly provides a new grammar for thinking about the ways in which our bodies move. An enlightening book for martial artists seeking a competitive edge. (Kirkus)

Fight Like a Physicist is a cool concept that makes physics tangible for fans of fighting sports. As a martial arts practitioner with a doctorate in physics, Jason Thalken has an interesting perspective on fighting sports, and he applies his knowledge of scientific principles to his chosen sport in Fight Like a Physicist. Though there probably isn't quite enough material here for a full book, the early sections do a solid job explaining the physics in a relatable way that gives fighters some perspective on how to incorporate scientific knowledge to fight better. Fight Like a Physicist finds a nice middle ground in terms of the material's tone ?the writing is simple enough for its target audience to understand and apply, while it still delivers meaningful scientific concepts. For example, the book uses levers as a way to explain the relationship between distance and force, and explains how the dispersal of force on impact can make particular blows more or less effective. Thalken includes numerous charts and graphs throughout the book. Like many of the concepts he writes about, these visual representations will look familiar to anyone who took physics in high school, but may not have thought about the material since then. He throws in the occasional "math box," to highlight mathematical concepts like the force curve or the center of mass, while using both equations and sample fight-based scenarios. Combined, these elements make Fight Like a Physicist both a useful primer and an enjoyable refresher. Though the early chapters are strong, the book does lose its way a bit late, with chapters that seem shoehorned in. Thalken includes a chapter about brain injuries affecting football players (including Chronic Traumatic Encephalopathy), and posits a theory about how applied force might manifest in such injuries. However, the author also has a patent pending on a new helmet?which he discloses honestly, but which does make an already tangential chapter feel like a sales pitch at times. Other sections criticize practices like tai chi for their lack of scientific basis, or advocate fighting back against criminals in dangerous real-life situations, but these parts feel unnecessary, and the tone deviates from the book's strengths. They don't quite fit the

fighting-sports theme, and the science in these chapters is less than clear cut, especially when compared to the universal principles discussed earlier. At its best, in the early chapters, Fight like a Physicist is a cool concept that makes physics tangible for fans of fighting sports, and can just as easily get more science-minded readers interested in those sports. (Jeff Fleischer *Foreword Reviews, March 12, 2015*)

About the Author

Jason Thalken has a PhD in computational condensed matter physics from the University of Southern California, and bachelor's degrees in physics, mathematics, and philosophy from the University of Texas. He is the inventor on eight patent applications for data science and modeling in the financial services industry, and one patent application for protecting the brain from trauma in such sports as boxing, MMA, and football. Jason has studied and competed in numerous martial arts styles since 1995 and has a black belt in hapkido under Grand Master Ho Jin Song. Jason Thalken resides in Seattle, Washington.

Users Review

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Jamie Sparks:

The knowledge that you get from Fight Like a Physicist: The Incredible Science Behind Martial Arts (Martial Science) will be the more deep you searching the information that hide within the words the more you get considering reading it. It does not mean that this book is hard to understand but Fight Like a Physicist: The Incredible Science Behind Martial Arts (Martial Science) giving you buzz feeling of reading. The article writer conveys their point in a number of way that can be understood by anyone who read that because the author of this guide is well-known enough. This particular book also makes your personal vocabulary increase well. Therefore it is easy to understand then can go along with you, both in printed or ebook style are available. We advise you for having this kind of Fight Like a Physicist: The Incredible Science Behind Martial Science) instantly.

Jeffrey Primo:

Spent a free time and energy to be fun activity to accomplish! A lot of people spent their free time with their family, or their own friends. Usually they accomplishing activity like watching television, likely to beach, or picnic in the park. They actually doing same task every week. Do you feel it? Do you want to something different to fill your own free time/ holiday? May be reading a book could be option to fill your no cost time/ holiday. The first thing that you will ask may be what kinds of publication that you should read. If you want to try out look for book, may be the book untitled Fight Like a Physicist: The Incredible Science Behind Martial Arts (Martial Science) can be excellent book to read. May be it can be best activity to you.

Salvatore Anthony:

People live in this new time of lifestyle always attempt to and must have the extra time or they will get large amount of stress from both everyday life and work. So, when we ask do people have time, we will say absolutely without a doubt. People is human not really a huge robot. Then we ask again, what kind of activity do you possess when the spare time coming to a person of course your answer may unlimited right. Then do you try this one, reading books. It can be your alternative inside spending your spare time, often the book you have read is usually Fight Like a Physicist: The Incredible Science Behind Martial Arts (Martial Science).

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