



Rock, Paper, Scissors: Game Theory in Everyday Life

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Praised by Entertainment Weekly as “the man who put the fizz into physics,” Dr. Len Fisher turns his attention to the science of cooperation in his lively and thought-provoking book. Fisher shows how the modern science of game theory has helped biologists to understand the evolution of cooperation in nature, and investigates how we might apply those lessons to our own society.

In a series of experiments that take him from the polite confines of an English dinner party to crowded supermarkets, congested Indian roads, and the wilds of outback Australia, not to mention baseball strategies and the intricacies of quantum mechanics, Fisher sheds light on the problem of global cooperation. The outcomes are sometimes hilarious, sometimes alarming, but always revealing.

A witty romp through a serious science, Rock, Paper, Scissors will both teach and delight anyone interested in what it takes to get people to work together.

Rock, Paper, Scissors: Game Theory in Everyday Life Details

Date : Published November 4th 2008 by Basic Books (first published 2000)

ISBN : 9780465009381

Author : Len Fisher

Format : Paperback 288 pages

Genre : Nonfiction, Science, Mathematics, Psychology, Economics

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From Reader Review Rock, Paper, Scissors: Game Theory in Everyday Life for online ebook

Riku Sayuj says

Lively and full of non-technical examples... but too shallow unless it is the first book on the subject that you are reading. Get a better book if you are serious about the subject, there are some very good ones out there. Not worth a full review I guess.

Nathan Rose says

Awesome book! It took me three check-outs and \$2.40 in late fees, but I finally finished it. Well worth the time/money.

Kater Cheek says

Game Theory is one of those subjects I only know a little bit about, and this book promised to lead me to understand it with a cheerful, pop-science writing style. In a way, it succeeded, in that it's peppered with personal anecdotes, some of which are quite enjoyable.

But as far as getting me to understand and be enthusiastic about game theory, it failed. I already understand about brinkmanship and the prisoner's dilemma, and how rock-paper-scissors work, so Fisher's descriptions added little. In fact, in some ways, they made it worse. He has several charts which explain the outcomes of various decisions made in the prisoner's dilemma, and, try as I might, I could not make any sense of the charts. Maybe it was a typo? I don't know. I also would have liked to understand the concept of quantum game theory, and about how he came to the numbers of the formula used in the Nash bargaining theory. I read the passage over several times, and didn't understand it, which is quite disappointing, as I am neither completely ignorant of game theory nor am I unintelligent. It's just that he assumed we knew what was going on, and skipped past with only the briefest of descriptions.

Another problem I had with this book was the structure. It had numerous footnotes and text blocks that sometimes went on for several pages, forcing me to flip back and forth, and lose my train of thought about what I'd been reading. In short, while the anecdotes were entertaining, they couldn't overcome the fact that Fisher's explanations weren't clear and lucid enough for me.

Andrew Kaiser says

No stars don't mean a bad book; it just means a bad system for rating one.

Fisher's approach to game theory was scientific, but without its esotericism. The subject is no longer overwhelming, and I now see game theory in my life everyday. For example, I want people to hear my music, but not if they don't like it. Strange, this game theory.

Kaara says

This book is a sort of layman's explanation of game theory and how game theory, which is generally associated with competition, can be employed to promote cooperation among individuals, communities, and nations. Sounds promising--I like learning, I like cooperation, let's learn about new ways toward cooperation!

Unfortunately, the author simultaneously gave explanations too large-scale and gave examples too small-scale. What I mean is, the premise, reasoning, and graphic illustrations of most of the game theory dilemmas were generally not broken down enough or clear enough for me to really understand them to my satisfaction, while the examples he gave were so simplified and in some cases silly that rather than clarify things, they just frustrated me. For example, you can't gauge people's trust by putting a coat down in front of women confronting puddles and seeing if they'll accept your offer to use the coat as a Queen Elizabeth did! They are responding to you suspiciously because that's an anachronistic and just plain weird thing to do in a 21st century urban center among strangers, not because they are mistrustful! Helllooooo, basic sense of social norms.

Many of Fisher's evidence or examples, were based on social experiments he performed on acquaintances, strangers, or guests of parties he was invited to. As a researcher, he should know that personal anecdotes do not evidence make--and one hopes he might soon be informed that invitations to parties might dwindle if he keeps acting on his penchant for asking annoying questions or favors of the guests. In fact, I have to say in many cases I simply didn't believe his examples actually occurred--they were so simplistic that I assumed he made them up to make a point. This is especially frustrating because I can 100% see how game theory dilemmas DO provide the framework for almost every interaction people have. There was no need to turn to personal anecdotes of no research significance and dubious verity. In my mind, Fisher lazed out. I want to see studies. I want to see examples taken from the news, from history, from something beyond his small life. And I want properly referenced footnotes.

The other thing that bothered me, and this might not be the author's fault but simply be the way of game theory, was the complete lack of interest in or acknowledgment of individual psyches. There was a slight nod to the effect a person's cultural milieu has on his behavior, but nothing about a person's personality. Not everyone is going to act the same in a Prisoner's Dilemma or a Stag Hunt, because people's natural inclinations toward honesty, toward their community participation, toward sociability, toward all sorts of things, differ, from person to person. Game theory, or at least Fisher's depiction of game theory, doesn't seem to take this in to account at all.

All that said, I did learn something from the book. You do start understanding the world in a somewhat different way when you understand these dilemmas. There have been several times the past week or so, particularly in regards to this absolutely heinous set of condo association issues, when I've said to myself, "Stag Hunt! This is just like the Stag Hunt!" I've also been thinking a bit more about the solutions he offers, though for the most part they are really silly (he suggests a friend of his who is a police officer brings a dog with him to question suspects as a "neutral third party," and this shows the value of neutral third party. Um! A police dog is NOT a neutral third party! I'd call this tactic something significantly simpler and less cooperation-oriented, such as "displaying power" or "intimidating"!)). In all, I guess I'm glad I have a basic knowledge of game theory, but was expecting a book with more solid explanations, research, and examples.

Minh Nh?t says

2.5*

??u n?m làm cái review m?n m?n :)), cu?n này vi?t chán(+ c?m giác là d?ch d? n?a) tr? cái note ? d??.

Nói t?i lý thuy?t trò ch?i thì hay nh?c t?i nan ?? tù nhân(the prisoner's dilemma) và phân tích c?a nó là Nash equilibrium. Nh?ng có 1 v?n ?? s?m h?n, d? n?m b?t h?n mà thú v? không kém là bài toán chia bánh.

Có 1 chi?c bánh, cách nào chia cho 2 ng??.i mà ai c?ng c?m th?y là công b?ng.

Gi? d? b?n ngh? mình c?t ra làm "đôi" là công b?ng r?i, nh?ng th? ngh? tr??ng h?p khó h?n là ??a kia r?t m?t d?y, tr? khi là ph?n c?a nó t? 51% tr? lên nó m?i ch?u, nh?ng b?n c?ng là m?t ??a c?ng r?n không kém. Và ?ó h?n nhiên là k?t qu? th??ng x?y ra trong th?c t?, m?i ng??.i b?t h?p tác v?i nhau.

Gi?i pháp thì ko rõ ???c ai ??a ra, nh?ng ???c John von Neumann nh?c t?i trong cu?n sách ??u tiên v? game theory là Theory of Games and Economic Behavior. Theo ?ó cách chia h?p lý nh?t là m?t ??a có quy?n chia và ??a còn l?i ???c quy?n ch?n -> bingo !

Theo ?ó von Neumann ??a ra ??nh lý miniMax, di?n nôm ra là trong trò ch?i t?ng b?ng không, thì t?t nh?t là t?i thi?u hóa thi?t h?i(t?i ?a), ngh?a n?u b?n là ??a c?t bánh thì b?n s? c?t sao cho thi?t v? mình(luôn là ph?n "nh? h?n" trong 2 ph?n) là nh? nh?t. ??c ?i?m c?a cái ???c g?i là trò ch?i, chính là b?n ph?i suy ngh? nh? là ??i th? c?ng có suy ngh? nh? b?n -> nghe hack não quá

Quay l?i cu?n sách, thì tác gi? có cái ?áng k? là nêu v?n ?? v?i 3 ng??.i ch?i. Gi? d? nh? trò búa-kéo-bao.

Gi? nh? có 1 ??a vô cùng ngây th?, nó luôn ra 1 trong ba th? nh? luôn ra búa, thì h?n n?u ch? 2 ng??.i ch?i ph?n th?ng s? luôn v? b?n, nh?ng n?u có 3 c?ng lý tính nh? b?n thì cu?i cùng trò ch?i l?i r?i vào th? l??ng nan.

Ti?c là ph?n này ch? ???c cu?n sách nói l??t qua nên h?i th?t v?ng -,-, m?y ph?n còn l?i thì c?ng ?ã ??c ?âu ?ó r?i

Ami Iida says

In this book the contents are not accompanied with respect title .
It is inadequate mathematical commentary.
I recommend you to read other game theory's books.

Sarah says

A non-mathematical discussion of how game theory applies to daily dilemmas and negotiations, this was a

surprisingly easy read. Fisher's explanations are consistently clear (no facility with higher math required) and his writing light-hearted and entertaining. From the many examples provided from Fisher's personal life, it seems one invites him to a dinner party at the risk of turning the evening into an experiment in game theory. (Personally, I think that'd be a great way to enliven an evening, but then I spent my last dinner party discussing the implications of the forensic DNA typing I'd performed on one of my guests and her five siblings. My idea of entertainment may be suspect.)

I particularly enjoyed the discussion of computer models as a method for examining which strategies work best for determining the optimal outcome between two (or more) self-interested parties.

I would perhaps have liked a more detailed look at the applications of game theory on a political and global scale. The percentage of the book devoted to introducing the subject and personal exemplars seemed to overwhelm the last couple chapters, which is where Fisher ultimately got around to providing concrete suggestions for daily applications.

But this is a minor nitpick. I'm hoping to track down Fisher's other books as well.

Hiep Nguyen says

Quite appreciate the rather new approaching way of the book: generalizing daily matters into physics matrix with considerable explanation of human motivations & behaviors.

Yet, not easy to digest & quite many implications are just in the surface level, not deep enough for practice. Anyway, a worth-reading book in human psycho.

Phoenix says

Non-Mathematical Introduction to Game Theory and the Generating Co-operative Behaviour

What makes this book so enjoyable is that it is densely loaded with interesting anecdotes and examples. This is popular math/science writing at its best and the material is easy enough to understand without any technical background. At times the lack of filling in that detail is annoying. For example he (author name) writes about a three way duel called a "truel", where the A who shoots first has a $1/3$ chance of hitting his target, the B has a $2/3$ chance and the C will hit his target 100% of the time. If he shoots B and succeeds he's a dead man, because A always hits his target. If he shoots A and misses then B and C may take him out, but if he hits A there is a $2/3$ chance that B will hit A and so forth. So what is A's best strategy? The author gives a surprising solution however he leaves without the mathematical discourse or even graphical display to convince you of the conclusion. (Hint - get a large sheet of paper and draw a tree showing all possible outcomes. Remember that C is a perfect shot, so at most the truel will go two rounds. Look at all possible outcomes first before taking into account that each truelist will choose her best chance for survival.)

The core idea of Game Theory is a payoff matrix showing the possible cost/benefits of making a choice. Fisher starts with a two player interaction in a single encounter where neither player is aware of the other's choice in advance - which was the basis of John Nash's initial discovery - most readers will recall the Academy Awarded movie "A Beautiful Mind". However when you introduce some variation in the scenario the behaviour changes. If you add more than two players (ie: the Truel, systems of alliances between nations)

third parties act as a spoiler that influences the actions of the others. Fisher also looks at the work of Robert Axelrod's *The Evolution of Cooperation* (I consider it one of the key "must-read" books in social work or political science, bar none) where there are more than one interaction so that both history and reputation of the players are taken into account. Lastly there is a final progression where each player has varying degrees of certainty as to the other player's choices - Fisher theorizes that this may be made possible by quantum computing (not cheating - but that would have made an interesting topic too.) and the principle of "entanglement".

Recommended for teachers and students and a general audience because. It's entertaining and informative as to the relevance of mathematical models to everyday life. Personally I would have like more details but for that I'd recommend Anatol Rapoport's classic *Two-Person Game Theory* which I think I'll repurchase having lost my copy to my eldest brother. The layout of some of the boxed side discussions in the book were a bit distracting as they occasionally ran on for a few pages and they should be have been set in smaller type or relegated to the page notes at the back. In general those supplemental notes were quite good but I found the lack of two specific follow ups frustrating: He also refers to a video showing the results of Axelrod's work - it would be nice to know where one could find it; on pp 121 he talks about a new model used by the United States government to auction off radio frequencies netting over 100 billion in EXTRA revenue - but he only talks about the results and leaves out an explanation of how that model worked or a comparison to less effective techniques used in Europe, Asia and elsewhere.

Joe says

This would have worked better as a longform magazine article. Fisher talks about game theory and how a better understanding of it can lead us to promote cooperation instead of competition. That's a nice theory, and he does a decent job of explaining it, but I don't think there is enough meat in this subject matter to justify 200 pages.

Fisher quotes Steven Postrel at one juncture. The quote and Fisher's explanation is itself a good encapsulation of the entire book. "'Game theory is a toolbox for constructing useful models, rather than an empirically substantive theory. Its power comes from imposing logical discipline on the stories we tell.' In other words, the science is not a tool for controlling the world so much as a tool for helping us to understand it in a new and informative way. It is a guide to decision making that gives us pointers to what is really going on, not an auto-decision maker into which we just feed the facts."

Given that, the rest of the book is really just commentary. Fisher's conclusion, and here I agree, is that it is better to find ways to cooperate in almost every situation. When confronted with someone who won't cooperate, Fisher posits that it is okay to protect one's own interests; particularly if doing so may lead back to cooperation. In that sense the book has some useful tips for promoting cooperation. These can be found in the last chapter.

The sentence above as a thesis, with a few examples and explanations, and the last chapter as a conclusion would have made this a very interesting magazine article.

Dmitri says

Update: Instead of this book, you should read *The Compleat Strategyst* by J.D. Williams. It's nearly 60 years old and everything *Rock, Paper, Scissors* wishes it could be. Don't be put off by it being published by Rand- it's actually very easy to understand and surprisingly, very funny. Also *The Compleat Strategyst* is available for free in PDF form from Rand's website.

Original review: Holy crap! While I was interested in the first 100 pages or so, when the author actually wrote about game theory (albeit in a simplistic pedestrian manner), the last hundred have been excruciating. Honestly, I'm about 40 pages from the end, and I try not to leave books unfinished, but I just don't think I can go on.

The first 60 pages of the second half have been about trust and how to elicit such. But the author has taken advantage of my trust in him to write a book about game theory. The result is that this book has made me angry!

My purpose in reading this book was to brush up on the basics before reading something a little heavier- but I could have just watched *Beautiful Mind* if I was in need of a time waster.

Maybe, if one has not had any introduction to game theory, and they just want to know what it is, then *perhaps* this book could help. But reading the wikipedia article on it would be ten times more informative.

Tr?n Chi says

Không ?ánh giá cao kh? n?ng ?ng d?ng nh?ng lý thuy?t trong sách vào ??i s?ng, ch? thích h?p ?? làm quen v?i lý thuy?t trò ch?i và m?t s? các th? l??ng nan trong cu?c s?ng. Sau khi ??c xong quy?n sách này, b?n có th? nh?n ra nh?ng th? l??ng nan ?? r?i tìm cách tránh nó ho?c gi?i quy?t nó. Nh?ng cách gi?i quy?t mà tác gi? ??a ra th?t ra c?ng áp d?ng ???c nh?ng nó ki?u nh? ?ã ??ng hóa v?i cu?c s?ng con ng??i. Ch?ng h?n nh? vi?c 2 ng??i ?i ng??c h??ng s? d? x?y ra trình tr?ng 2 ng??i cùng nh??ng ???ng l?p ?i l?p l?i t?o nên m?t th? l??ng nan thú v?, v?y gi?i quy?t nh? th? nào? Thông th??ng chúng ta s? bu?c ph?i lên ti?ng b?o ng??i kia ?i tr??c – n?u l?ch s?, ho?c yêu c?u h? nh??ng ???ng, tác gi? g?i nó là gi?i pháp "?àm phán", v?y là chúng ta ?ã áp d?ng gi?i pháp ?ó m?t cách vô th?c mà không c?n ??c quy?n sách này. Tuy v?y c?ng nên ??c n?u mu?n có c? s? ki?n th?c ?? ?i sâu h?n vào lý thuy?t trò ch?i.

Benjamin says

Game theory investigates the motives and dilemmas of social interactions relative to selfishness and cooperation. As we understand game theory we can increase our chances of finding satisfying resolutions by adopting new strategies or even by just having a clearer view of social dilemmas and their underlying causes. In his book on the subject, *Rock Paper Scissors*, Len Fisher gives the following ten tips:

1. Keep the same strategy if you're winning, shift strategies if you lose.
2. Bring a third player in. They can be a known negotiator or a known cheater – either way it helps.
3. Set up reciprocity. Knowing that you'll deal with people after a conflict can increase the incentive to cooperate.
4. Limit future options or provide incentives. This shows that you are committed to the best possible

outcomes.

5. Offer trust. It's simple, but it can be effective.
 6. Create a situation from which neither party can escape from without loss.
 7. Use side-payments to maintain cooperation.
 8. Know the seven deadly dilemmas and avoid the worst outcomes:
 - a. The Prisoner's Dilemma – all must cooperate or all fail.
 - b. The Tragedy of the Commons (a series of Prisoner's Dilemmas) –self-interest prevents cooperation despite impending long-term failure.
 - c. The Free Rider problem - people taking advantage of a community resource without contributing to it.
 - d. Chicken/Brinkmanship - each side tries to push the other as close to the edge as they can, with each hoping that the other will back down first.
 - e. The Volunteer's Dilemma - someone must make a sacrifice on behalf of the group, but if no one does, then everyone loses out.
 - f. The Battle of the Sexes - two people have different preferences, but each would rather share the other's company than pursue their own preference alone.
 - g. Stag Hunt - cooperation between members of a group gives them a good chance of success in a risky, high-return venture, but an individual can win a guaranteed but lower reward by breaking the cooperation and going it alone.
 9. Work to create transparent processes that are inherently fair.
 10. Favor smaller groups, it's easier to foster trust and cooperation
-

Bestand says

Like other reviewers, I found this book light on details. I was also misled to believe that it was primarily a book on game theory. Having now read it and been disappointed in its game theory content, I can appreciate its value as a junction between game theory and political science.

The author has clearly tried to document his attempt to learn about game theory as a tool to more effective human interaction. He hints at possible personal reasons for this. I project onto him a need to form better governments or organize collective action to solve problems of benefit to all humanity--poverty, climate change, pollution, biodiversity, obesity, etc. If the book fails to resolve these lofty aims, it is due to the immensity of the problem. I assume the author came to no definite conclusions, and this book is the result.

I appreciate his personal account of his learning, but (I hope) he learned more than he covers in the book. I am left at the end with a hope to use game theory to grease the social cogs but without the mathematical machinery to do so. I had hoped that this might be the kind of book that a math class could read, and I think it's probably at a high school level. My fear that it contains too little math is mitigated somewhat by the well-documented endnotes. High school students could probably find something interesting to read and explain out of all the examples. I would, however, appreciate a pedagogical guide or bibliography to game theory.
