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"Conway is a creative genius." --Martin Gardner

An unabashed original, John Horton Conway is Archimedes, Mick Jagger, Salvador Dali, and Richard Feynman all rolled into one--a singular mathematician, with a rock star's charisma, a sly sense of humor, a polymath's promiscuous curiosity, and a burning desire to explain everything about the world to everyone in it.

Born in Liverpool in 1937, Conway found fame as a barefoot Cambridge professor. He discovered the Conway groups in mathematical symmetry, and invented the aptly named surreal numbers, as well as the cult classic Game of Life--more than a cool fad, Life demonstrates how simplicity generates complexity and the game provides an analogy for all mathematics and the entire universe. Moving to Princeton in 1987, as a mathemagician he deployed cards, ropes, dice, coat hangers, and even the odd Slinky as props to extend his winning imagination and share his mathy obsessions with signature contagion. He is a jet-setting ambassador-at-large for the beauties of all things mathematical.

Genius At Play is an intimate investigation into the mind of an endearing genius, laying bare Conway's personal and professional idiosyncrasies. The intimacy comes courtesy of the man himself. He generously granted Roberts full access, though not without the occasional grudge and grumble: "Oh hell," he'd say. "You're not going to put that in the book. Are you?!?

Genius At Play: The Curious Mind of John Horton Conway Details

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Bruce says

Perhaps for those who prefer Ulysses to The Count of Monte Cristo. The math itself is generally kept at a "let's not lose the mathphobic folks" level. That leaves: the process of creating/discovering the math, standard biographical stuff (place of birth, favorite cereal etc.), Conway vignettes, and lots of Conway quotes. The exposition of the creation/discovery process was far too discursive for my taste; with the narrative jumping all over the place, I couldn't engage with any of the stories. (Perhaps some deeper point about the creative process was being made here, but that sort of thing is above my head.) Conway's third wife summarizes the standard biography stuff: "I think John [Conway] is the most selfish, childlike person I have ever met." Regarding vignettes, I won't spoil them, but do not expect a whole lot of Feynman like escapades. That brings me to Conway's quotes. "Were Conway not so long-winded, this biography might have wrapped up some time ago." Conway's expansiveness would have been fine, except that I could not comprehend his Yoda like pronouncements. To sum up, if you like the following passage, I suspect you will love this book: "[Conway and his co-authors] would engage with a game, interface with it on a metaphysical level. 'With a game, you shouldn't do anything as vulgar as play it,' said Norton." But I am vulgar, and even worse, an engineer, a decidedly non-genius one at that.

Bill Yancey says

Entertaining. Occasionally boring.

Konrad Senf says

Roberts has produced a compelling sketch of Conway both as a (highly creative) mathematician and as an individual, and somehow also managed to make the fascination of (more or less pure) mathematics palpable for the layperson. Through their (Roberts and Conway's) journeys and (often humorous) interactions, we gain a small window into Conway's background, work ethic, habits, mindset, and struggles (alongside refreshing hints of how at least some of his image was consciously constructed), all of which the academic in me would love to draw some lessons from.

Bonus neuroscience content: Towards the end of the book, they pay a visit to Sandra Witelson, the neuroscientist who has made it her mission to study the brains of individuals thought to have remarkable minds. I am only very loosely acquainted with her work, so I may just be missing the complete picture, but I found myself nodding along to the more skeptical stance of neuroscience-layman Conway in response to some of her thoughts and methods, such as when she said, "I have people asking me whether Einstein's brain got to be the way it is because he did so much physics. And of course I think it is the other way around. I think he did so much physics because his brain had a certain anatomy."
I doubt her narrative, but that is far from the point of the book, so I'll leave it at that. Suffice it to say that I don't think that her fMRI studies of Conway will produce any meaningful insights into his creative ingenuity.

I took a lot of additional pleasure in the vivid scenes of his life in Cambridge (between the 50s and the 80s), both in the sense of its historical insights, as well as that reminiscent delight of tracing a historical narrative in a physical place that one is (at least slightly) familiar with.

I really enjoyed this trip, and look forward to further encounters with mathematical ideas and concepts (and personalities). (Interestingly, the "beauty and truth" of mathematics, as propagated here, conveniently show the seduction with which certain pockets of theoretical physics may have gotten lost in math.)

Anirudh Wodeyar says

I gave it 5 stars for the simple reason that I've never read a book like this, let alone a biography. It was simply unique in how it set out to frame its subject, a mathematician dealing in truly abstract spaces. I can't say I know that much more about surreal numbers now that I did before reading the book, but I did get a sense of what it meant to think about them and that was something. Also, I know far more about the Game of Life than I care to now.

Peter Mcloughlin says

Biography of a Conway who I have bumped up in readings on mathematics in other places. He is the inventor of the game of life a cellular automata program that like a popstars number one hit would get sick of talking about. I really loved his idea of nonstandard analysis and surreal numbers. This rather clever idea expands Cantor's infinite paradise. Conway was a mathematical genius who seemed to be having fun the whole time. Like the title says he was a genius at play. You gotta love someone who does important work and enjoys himself the whole time. Fun biography.

Maurizio Codogno says

Nella prefazione di questo libro si spiega che John Conway ha un ego così grande che si è scelto di usare una font specifica per trascrivere le sue parole Questo dovrebbe far capire a che tipo di biografia ci troviamo davanti. Non so esattamente quanto Conway sia noto al grande pubblico italiano: forse qualcuno conosce *Life*, che in fin dei conti è solo stato un suo interludio giovanile e che ormai lo infastidisce anche un po'. Come biografia il libro è probabilmente troppo involuto: c'è una specie di filo conduttore ma si continua a saltare dal passato al presente, e la memoria di Conway per minuzie come i dettagli della sua vita è praticamente nulla. Diciamo che la struttura del libro assomiglia molto a quella dell'ufficio di Conway. In compenso, quasi come un documentario - probabilmente se ne tirerebbe fuori uno niente male - le interviste ad altri nomi sacri della matematica sono interessanti perché ci permettono di vedere la matematica della fine del ventesimo secolo in modo più ampio. Non preoccupatevi se non avete mai capito nulla di matematica: continuerete a non capirla. Ma se siete attenti potrete capire perché c'è gente che la ama così tanto.

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nikkia neil says

Thanks Bloomsbury USA and netgalley for this arc.

Awesome biography! After I read this book, I looked Conway up a youtube. Wish I could have understood the games more, but just reading about how he never stopped learning and having fun with math was cool.

Romanette says

Roberts has written a thorough, readable biography of Donald Coxeter, but this is a very different kind of book. Conway has clearly spent his whole life creating and projecting an image of himself, and despite communications with his colleagues and family, Roberts has not really penetrated it. In fact, by spending months with him, she seems to have bought into it. Conway's words are presented in a different font, like those of Jesus in the Bible. While many modern mathematicians exhibit playfulness -- having long since ceased worrying about the nature of the connection between mathematics and reality and taking pleasure from the richness of the worlds of their imagination -- few if any have raised it to the level which Conway has in being the motor of their thinking. And few if any have lived such a self-indulgent personal life. He leaves his mail unopened, he does not use e-mail, he relies on his wives and colleagues to filter out most contacts, he improvises his class presentations. He rarely feels a need to publish, although he measures his intellectual functioning by his ability to generate a publication-worthy idea. He relies on his wives to mediate his worldly affairs and sleeps around whenever the opportunity arises. Roberts seems never to confront him about any of this, or delve into how he makes others feel (failing to probe others' refusal to discuss this), she merely presents them as aspects of his curious and unique personality. Perhaps he is just a quaint relic of Oxonian quirkiness, but personally I can't wait to hear how the female mathematicians and physicists of this generation handle their relationships.

Roberto Rigolin F Lopes says

Watch out both your left and right {L|R}, there are galaxies of numbers here. Conway is a mathematician with infinite degrees of freedom and fun. Outrageous fella. Awful smart. Naturally obsessed with puzzles. Because mathematics is largest puzzle ever built, a sort of LEGO that you can create your own pieces or reuse some from friends. Amusing that life (evolution) has been wisely rewarding puzzle-solving with pleasure. Not like sex, but lasts longer! Conway would shout. He even created automata life himself. Surreal. Yeap, those as well. Knuth even wrote a cute book about Conway's Surreal Numbers. And there is more... This biography is delicious in all dimensions.

Jean says

This is a biography of the mathematician John H. Conway. Roberts quotes Conway throughout the book along with corroborating facts with other people who were there. Many of the mathematicians quoted in the book have their own biographies written.

The book is written with great appreciation for Conway in spite of his serial philandering and absolute rejection of all responsibility for his personal affairs. Roberts covers Conway's suicide attempt. Of course a book about a mathematician will have math in it.

He discovered the Conway groups in mathematical symmetry. His names is in group theory, game theory, knot theory, abstract algebra, geometry and his famous creation of Conway's Game of Life, a set of rules for

propagating a pattern that generates incredible complexity.

The book is well written and at times hilarious. Most of the information comes from the author's interviews with Conway. I read this as an audiobook downloaded from Audible. Jennifer Van Dyck narrated the book. Van Dyck is a new narrator for me and I was impressed with her ability.

Guy McArthur says

Utterly fascinating and continuously amazing.

Bethany says

I received an ARC from the publisher via NetGalley in exchange for an honest review.

Genius At Play: The Curious Mind of John Horton Conway is, hands down, the best biography I have read since The Rise of Theodore Roosevelt. It is a phenomenal portrait of an incredible mathematician and man. I have a fairly decent mathematical base (my dad is a mathematician) so while I didn't understand much of the math contained here, I didn't find it distracting or overwhelming. What was awkward was the number of times I laughed aloud while reading it on the airplane and in airports. This is charming, educational, and just plain fun. If you are debating reading this book once it's published, stop debating right now and just put it at the top of your list. It's so very, very wonderful.

Shivam Nadimpalli says

3.75/5. Couldn't get through the whole book, gave up ~80% of the way through, ended up just skimming through the last 20%.

Peter Flom says

John Horton Conway (inventor of the computer game "life", inventor of surreal numbers, etc) is a fascinating man and this is a wonderful biography capturing him in all his exasperating and intriguing ways.

Jessy says

Such a fun book - not only an excellent character study of a one-of-a-kind man, but a collection of fascinating mathematical tidbits throughout the entire field (surreal numbers and their correspondence to games + the universality of the Game of Life blew my mind), since Conway was so prolific. You're taken on a whirlwind through game theory, group theory, math party tricks,

knot theory, philosophy, physics, and more.

The best takeaways spoke about new ways of thinking:

On the role of calculation in math (I was personally surprised how important numerical calculations were for Conway's group theory contributions: "he does thousands of calculations, looks at thousands of special cases, until he exposes the hidden pattern and divines the underlying structure.")

> To concentrate on the calculation is misleading. It's like asking an artist, "Where did you paint the person's chin? Was it 1-foot-5 above the base of the picture, or 1-foot-6? And how far to the right was it?" Do you understand me? If you're thinking about conceptual things, the measurements don't matter...It's rather unfortunate that we can't just see these things. Because it means that I can only appreciate the beauty of them, truly, after I've have done the calculation. But the calculation isn't the point.

On the relationship between having fun and doing "significant" work:

> You know, when you play a game, if you learn to be good at it, you find what it is you should be thinking about. That is really rather subtle. And that's what we do in mathematics.

On Conway's urge to spread his love of ideas through teaching:

> "That's part of his magic," says Thurston. "He thinks a lot about how people will understand something, he thinks a lot about ways to communicate with people, to surprise and impress, not to keep them mystified, but to make them wake up and take note."

On how to think about the hardest things:

> If you can't understand something, you can at least relate it to something else you don't understand.

On being a young researcher, and advancing human knowledge:

> If you have indeed discovered something, but then discover that someone else discovered it before you, consider yourself in good company, and mark your progress. If you find something already discovered 2,000 years ago, then 200, then 20, at least you are improving. And then, if you're lucky, next maybe you'll discover something new.