



Flatland / Sphereland

Edwin A. Abbott , Dionijs Burger Jr.

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Flatland : the classic speculation on life in four dimensions; Sphereland : a continuing speculation on an expanding universe

Flatland / Sphereland Details

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Author : Edwin A. Abbott , Dionijs Burger Jr.

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From Reader Review Flatland / Sphereland for online ebook

Bryan says

A classic: I have read this book at least a dozen times. It's a must read for anyone, a satire of many dimensions. While the aspects of dimensionality apply to the math geeks, the pun on straight-laced Victorian society actually mirrors many of the things we face in our society today, but with a different twist. This is a great way for a lay person to understand the concept of dimensionality. If you like this book, I also highly recommend reading Rudy Rucker's Spaceland and Ian Stewart's Flatterland. Both are great sequels to this original classic and absolutely hilarious!

Judy Wellington says

This is one of my favorite books ever. I have tried to describe it to others & when I do, they think I'm nuts. However, I found it incredibly fascinating and thought provoking.

Matthew Gracon says

Loved this book. Very imaginative and well thought out.

Robert says

Flatland

Abbott's classic, exuberant look at life in two dimensions and how hard it would be to understand a third deserves a wide audience; much wider than stereotypical maths or science nerds. Not only does it remind us that our direct perceptions are limited and limiting, it also acts as a severe critique and satire on Victorian society and hubris that we would do well to take note of even today. Finally, it ends on a bit of a downer note, telling us how visionaries are often treated as crazy.

Danijel Pranji? says

From my point of view Abbott wrote Flatland as a satirical novel, skewering what he believed were short-sighted traditions of Victorian England: strict divisions of social classes, which in Flatland are personified by geometric objects.

Liliana Soto says

Una historia muy original sin duda me imagine ahí, conocer este lugar de la mano del autor fue muy entretenido mi parte favorita sin duda fue cuando aparece la esfera.

Vilma says

Vilma Gamarra

IRB Response

Flatland by Edwin A. Abbott and Sphereland by Dionys Burgere are coupled stories made into one book; one is the sequel of the other. I am evaluating this book based on the development of plot by using fantasy. This is a mathematical, scientific book that explains why people cannot understand a dimension beyond their own, at least not by themselves. It revolves around a society that one day gets a visit from a higher dimension, shpereland that greatly impacts them and advances their society overall. I liked the fact that all the dimensions were included to explain a different aspect of the whole concept.

In the beginning the main character, A square, dreams of the first dimension where everyone is a line and talks to the king of Lineland noticing that "he [the king] had no conception of anything out of it[Lineland]." (Flatland, pg.63) When a square tries to explain that there is a higher dimension, Flatland, the king retorts with "you speak an impossibility." (Flatland, pg.67)As a square gets angry and calls the king ignorant there is a message; beings do not understand concepts easily if they have never experienced it or have any knowledge on it. The king of Lineland only knew front and back so the words northwards(up) and southwards (down) did not mean anything to him. Since he couldn't visualize a 2nd dimension, it was logically impossible for him which is why he considered it an absurdity.

A square gets a visit from a stranger, a sphere, that tells him that there is a third dimension, sphereland. A square does not understand and gets angry at the ignorance of the sphere for saying that there is a higher dimension,responding "No more will I endure thy mockeries."(Flatland, pg.88) A square is shown the 3rd dimension and is mesmerized with the new proof. His society though does not appreciate his new theory since it goes against what they believe to be true.The pattern continues when the sphere is asked of a 4th dimension and responds "There is no such land. The very idea of it is utterly inconceivable."(Flatland, pg.103) This is disproved when later on he says "An overshpere did visit me. A creature from the region of four dimensions which is as strange to us as a Sphere is to you." (Sphereland, pg.78)

This shows how human beings want to think that they are great and that they are able to discover anything but negate concepts that may go against their way of thinking; their paradigm. In shereland it finalizes the theory of differnt dimensions among this story and moves on to the concept of a curved world. Like before, the Flatland society negates this theory and tries to make their numbers add up so that there will not be any proof of this theory that will cause change. The society stays like this and the ones that discovered the theory realize that their society is not ready for the truth and advances and that they will wait until they are ready for their world to be accurate to math and science.

I would rate this book an 8. At the beginning, its not that its boring but since the author is forming a complete society, every detail of this "flatland" must be explained. It takes too long in the beginning although it does help understand the society and is a significant part of the book. It is build in a hierarchy which is fine, but in a modern world in U.S it isn't like that. To some this may be a way of going back in history where there wasn't as much equality which, by all that we have accomplished throughout the years, some may not want to do. Overall I did enjoy learning of these concepts through a new perspective that made a connection to how humans can be.

B Sarv says

I think flatland would function better with the introduction of the Cartesian plane. It would allow the society to transform

Written in 1884 by a man described as liberal the misogyny and classism (and probably symbolic racism) made this book difficult to read. I put up with it because it was on a list of 20 must read science fiction books. It was an early attempt and while clever I wouldn't call it ingenious. There are numerous problems, from a mathematical standpoint, with his fictionalization of a two dimensional world.

Well I read it. So tick another book from the list.

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Clay Zdobyak says

Every once and a while i'll read a book, often a very very old book, which is just a blast to read. The author doesnt seem to worry about making a 'great book', but instead just makes something fun, and direct, and interesting.

The authors of both Flatland and Sphereland seem to have been in this headspace, and made very interesting and pleasant books.

Empty says

Must-read for humans.

Jashan says

A little offensive at women at times (*Flatland* was originally published in 1884) but what's more important is its physics implications.

Travis says

Flatland I feel was a speculation on women inequality. If you read flatland you will see that in every "universe" women always have one less dimension. Even though Edwin A. Abbott was always about defending women's rights, in the book he writes women as being stupid sticks instead. I feel the book was just a way for him to expose the injustice to women through a book.

Although I think the book was just a speculation on women's rights, the book does have a mathematical aspect. The book is essentially a square in a 2D world called flatland after all. The square is a mathematician that strives to learn more about other worlds or universes.

Overall this was a great book because math is amazing and it's speculation on women's rights was interesting.

Alice says

“this hard wall that bars me from my freedom, these very tablets on which I am writing, and all the substantial realities of Flatland itself, appear no better than the offspring of a diseased imagination, or the baseless fabric of a dream”

i have to admit how interesting this book was. i surprised by how easy and fast a novel with maths as a main theme managed to be. screw that. i was impressed.

the mathematical aspect is extremely fascinating: i only now realise how simple geometry isn't so easy without physical drawings or sketches to point at, but only theory. i don't think many people could imagine a cube without ever seeing it before hand. that kind of creative thought seems rather far-fetching and genius requiring.

the same is to be said for Abbott who made up such an original world.

Dawn22 says

I read this twice, several years ago. I enjoyed reading about the people who were different shapes (circle, polygon, triangle, etc.)

Sarah says

This review is just for Sphereland, as my Flatland review is attached to a different book/version.

At the most general level, it was a fun read! Like Flatland, it was divided into easy sections and one always knew of what concept a particular paragraph was explaining. It indeed wasn't as charming as Flatland, but that's because nothing can compete with Flatland's sheer originality.

Main parts: Crash course from Flatland (SUPER boring as I was familiar with it), social progression, exploration of the known world, and explanations for three mathematical concepts: congruence/chirality, curved worlds, and expanding worlds.

It starts off years in the future post Flatland- finally, the third dimension is widely accepted, if only in theory. While one "knows" the 3D exists, one would also commit to an insane asylum anyone who claimed to have been visited by a 3D creature- which- lame.

The social development is akin from the transition from Aristocracy to Democracy from Downton Abbey, which is incredibly fitting given the dislike of the Victorian hierarchy! The hierarchy is dismantled, those of the lower classes find pride in themselves, and women gain agency. This is all interspersed with cute little examples of the way individuals rebelled against tradition. Anyway, good on the author to quickly align himself with the politically correct- although it is also to be balanced against the fact that it was written in 1960 and gender equality edged closer to what we call today benevolent sexism. Example: "Man no longer has a monopoly over science, even though nature did create woman first of all for marriage. It is she who by

virtue of her great gifts of love and devotion has been destined to raise children and to dedicate herself to homemaking. This takes up such a large part of her mental life there is usually no room left in her intellect for study of science. The really [got a disturbingly mocking italics feeling there, author] important inventions and discoveries will undoubtedly [idk about UNDOUBTABLY. please, a scientist deals with possibilities.] continue to be made by men!" (29). But you know, whatever, progress was progress.

Interspersed throughout the story are fairytale/disney mini-stories- they are super cute, have no math/physics bearing, and just deepen the detail of their world and social progression.

Moving on is the era of exploration, and Flatland is thoroughly mapped by interesting characters. We have the war-loving Amazons to the South, who love war so much their society is purely women and they raid/plunder surrounding tribes for their men. Given their needle point sharpness, they are quite formidable. They were exterminated later in a case of brain over brawn. We find the ocean and tropical forests. They even built a submarine! It took me a while to understand how one can "submerge" at all given there is no depth in Flatland, but really it's just traveling south of the waterline. Two dudes competed to see who could travel their furthest- one went west and another went east, and lo and behold, they find each other! Holy crap, the world is round! Another misunderstanding moment. I was like.. round? You mean like a sphere? But I had jumped the gun, as they interpreted this as a "disk," with the core at the center. ANOTHER moment of confusion was the whole "parallel lines meet at a point in the center of the earth" BEFORE they figure out the world is curved. But... and I think this is the case, they were describing/confusing the trail of gravity rather than the true parallel. There is also a cute exploration of the atmosphere. A girl launched out of a catapult and saw other worlds! Space looks rather infinite! A massive disk! No.

We finally get into the three major mathematical concepts whose illustration is the purpose of this book. The Sphere visits from Spaceland, and he is properly remorseful for his abandonment of A Square when A Square challenged him on the 4th dimension. (Readers here are likely to feel vicious pleasure as I did). He has been visited by an over-sphere! A dot appeared to him in mid air, grew to a small sphere and increased in size before decreasing and disappearing. He was also jabbed in the insides as creatures of the higher dimension are wont to do. (Cue vicious pleasure #2). They agree to chat every year.

First year of note: Agatha, the Hex's daughter, loves dogs. Dogs are this new fangled creature that were domesticated from wolves. Due to the flat nature of the world, they are either facing left or facing right (assuming their legs are facing the same direction, south for example). For some reason of nature, the ones facing right are a lot more rare. These are called pedigreed. The left-facers are mongrels. Agatha looves her dogs, but she would sure love a pedigreed one. It sure doesn't help that her love rival has three pedigreed dogs and stole the affections of the object of hers. So dad decides to buy puppies from a pedigreed dog, which has a higher chance. Out of the 12 subsequent puppies, not a one was pedigreed. Cue sadness. Sphere comes, and by now, I'm frothing at the mouth with excitement knowing that's coming next. The author had built up the little mini story so much and so well that I wanted nothing but Agatha to have her 13 pedigreed dogs and shove them in her rivals/ex-lovers face. The sphere takes the puppies out of their world, flips them around, and drops them back down. 13 dogs are now pedigreed!

Concept of note: what does this look like in the 3rd dimension? Why, a left shoe becoming a right shoe. There were experiments, and left handers became right handers, but writing became mirrored as well. While it is hard to imagine how a left shoe can become a right shoe, it is easier to imagine flipping oneself instead. So when ones wakes up in the morning, everything is on the opposite side that it used to be. It may seem as if the world has changed, but in reality, your body had flipped. Super cool concept.

Second year of note: Curvature! Triangles, when applied to a curved object, do not have 180 degrees (unless it is a perfectly inward caving triangle). Then, they find out that their world is curving in a direction that they cannot see (upwards, not northwards), and therefore the triangles pasted to their surface, while looking like straight lines, are actually curved lines, which explain >180 degrees. This is when they find out that their world is NOT a disk, but in fact a sphere in which there is no inside. (Not too sure about this, but the "inside"

would be part of the world that they cannot see, in the same way that the inside of the circle of the curved lineland does not exist for lineland.) Concept of note: What does this look like in the 3D world? Whew, it gets tougher. The universe is curved in a direction that we cannot see, the 4D. This means that the universe as we know it is the surface of the hyper-universe. Or, its way simpler, and its the way we understand latitude/longitude lines and how we can draw the globe/map on a 2D piece of paper- but this channels the spirit of Lineland too much and doesn't explain the "inside" of the sphere playing a role. I will have to reread.

Third year of note: EXPANSION! But first, background: our dudes are measuring the distance from their world to other worlds/planets/stars. They use two ways of measurement: telemetry and uh... radar wave distance calculation? Something to do with light, but radar \neq light? Ugh, another reread moment. Using telemetry, they have two points, a known length baseline, 2 known adjacent angles and they use trig to calculate the distance from the two points to their subject. They do this again and again, and the measurements always increase; at an increasing rate for objects that are farther. Using light/radar, they bounce the waves toward their object, wait for it to bounce back, and using the time, measure distance. Same dealio, the distance is increasing over time. Telemetry is more accurate when their objects are closer (due to curvature?) and because telemetry corroborates it, they know that light/radar waves don't behave differently/strangely/slow down over time. How to explain? Words on a balloon (increasingly large circle in lineland) being blown up explain it. It doesn't however, explain WHY the universe is expanding, just that it is. Concept of note: yes, expansion is also happening in the 3D, in which a sphere is expanding. I'm not sure however what relation it has with the +1 dimension. Is there a cause from there?

In any case, it was highly enjoyable! Love the dogs the most and the chirality observations. In general, I thought that the translator did a pretty good job in making it in the same spirit as Flatland. It had some of the same attitude/style, but there of course, were bits and pieces that were different, most notable to me was the consistent detail of walking around thinking, friend interactions, etc.
