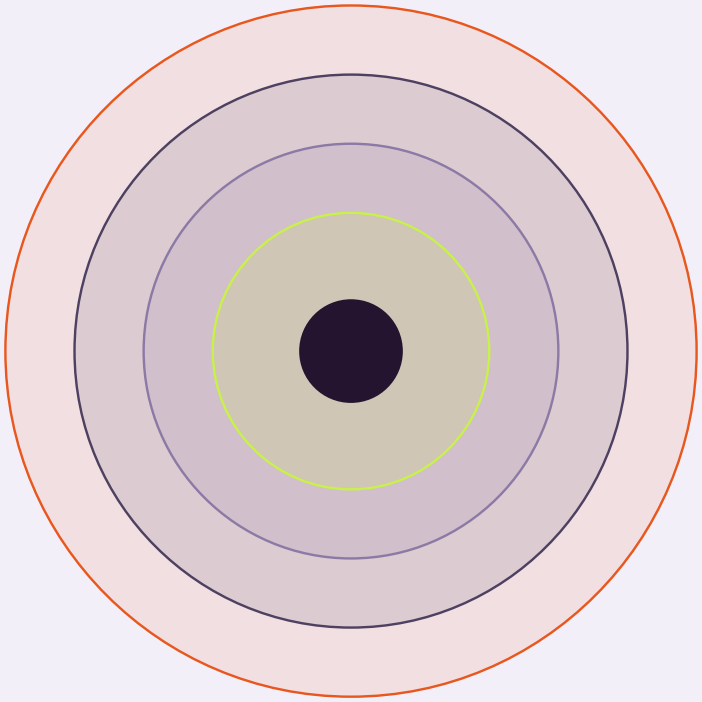


Six Impossible Things: The Mystery of the Quantum World

A reading of the book by John Gribbin (2019)

1. ACTION BOOK

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ABOUT THIS EDITION

This is HourLife's reading of Six Impossible Things: The Mystery of the Quantum World, in our own words. It is not a substitute for the book.

BEFORE YOU START 01

The book in a minute

John Gribbin is a British science writer trained in astrophysics, and the author of many popular books on physics, including In Search of Schrödinger's Cat. Six Impossible Things is a short book about what quantum physics means, not about how to calculate with it. It first sets out the basic puzzles of the quantum world, including the experiment in which single particles pass through two slits and still build up a pattern of stripes. It then gives a few pages each to six interpretations: Copenhagen, pilot wave, many worlds, decoherence, the ensemble view and the transactional interpretation. The title nods to the White Queen in Through the Looking-Glass, because each interpretation asks you to believe something that sounds impossible. Gribbin presents the book as an agnostic overview: none of the six comes out as better or worse than the others.

Below are the 9 ideas HourLife readers vote up most, each in our words with a note on what it asks of you, and then the steps that put them to work.

WHAT READERS KEEP

The takeaways

1 HOURLIFE TAKEAWAY

Nobody argues about what quantum theory predicts; the fight is over what is really going on.

The equations of quantum mechanics have passed every experimental test so far, to great precision. The interpretations are different stories about the same results. That is why Gribbin can treat all six side by side: none of them is ruled out by an experiment yet.

2 HOURLIFE TAKEAWAY

Every way of making sense of the quantum world asks you to accept one thing that sounds impossible.

The title borrows from the White Queen in Through the Looking-Glass, who practises believing impossible things before breakfast. Gribbin's point is that all six interpretations are crazy in some way. Some are crazier than others, but in the quantum world, crazier does not mean more wrong.

3 HOURLIFE TAKEAWAY

Send particles through two slits one at a time, and they still build up stripes that only waves should make.

Each particle lands as a single dot. Yet after thousands of them, the dots form an interference pattern, as if each one had passed through both slits. Put a detector at the slits to see which way each particle went, and the stripes disappear. Every interpretation in the book has to explain this.

4 HOURLIFE TAKEAWAY

The Copenhagen view tells you to stop asking what a particle does when nobody is looking.

This is the interpretation associated with Niels Bohr, and the name came from Werner Heisenberg. The wave describes what you can know, and a measurement turns the spread of possibilities into one result. It became the textbook answer, and Gribbin shows how much it leaves unexplained.

5 HOURLIFE TAKEAWAY

In the pilot-wave picture the particle always has a real path, steered by a real wave.

Louis de Broglie proposed the idea in the 1920s, and David Bohm revived it in the 1950s. The wave goes through both slits and the particle through one, guided by the wave. The price is that the wave links everything at once, so what happens here depends on the whole set-up, however far apart its parts are.

6 HOURLIFE TAKEAWAY

Many worlds removes the collapse of the wave, at the cost of every possible outcome being real somewhere.

Hugh Everett's idea from the 1950s keeps the equations exactly as they are and never lets the wave collapse. Instead, each measurement splits reality into branches, one for each outcome. It is the simplest maths and the largest universe.

7 HOURLIFE TAKEAWAY

Decoherence explains why the everyday world looks single and solid, even if the quantum world underneath is not.

A quantum system is never truly alone. Air, light and the measuring device all interact with it, and that contact washes out interference very quickly. The question this leaves open is why you then see one particular outcome.

8 HOURLIFE TAKEAWAY

The ensemble view says the wave describes a long run of experiments, never a single particle.

An ensemble can be many identical trials, such as one electron sent through the same set-up a million times. Read that way, quantum theory is statistics and nothing more, which is why it is called a non-interpretation. It looks sensible until the system starts to interact with the world around it, and puzzles such as the watched pot, where a closely watched system does not change, start to bite.

9 HOURLIFE TAKEAWAY

The transactional view lets waves run backwards in time, so every event is a handshake between past and future.

Physicist John Cramer's interpretation has an offer wave going forward from the source and an answering wave coming back from where the particle will land. Where they meet, the transaction is complete. The equations allow waves in both directions of time; this view takes both seriously.

PUT IT TO WORK

Your action book

Do the setup steps once, then keep the habits going. The setup changes your week; the habits keep it changed after the first good one.

The download puts this whole reading and a printable action book in one PDF: the setup checklist, then a page of real calendar days for each habit, starting on the day you choose.

SET UP ONCE

- [ ] Run the two-slit experiment
- [ ] Make stripes with light at home
- [ ] Write six index cards
- [ ] Pick your impossible thing
- [ ] Read the White Queen's chapter

KEEP UP DAILY

- ◯ Explain one idea a week
- ◯ Split what was seen from the story
- ◯ State the other view fairly

30 days · Nov 6 - Dec 5, 2026

Part two, after the reading, prints each of these as a page to fill in by hand.

THE LAST WORD

Before you go

Pick one step from the action book and do it today. An idea from a book starts to count once it changes what one ordinary day looks like.

PART TWO

The action book

Change the setup once, then keep it up. 5 setup actions to do once, and 3 habits to mark each day for 30 days.

Nov 6 - Dec 5, 2026

Print it, or write on it in any PDF app.

SET UP ONCE

The setup checklist

Each of these is done once. Do one a day, and check it off when it is done.

☐ SETUP 1

Run the two-slit experiment

Use the simulator on this page.

Fire particles one at a time until the stripes appear, then switch on the detector and watch them go. Write one sentence about what surprised you.

MY VERSION

DONE ON

☐ SETUP 2

Make stripes with light at home

In a dark room, shine a laser pointer through two thin slits cut close together in kitchen foil, or past a single hair, onto a wall a few metres away.

Look at the wall, never into the beam.

MY VERSION

DONE ON

☐ SETUP 3

Write six index cards

Give each interpretation one card: its name, who proposed it, and the one impossible thing it asks you to accept, in your own words.

Check them against the book.

MY VERSION

DONE ON

☐ SETUP 4

Pick your impossible thing

Choose the interpretation you would rather believe and write two lines on why.

Add one line on what evidence would change your mind.

MY VERSION

DONE ON

☐ SETUP 5

Read the White Queen's chapter

Read chapter 5 of Lewis Carroll's Through the Looking-Glass, Wool and Water, where the title comes from.

It is short, out of copyright and free online.

MY VERSION

DONE ON

DAILY HABIT 1 OF 3

Explain one idea a week

Once a week, explain one interpretation to a friend in two minutes, without jargon.

Nov 6 - Dec 5, 2026 · 30 days · circle each day you do it

SMALLEST VERSION

CUE

WHERE

November 2026

MON	TUE	WED	THU	FRI	SAT	SUN
						1
2	3	4	5	6 ○	7 ○	8 ○
9 ○	10 ○	11 ○	12 ○	13 ○	14 ○	15 ○
16 ○	17 ○	18 ○	19 ○	20 ○	21 ○	22 ○
23 ○	24 ○	25 ○	26 ○	27 ○	28 ○	29 ○
30 ○						

December 2026

MON	TUE	WED	THU	FRI	SAT	SUN
	1 ○	2 ○	3 ○	4 ○	5 ○	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

EACH FRIDAY

WHAT HELPED

WHAT GOT IN THE WAY

ONE CHANGE TO THE SETUP

DAILY HABIT 2 OF 3

Split what was seen from the story

When you read a science headline, write down what was actually measured, then the story told about it.

Nov 6 - Dec 5, 2026 · 30 days · circle each day you do it

SMALLEST VERSION

CUE

WHERE

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EACH FRIDAY

WHAT HELPED

WHAT GOT IN THE WAY

ONE CHANGE TO THE SETUP

DAILY HABIT 3 OF 3

State the other view fairly

Before you argue a point this week, say the opposing view in a form its holder would accept.

Nov 6 - Dec 5, 2026 · 30 days · circle each day you do it

SMALLEST VERSION

CUE

WHERE

November 2026

MON	TUE	WED	THU	FRI	SAT	SUN
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December 2026

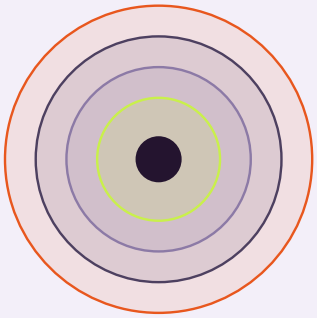
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EACH FRIDAY

WHAT HELPED

WHAT GOT IN THE WAY

ONE CHANGE TO THE SETUP



Quantum physics never tells you which story is true. It only tells you that every story costs one impossible thing.

HOURLIFE NOTE AFTER JOHN GRIBBIN