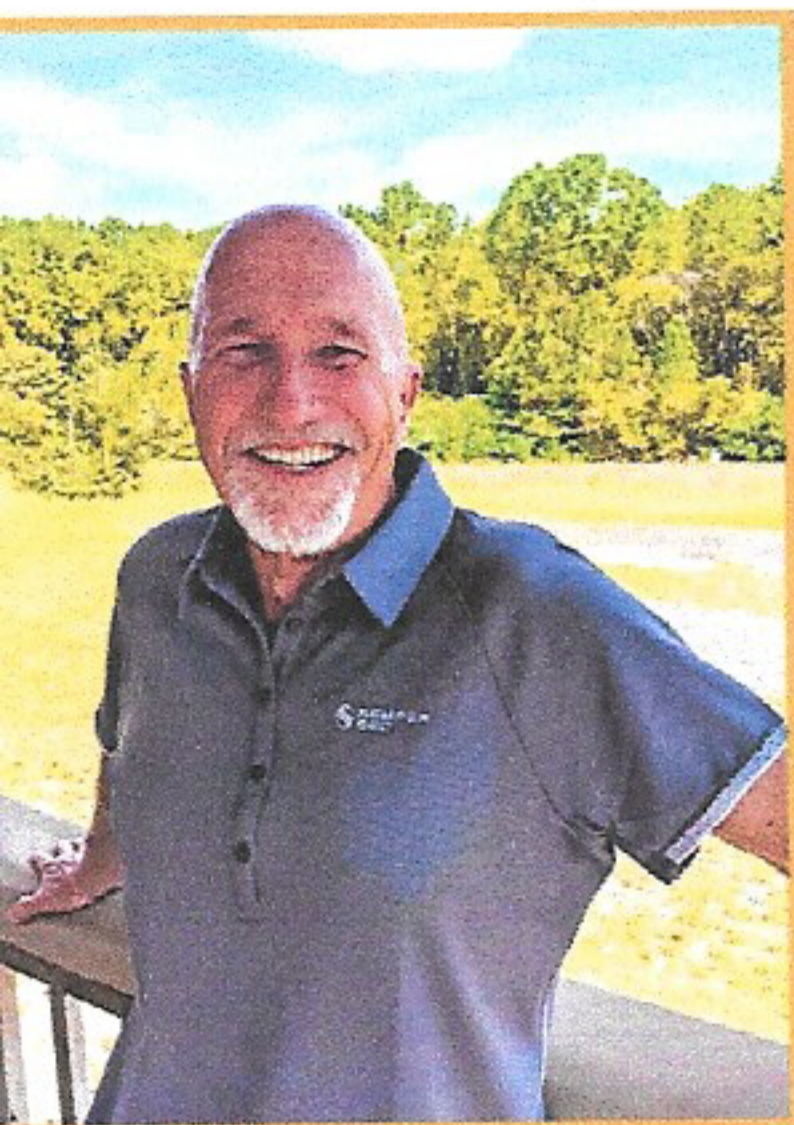


## Book Reviews

By William J. (Jay) Carson



*Disclaimer: These are the author's subjective opinions, and do not necessarily reflect*

*the opinions of any organization or other individual. A human prepared this article, with assistance from Microsoft Editor and Grammarly.*

Is anybody old enough to remember the musical Oklahoma? "Everything's up to date in Kansas City! They gone [sic] about as fer [sic] as they can go." – NOT.

I believe the two books I review below will support the opinion I gave last month: "The metaverse is where we are headed, it will be powered by artificial intelligence engines, and those engines will be fueled by quantum computing." What I wish I had added was that the trifecta will enable a whole new way of science and technology discovery and thinking.

I expect some criticism of my book choices by my most science and technology-informed readers. At the risk of sounding superior, the cybersecurity profession requires a sharp intellect. Prepare to grind your teeth a little when you read or listen to the first book! The simplistic explanations of cyber-related fields are sure not the way things are normally explained in textbooks and are possibly considered by you to be 'not quite precise.' Dare I say such about Dr. Kaku's book, a New York Times bestseller? I certainly would not dare to dispute his science knowledge! But Dr. Kaku wrote for the general public, who as a group may not be science and technology current. That said, it is such a broad review of the sciences, it will help catch all of us up in a general overview sense. This book will leave you with optimism and a feeling of wonder to be living in such an exciting time.

Reviewing the second book will get me accused of confusing science with technology. In this classic text, Dr. Kuhn referenced fundamental scientific researchers

and their discoveries, not technology improvers and improvements like Gutenberg and the printing press. So here is my explanation: Just as the telescope enabled the astronomy paradigm shift, so the trifecta mentioned above will enable all the sciences to advance.

Book #1 of this review, here we go:

**Kaku, Michio. Quantum Supremacy: How the Quantum Computer Revolution Will Change Everything. Doubleday (2023).**

**Sound Bite: This book may broaden the outlook of the cybersecurity practitioner, but it was written for the general reader, not those already cyber-smart.**

Please consider this a book to inspire you to delve more deeply into the topics, not a reference or textbook. As you might cringe at the treatment of your cyber/quantum computing area of expertise, please have a little sympathy for Dr. Kaku. He is trying to make science interesting and fun to the world. Unfortunately, he must explain complicated science topics without any real mathematical explanations, like something for non-science majors' reading levels and math/science knowledge. That said, I liked the book because it shows how this science and technology revolution is going to enhance or change everything. Although I have reasonable general science knowledge, I personally got updated on topics such as protein folding, string theory, etc. And let us give him a break – his actual (figurative) pen-to-paper could not be later than 2022, and the refinement of our cyber-related worldview/knowledge is accelerating! Regardless of (perhaps) an un-nuanced section on quantum computing and artificial intelligence, we

can be confident Dr. Kaku was precise about string theory!

### The Author

Dr. Kaku has long been a well-known and regarded science speaker in the media. He is a Professor of Theoretical Physics at City College of New York. A cofounder of string theory, he has published a number of popular non-fiction works on science topics.

### The Metadata

A 2023 publishing date! The online ordering cost, including shipping, is going to be under \$20.00. The paperback version is about 300 pages. You can cut that cost if you use an e-reader. There are good, but brief, notes pages. Do not miss the 'Selected Reading,' at the end of the book, as it is prepared for you! You are certainly among those "who have some familiarity with computer programming...." There are several copies of the book in my local public library system, so I expect it to be in your library, but with many holds.

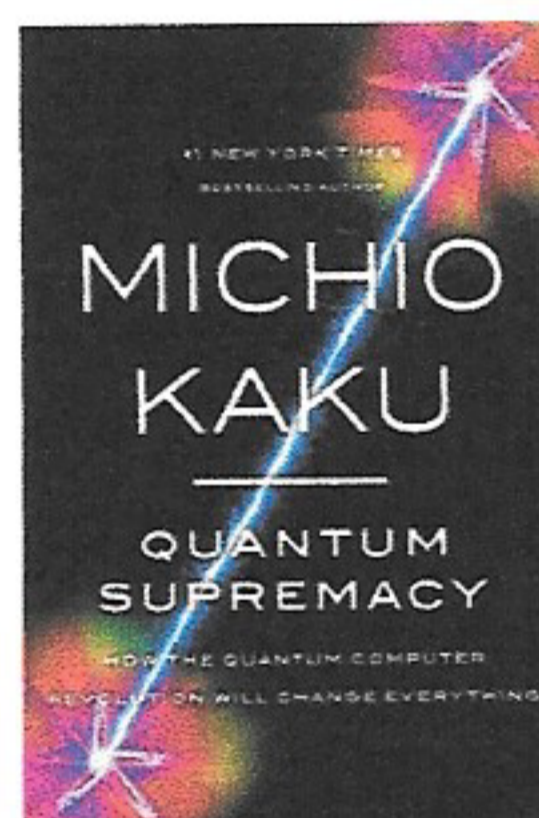
I took a one-page sample of the text to analyze for readability. Using a Wikipedia article about the Flesch-Kincaid Readability Test, the writing level and style measurement is high school level. There was 17% passive voice in my sample, but I did not find that a problem. This article is about 3% passive voice, for comparison.

### Table of Contents (abbreviated/modified and annotated in bold font by me)

#### Part I

#### Rise of Quantum Computers

- 1 End of the Age of Silicon (**Is silicon holding us back? Is Moore's Law finished?**)
- 2 End of the Digital Age (**Turing Machine stuff**)
- 3 Rise of the Quantum (**"Anyone... not shocked by quantum theory does not understand it." Neils Bohr**)



- 4 Dawn of Quantum Computers (**The unforgettable Richard Feynman**)
- 5 The Race is On

## Part II

### Quantum Computers and Society

- 6 The Origin of Life (**Update your biology knowledge**)
- 7 Greening the World
- 8 Feeding the Planet
- 9 Energizing the World

## Part III

### Quantum Medicine

- 10 Quantum Health (**Quantum computing enabling automatic health monitors**)
- 11 Gene Editing and Curing Cancer
- 12 AI and Quantum Computers
- 13 Immortality

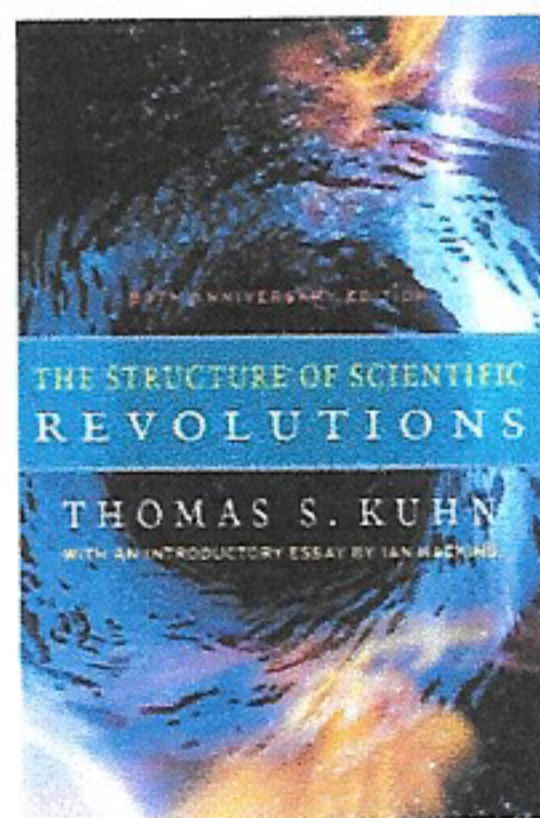
## Part IV

### Modeling the World and the Universe

- 14 Global Warming
- 15 The Sun in a Bottle (**Atomic energy proponents used to say “the unlimited energy society”**)
- 17 A Day in the Year 2050

**Kuhn, Thomas S. The Structure of Scientific Revolutions. 50th anniversary edition (technically 4th edition). The University of Chicago Press (2012). Originally published in 1962.**

**Sound Bite: A classic book, still giving perspective on what we can expect in the future as the AI trifecta (metaverse, artificial intelligence, quantum computing) accelerates.**



Why should you read or re-read a book over 60 years from initial publishing? This is an enormously important book to give you perspective, as a cybersecurity professional who has to 'ride the horse' of the upcoming revolutions in science and technology. Dr. Kuhn tells us that scientific discoveries slowly grow within paradigms, and then the worldview of that branch of science shifts, enabling greater-than-expected achievement. You may not use the words 'paradigm' or 'paradigm shift' in your

daily conversations. But you talk professionally about 'frameworks' all the time. How about a shift in a type of widely used mental framework?"

### The Author

The world lost Dr. Kuhn in 1996. Wikipedia calls him an "American historian and philosopher of science." Author of several books, he was a physicist trained at Harvard, and for many years taught at MIT.

### The Metadata

A 1962 publishing date, but I was delighted recently to find it on the textbook shelves of a university! The online ordering cost of the 50th-anniversary addition, including shipping, is under \$10. The paperback book is slightly over 200 pages. Notes with references are at the bottom of the pages rather than in a separate section. I found an e-book copy in my local public library system, so it should be in some form in your system.

I took a one-page sample of the text to analyze for readability. Using a Wikipedia article about the Flesch-Kincaid Readability Test, the writing level and style measurement is 'senior at college' level. There was around 23% passive voice in my sample, and both measurements help explain why you have to focus to really understand the writing. Again this article is about 3% passive voice, for comparison.

### Table of Contents (abbreviated/modified and annotated in bold font by me)

- I A Role for History
- II The Route to Normal Science (**'Normal' science is the step-by-step improvement.**)
- III The Nature of Normal Science
- IV Normal Science as Puzzle-Solving
- V The Priority of Paradigms
- VI Anomaly and the Emergence of Scientific Discoveries (**Anomaly = A 'What the heck?' moment**)
- VII Crisis and the Emergence of Scientific Theories (**Darn, the data does not fit.**)
- VIII The Response to Crisis (**Scientists get emotional, too.**)
- IX The Nature and Necessity of Scientific Revolutions
- X Revolutions as Changes of World View
- XI The Invisibility of Revolutions

- XII The Resolution of Revolutions
  - XIII Progress through Revolutions
- Happy Reading!

PS – If you have a book you want me to read & review, please use the email address in my bio and let me know!

PPS - Up next month: The only value in the Book Reviews column is if it is read. While I would like to continue my own readings in artificial intelligence and quantum computing, and I am reading study guides in preparation for the C|CI-SO exam, I had better pay attention to all potential reader interests.

With a nod to the cryptocurrency community,

Faux, Zeke. Number Go Up: Inside Crypto's Wild Rise and Staggering Fall. Crown Currency (2023).

With a nod to the privacy community,

Hill, Kashmir. Your Face Belongs To Us: A Secretive Startup's Quest to End Privacy as We Know It. Random House (2023).

William J. (Jay) Carson

Aka 'Dad'

The Cyber Librarian

### Additional sources used in the article:

1. <https://rodgersandhammerstein.com/song/oklahoma/kansas-city/>
2. [https://en.wikipedia.org/wiki/Flesch%E2%80%93Kincaid\\_readability\\_tests](https://en.wikipedia.org/wiki/Flesch%E2%80%93Kincaid_readability_tests)
3. LinkedIn profiles for authors listed, where available.
4. [https://en.wikipedia.org/wiki/Thomas\\_Kuhn](https://en.wikipedia.org/wiki/Thomas_Kuhn)
5. <https://www.simplypsychology.org/kuhn-paradigm.html>
6. Microsoft Bing Chat on differences between words paradigm and framework referenced October 13, 2023.

### About the Author

*William J. (Jay) Carson, ISSA Senior Member, Aka 'Dad' The Cyber Librarian is the ISSA-Colorado Springs Executive Vice President. He is part-time 'Cyber Librarian' of Semper Sec, LLC. Holding Security+ and CIPP/E certifications, he is a former high school math/science teacher, civil servant, contractor, and retired USAF Lieutenant Colonel. He can be reached at Runningjay51@gmail.com*