



Written by [William P. Hoar](#) on January 7, 2022

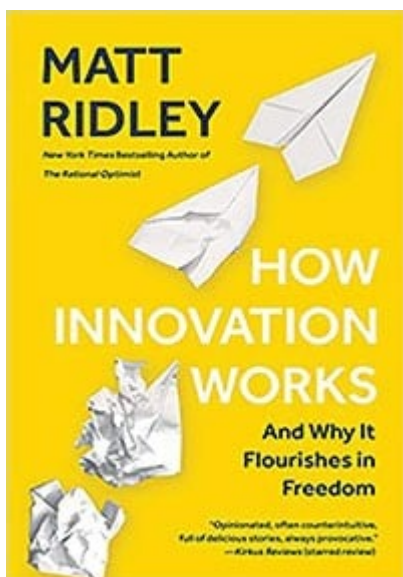
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## The Review

### Freedom to Innovate

***How Innovation Works and Why It Flourishes in Freedom***, by Matt Ridley, New York: Harper Collins, 2020, 406 pages, hardcover.



[www.mattridley.co.uk](http://www.mattridley.co.uk)

If you want to take a stimulating ride, complete with commentary delivered by an astute, enlightening conductor, *How Innovation Works* is your ticket.

The stops along the way include, among others, historical chapters on energy, transport, public health, food, communication and computers, and low technology. The innovations discussed span small and large topics — from slicing bread to effectively shrinking the world with international messages that take seconds — usually while fighting through practical obstacles and political barriers.

The volume was first published in Great Britain as *How Innovation Works: Serendipity, Energy and the Saving of Time*; a trade paperback version came out in 2021.

Author Matt Ridley boasts an impressive *curriculum vitae* that, rather remarkably, does not interfere with his lucid, straightforward prose. He holds two degrees from Oxford University and has been the recipient of, among others, the Hayek Prize, the Julian L. Simon Memorial Award, and the Free Enterprise Award from the Institute of Economic Affairs. Ridley's multiple books have sold more than a million copies and been translated into 30-plus languages. After serving for years in various roles at the *Economist* (London), he now regularly writes for the *Times* (London), the British magazine *Spectator*, and the *Wall Street Journal*. As Viscount Ridley, he was elected in 2013 to the U.K. House of Lords, where he has served on the science and technology select committee.

In the book under review, as Ridley acknowledges, there is some abstract theorizing and argument, but mainly it is carried by the telling of stories. Some of the players (Thomas Edison, for instance) are well-known, while others (such as George Stephenson, an English mender of clocks who turned into a builder of steam locomotives) are not household names.



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The names of yet others — including ancient Mayans who were formulating the concept of zero at about the same time as an astronomer in western India — have been lost to history. The author's chronicles in turn prompted this reviewer to raid his shelves for more from an older favorite volume (also cited by Ridley) — Robert Kaplan's learned *The Nothing That Is: A Natural History of Zero* (1999), with Oswald Spengler's observation that the concept of zero "was nothing more nor less than the key to the meaning of existence." The Kaplan volume is more abstruse.

Modern arithmetic and the use of zero was introduced to Europe in the year 1202 by an Italian merchant named Leonardo of Pisa, better known as Fibonacci; he learned from his travels and showed other merchants how to use "this arithmetic in everyday commercial transactions," writes Ridley. Fibonacci's work was "one of the most influential compositions in all European history," he says. Its dissemination over time continued until "Indian numerals had almost entirely displaced the Roman species."

This volume (as did Ridley's previous book, *The Rational Optimist*) accentuates *innovating*, with its gradual path, not the more common term of *inventing*. "Eureka moments are rare, possibly non-existent," maintains Ridley, "and where they are celebrated it is with the help of big dollops of hindsight and long stretches of preparation, not to mention multiple wrong turns along the way."

This inclination clearly plays a major part in the credit that Ridley gives to Edison in particular. Yes, notes Ridley, Edison did "invent the light bulb," but so also did a panoply of others before him — 21 by the author's reckoning. But Edison was the first to "bring everything together, to combine it [the bulb] with a system of generating and distributing electricity."

Invention, as Edison put it, is "1 percent inspiration and 99 percent perspiration." Yet, notes Ridley, "in effect what he was doing was not invention, so much as innovation: turning ideas into practical, reliable and affordable reality." Persistence helps. "I've not failed," Edison once said about his bulb. "I've just found 10,000 ways that won't work."

Not all innovations, of course, are successful — but some are startling hits. In describing the rapid decrease in the cost of computing and communications, Ridley comments that those closest to the industry being disrupted often have misjudged what was coming. For example, there was Tom Watson, the head of IBM. In Ridley's telling, Watson

said in 1943, that "there is a world market for maybe five computers." Tunis Craven, commissioner of the Federal Communications Commission, said in 1961: "there is practically no chance communications space satellites will be used to provide better telephone, telegraph, television or radio service inside the United States." Marty Cooper, who has as good a claim as anybody to have invented the mobile phone, or cell phone, said, while director of research at Motorola in 1981: "Cellular phones will absolutely not replace local wire systems. Even if you project it beyond our lifetimes, it won't be cheap enough."

Don't be too harsh on them. It is possible, as Yogi Berra probably didn't say, that they just made too many wrong mistakes. Trial and error will do that for you.

Sometimes — too often, these days — we defeat our own home team. On purpose. On the one hand, it's refreshing when Ridley reminds us that, in terms of its energy density, nuclear power "is without equal: an object the size of a suitcase, suitably plumbed in, can power a town or an aircraft carrier almost indefinitely." The development of civil nuclear power was, as he puts it, "a triumph of applied science." On the other hand, it's discouraging when you look at recent official projections cited by *Scientific*



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*American*, where we find that the nation's nuclear electricity generation could fall from about 19 percent in 2020 to just 11 percent by 2050.

In *How Innovation Works*, Ridley extols how America not only became the world's biggest producer of gas, "it is also the world's biggest producer of crude oil, thanks entirely to the shale-fracking revolution." Sadly, however, that once-accurate observation has now been superseded by time and the anti-fossil fuel, progressive-led revolution of the Biden administration effectively sabotaging energy independence — actions that occurred after this book's publication.

Everybody seems to be in favor of progress — it's just change that they don't like. There's more than a little truth to that crack.

Ridley puts it this way: "Innovation is one of those things that everybody favours in general, and everybody finds a reason to be against in particular cases." For instance, he makes a convincing case that the U.S. government, "in cahoots with crony-capitalist firms with huge vested interests, made the development of cellular service impossible for almost four decades."

That's not an isolated case. The "Resistance to Innovation" chapter is replete with such examples — including official opposition to coffee (even coffee cups in Sweden), hansom cab operators in London denouncing the introduction of umbrellas, obstetricians rejecting anesthesia during childbirth, musicians' unions fighting the playing of recorded music on the radio, the Horse Association of America battling tractor use, and the ice-harvesting industry's scare campaign against refrigerator safety.

Overregulation, as Ridley stresses, favors incumbents. Barriers to innovation favor the large and those already in business.

More often than not, it is lack of government meddling and "spillover" effects that bear fruit. The global Internet didn't occur because that was the intent of the Defense Advanced Research Projects Agency (DARPA) funding for computer networking, maintains Ridley. The Internet "only took off when it eventually escaped the clutches of the Defense Department and was embraced by universities and businesses."

There will undoubtedly be some readers who don't agree with certain advances commended by the author, perhaps relating to certain foods or additives or medical treatments. Decide for yourself. There is also, unfortunately, a cheap shot against former Senator Joe McCarthy dragged in rather gratuitously — a short comment from a key Democrat enemy of the anti-communist (though that is not noted); also not mentioned is the fact that the partisan foe was smarting for being (rightly) labeled "Sanctimonious Stu" Symington by McCarthy. A judicious editor might have fixed that — if books still had editors.

Nonetheless, Ridley sees the goal clearly. That's why he features Thomas Jefferson's words: "Liberty is the parent of science and of virtue, and a nation will be great in both in proportion as it is free." Similarly, the author recognizes that "innovation is the child of freedom and the parent of prosperity." There have been many missteps, and more await. Yet, for Matt Ridley, the "future is thrilling," and it is "the improbability drive of innovation that will take us there."



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