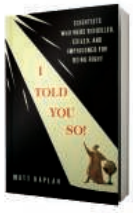
SCIENCE AND SOCIETY

# Playing the game of science

Paradigm-shifting ideas languish when researchers fail to follow established pathways to success

**Vijaysree Venkatraman**



*Matt Kaplan*
St. Martin's Press, 2026. 288 pp.

**I TOLD YOU SO!** | When the Renaissance scientist Galileo defended the heliocentric model of the Universe, he was condemned by the Catholic Church. Modern scientists, however, frequently face their fiercest opposition not from religious authorities but from within their own ranks. In his new book, *I Told You So!,* Matt Kaplan—a longtime science correspondent for *The Economist*—traces a lineage of internal resistance to paradigm-changing scientific ideas from the Victorian era to today. The engaging narrative, which draws on historical archives and interviews with contemporary researchers, also highlights fault lines the scientific community must address to meet pressing challenges.

Central to Kaplan's narrative is the story of Ignaz Semmelweis, an obstetrician at the Vienna General Hospital in the mid-19th century who discovered that puerperal fever was often spread by doctors moving directly from autopsies to the delivery ward. His remedy—thorough handwashing with calcium hypochlorite—could have spared countless women. Yet the finding languished for decades. Semmelweis's observations were rejected at the time, Kaplan notes, partly because physicians resisted examining their own role in maternal deaths and partly because the obstetrician lacked a theoretical framework. Germ theory would later reveal microbes to be the true agents of infectious disease and explain the efficacy of Semmelweis's intervention.

Louis Pasteur, who helped transform germ theory—a minor medical theory in the mid-19th century—into a cornerstone of modern medicine, drew on the work of rivals, omitted their contributions, and withheld methodological details to present a simplified narrative for funders. Those invested in Pasteur's legend excuse these actions by saying that he "knew how to play the game." Through Pasteur, Kaplan exposes a pattern: scientific prestige sometimes built on ethical shortcuts and a system that too often rewards them.

Such patterns persist in the modern scientific enterprise. Biochemist Katalin Karikó—a Hungarian immigrant to the United States—played a crucial role in developing the mRNA technology behind the COVID-19 vaccine, yet the implications of her research were not recognized immediately. At the University of Pennsylvania, where she spent nearly two decades, she was demoted and shunted between labs before leaving for the private sector, where her ideas finally received the support they deserved. She won the 2023 Nobel Prize in Physiology or Medicine.

When a former colleague casually remarks to Kaplan that the university was right to fire Karikó because she did not bring in grants, he is stunned by the cold, mercenary logic. But the colleague is correct that securing funding is inseparable from doing science. Karikó's story exposes a larger truth: Money tends to flow to projects with a better chance of success, leaving researchers with unusual ideas out in the cold.

Kaplan points to alternative funding mechanisms—among them a well-designed lottery system and the Villum Foundation's "golden ticket" model, which allows individual reviewers to champion high-risk ideas that consensus-driven committees would almost certainly overlook. He also highlights proposals to reduce bias related to an investigator's gender, nationality, or seniority by blinding committees to grant-seekers' identities. The blinding tactic is hardly new, but it could be adopted far more widely than it is today.

Where big money flows, corruption can follow. Kaplan argues that the scientific community must devote more resources to identifying and punishing fraud, noting that publications, too, are a kind of currency. When gatekeepers admit low-quality or fabricated papers into the literature, they erode the very foundation of science, which depends on the reliability of prior results.

**Kaplan invites readers to consider the possibility that the game itself is fundamentally flawed...**

Kaplan also illustrates another fault line in science: Cooperation collapses under competitive pressure. Here, he recounts the story of two groups racing to rescue the northern white rhino who chose competition over collaboration. The contest to be the first to do so—despite the risk of dooming an endangered species—captures a deeper malaise. Just like Pasteur, he writes, these modern researchers were keeping their cards well concealed so that they could best reap the glory of their efforts by being first. Under these circumstances, he argues, collaboration should have been the only option.

Threaded through the book is Kaplan's own story. With academic publications to his name as an undergraduate, he left paleontology for science journalism, provoking disdain from some of his research peers. That same background, however, makes him fluent in science's language and culture, and it gives this book its authority and authenticity.

If success in science requires knowing "how to play the game," Kaplan invites readers to consider the possibility that the game itself is fundamentally flawed—no small achievement. *I Told You So!* makes a compelling case that if science is to remain faithful to its core principles, reform is overdue. □

10.1126/science.aed4896

The reviewer is a science journalist in Boston, MA, USA. Email: v.vijaysree@gmail.com

# Playing the game of science

Vijaysree Venkatraman

*Science* **391** (6787), . DOI: 10.1126/science.aed4896