

BOOK REVIEW

When lawyers pay scientists to join a billion-dollar fight over medical evidence

TILL BRUCKNER

Chadhi Nabhan, *Toxic Exposure: The True Story behind the Monsanto Trials and the Search for Justice*, Johns Hopkins University Press, February 2023, 328 pgs. \$ 29.95 (hardcover), ISBN-13:9781421445359,

Oncologist Chadhi Nabhan's life was turned upside down when an email popped into his inbox asking him whether he'd testify as an expert in a court case against the agrochemical behemoth Monsanto. A school groundkeeper who had regularly used Roundup, the company's bestselling weedkiller, had fallen ill with cancer. Was the chemical glyphosate to blame?

In his new book *Toxic Exposure*, Nabhan recounts his role as an expert witness in three separate high profile court cases, that pitted Monsanto's legal team against lawyers representing patients who had developed non-Hodgkin lymphoma after using the herbicide.

During pretrial discovery, evidence emerged that Monsanto had engaged in scientific ghost writing, and had declined to investigate the possibility that its multi-billion-dollar flagship product might cause cancer. What remained unclear, however, was whether Roundup actually could cause cancer – and if so, whether it had caused cancer in the patients now taking the company to court.

The evidence was unambiguously ambiguous. Two marquee institutions, the United States Environmental Protection Agency and the World Health Organisation's International Agency for Research on Cancer, had both conducted exhaustive evidence reviews and come to opposite conclusions. Various large scale observational studies, each of them flawed in its own ways, contradicted each other. The

evidence generated by in vitro studies and animal research was disputed.

The battle of experts was on. Both teams of lawyers marshalled and coached their own crack teams of highly credentialled scientists. The ultimate aim of the game was to convince juries composed of lay people that Monsanto's herbicide either was, or was not, "a substantial factor in the causation of" the patients' cancer.

Jury members watched as the assembled professors and doctors staunchly defended studies supporting their own side's position as rock solid, while slamming studies that had reached the opposite conclusions as deeply methodologically flawed.

During cross-examination, lawyers tried to rip apart not only rival experts' arguments, but also their credentials and credibility — including those of Dr Nabhan himself. "In court, it's all about creating doubt in the minds of the jury regarding opposing experts," he writes. Again and again, the author found himself in a battle of wits against hostile lawyers, each player seeking to trip up the opponent and score a point for his team.

In the preface to the book, Dr Nabhan writes that "I'd like to tell you the tale from my ringside seat as one of the medical oncology witnesses... I invite you to see the American judicial process as I saw it." *Toxic Exposure* fully delivers on that promise.

However, maybe inevitably, the immediacy of the account leaves some broader questions unexplored.

How does getting paid \$5,000 per day — which can add up to millions of dollars over the course of a career¹ — to testify for one side, influence a scientist's approach to evidence? Dr Nabhan reports having repeatedly tried to connect with the jury on an emotional level; an opposing expert presented slides prepared by Monsanto. Is a justice system where you need millions of dollars to take a powerful company to court really just? The law firms involved invested heavily in the cases, betting that they would recoup the money if they won.

Could science learn from a process that subjects key opinion leaders to protracted, hostile, well-informed cross-examination? For example, similar public grilling of prominent scientists might have added value to scientific and policy debates about Covid restrictions.

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And maybe, most importantly, does it make sense to task lay people with arbitrating complex scientific disputes — and if not, what is the alternative? Dr Nabhan praises the judges' firm grasp of the science, but how much jury members understood remains untold, and maybe unknown.

Overall, *Toxic Exposure* is well researched, well written, and provides a refreshingly personal first-hand account of a scientist's encounter with the American legal system. This book is an essential read for anyone seeking to understand how American courts navigate contested scientific evidence,

and provides an excellent starting point for wider ranging debates.

Conflicts of interest. None to declare.

¹ "Johnson & Johnson sues researchers who linked talc to cancer," Reuters, 13 July 2023 <https://www.reuters.com/legal/litigation/johnson-johnson-sues-researchers-who-linked-talc-cancer-2023-07-13/> (accessed 2023 July 23)