

BOOK REVIEW

From blots to a spreading stain on Alzheimer's research ... and beyond?

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Charles Piller, *Doctored: Fraud, Arrogance, and Tragedy in the Quest to Cure Alzheimer's*. Simon & Schuster [One Signal Publishers/Atria Books]. 2025. Pages: 352, Hardcover, US \$ 28.99. ISBN13: 9781668031247

An article rocks a research field

In July 2022, Charles Piller, an investigative reporter at the journal *Science*, rocked the world of Alzheimer's research with his article, "Blots on a Field?" (hereafter called Blots) [1]. In six searing pages, he presented evidence from a concerned whistleblower that two prominent American Alzheimer's research teams had published journal articles featuring images of proteins in the brain that appeared altered. In both cases, the images, identified by a technique known as the western blot, seemed to have been deliberately manipulated to bolster support for the amyloid hypothesis, the dominant causal explanation of the disease's devastating ravages.

Piller's book *Doctored* elaborates on the two cases featured in his 2022 article. Sylvain Lesné, who left his native France to become the protégé of Karen Ashe, a celebrated Alzheimer's researcher based at the University of Minnesota, had led the first case. Lindsay Burns, the Senior Vice President of Cassava Sciences, a company conducting clinical trials of a drug to treat Alzheimer's, had led the second. These two teams, Piller argues, are not simply bad apples among the hundreds of ongoing research collaborations attempting to unlock the mystery of Alzheimer's disease. They represent, he says, a pattern of wrongdoing that has made the amyloid hypothesis more religion than science.

Building a case

That's a big claim, and Piller mounts three lines of evidence to convince the reader. The bulk of the book is an extended, zig-zagging narrative that takes us deep into the bitterly competitive milieu of Alzheimer's research, with detailed recreations of the lead-up to and fallout from Piller's Blots exposé. In scene after recreated scene, the soundtrack could well be Leonard Cohen's iconic song of a dysfunctional system, where "everybody knows the dice are loaded, everybody rolls with their fingers crossed" [2]. At a second level, Piller scrutinises science's designated ethics watchdogs for impartiality and effectiveness. Finally, he devises a system to test his hunch that, if the door to systemic bias is wide open, more than a few cheaters may be swanning through it.

Level 1: Inside a world of rivals

As background to his narrative, Piller explains the contested science underlying Alzheimer's cause in terms understandable to the non-expert. The story begins with German physician Alois Alzheimer's 1906 discovery of "copious, chunky plaque deposits between neurons, and tangled protein fibers within the cells" (p 55) in a deceased woman's brain tissue. While still in her 50s, Auguste Deter had experienced failing memory and growing paranoia. Alzheimer concluded that the deposits of amyloid-beta (A β) proteins caused her mental decline — a first iteration of the amyloid hypothesis.

In 1974, funding from the newly created US National Institute on Aging launched a new era of research into dementia, and hope for an effective treatment for Alzheimer's patients. Harvard-based Dennis Selkoe built a coherent explanatory framework based on Alois Alzheimer's insights and helped focus attention on "toxic oligomers" (p 57), a soluble subtype of A β proteins even more toxic to brain cells than sticky plaques. Brilliant and influential, his commitment to the amyloid hypothesis inspired less admiring labels, including "the godfather of the 'amyloid mafia'" (p117), and high priest of the "Church of the Holy Amyloid" (p 120).

A corollary to the belief in amyloid's crucial role was that anti-amyloid drugs would halt or diminish progression of the disease and provide relief for patients. And yet, "Year after year, drug candidates that seemed promising in mice failed in trials with Alzheimer's patients" (p 58). Furthermore, postmortems on brains of many individuals with no sign of cognitive decline showed massive deposits of amyloid and tangled protein fibres. These incongruities fuelled sceptics like George Perry, who founded and edits the *Journal of Alzheimer's Disease*. He believes the amyloid hypothesis "has been extravagantly hyped" (p 133) by people "who don't want the amyloid hypothesis to die, because then they have no legacy." (p 134).

Other sceptics make up a semi-clandestine watchdog community, sometimes remaining anonymous. Members include western blot analysts like Matthew Schrag, the Alzheimer's specialist and whistleblower who alerted Piller to the Ashe and Burns cases. They scrutinise scientific articles for suspected misconduct and post their concerns on *PubPeer*, a popular website for reporting possible research wrongdoing, including image manipulation. The image sleuths aim for concrete results: a grant rescinded, an article retracted, a clinical trial shut down.

"Everybody knows the deal is rotten"

This rivalrous environment is the ground in which Karen Ashe and Lindsay Burns grew their respective careers, each aided by a colleague with "magic hands," a term some scientists use to describe an uncanny ability "to achieve hoped-for, problem-free results ... experiment after experiment" (p 23). In March 2006, Ashe and Lesné published an article in *Nature* that claimed to show that a previously unknown subtype of amyloid oligomers, which they called "amyloid-beta star 56," or A β *56, caused memory loss in rats. Celebrated as conclusive proof of the amyloid and toxic oligomer hypotheses, the article became one of the most cited in the annals of Alzheimer's research. It won Lesné his own laboratory and a coveted National Institutes of Health (NIH) grant, and sparked rumours that Ashe might be "a candidate for the actual Nobel" (p 60). Yet after the Blots exposé, many researchers admitted they could never find A β *56.

Burns' close collaborator, Hoau-Yan Wang, was a neuropharmacologist based at City University of New York (CUNY). In scholarly papers purporting to show Cassava's drug, Simufilam, had "revivified" long-dead brain tissue, they positioned the drug as a remedy for Alzheimer's. Despite other scientists challenging the revivification claim as "zombie science" (p 23), Wang attracted elite coauthors and received tens of millions of dollars from the US National Institutes of Health to test Simufilam on patients hoping to escape or forestall their descent into Alzheimer's.

Piller's narrative evokes a warped research community in which elite researchers can fudge data and garner huge rewards, while scientific colleagues look away. He finds no simple explanation for this behaviour, much less for the decades-long dysfunction of an entire research system where "everybody knows the deal is rotten." [2] Whatever the reason for individual scientists' wrongdoing, in the field's top tiers the normative response is politeness, says Matthew Schrag: "People really don't want to have these arguments about fraud and data" (p 35).

Level 2: The watchdogs who punt

The responsibility for scientific integrity doesn't rest solely with individuals; and Piller next explores the watchdogs we rely on to expose and discipline research misconduct — federal government agencies, scientific journals, and universities. His dispiriting conclusion is that these supposed guardians of scientific standards delay, punt, and sometimes engage in misbehaviour themselves.

Piller recounts evidence from the literature and his own investigation that both government agencies and scientific journals are rife with conflicts of interest. Journals fail to correct or retract articles with egregious errors, or take months to do so. Universities "defend, ignore, or hide corrupt practices" (p 178) for fear of losing prestige, funding, and public respect. Students are often the ones who suspect a

professor's work, but reporting these concerns can exact a high price in interrupted doctoral work and derailed careers.

Piller credits structures like *PubPeer* for a surge in the discovery of research misconduct. He suggests that scientific integrity would be better served if independent subject matter experts and forensic analysts conducted the reviews, rather than the current watchdog agencies and institutions.

Level 3: From blots to a spreading stain

To assess whether Lesné and Wang are anomalies, Piller assembles a posse of image sleuths to scour the publications of leading Alzheimer's scholars for "Other Blots" suspect images that may appear in their published peer-reviewed works. Using *PubPeer* posts as a tip-sheet, the sleuths identify sixty-five candidates and quickly focus on Berislav Zlokovic, a prolific, influential neuroscientist at the University of Southern California with \$30 million in NIH funds. The images that "looked wrong" (p 227) fill a 113-page dossier; furthermore, deaths and disability in a phase 2 trial seemed elevated, and four ex-lab members said they were pushed to "adjust data" (p 228). Zlokovic's case is extreme, but fits a consistent pattern of rogue researchers that, shockingly, includes Schrag's own undergraduate mentor and trusted friend, Othman Ghribi.

To strengthen this third line of evidence, Piller engages a data analytics company to demonstrate how doctored images in even one highly ranked article can spread from a blot to a stain on the entire field, potentially distorting scientific understanding. By March 2024, for example, researchers had cited Lesné's 2006 *Nature* article nearly 2,500 times. Other researchers then cite these papers, and so on.

Blowback from the scientific community about creating a vigilante "name-and-shame culture" (p 243) — that could drive young scientists from the field and, in the worst case, lead to suicides — prompts Piller and Schrag to reflect on their own moral responsibilities. They acknowledge a need to avoid collateral damage (junior scientists can be manipulated by a powerful superior), to maintain balance (minor errors are inevitable in any large output of work), and to avoid feeding public cynicism about science. Ultimately, both believe critique and correction are integral to the scientific process: "this is how science is supposed to work" (p 245), says Schrag.

A moral, and signs of a course correction

Beyond the shocking disclosures, a minor but clearly intentional *leitmotif* runs through the book and is most striking in the contrasting accounts of Matthew Schrag's peripatetic upbringing as an Air Force brat with Mennonite roots and modest academic beginnings, versus Burns's and Ashe's privileged family backgrounds and stunning athletic, cultural, and scholarly achievements. Burns's "illustrious

athletic career" (p 17) includes an Olympic medal in rowing; Ashe plays Beethoven sonatas "with elegant finesse" (p 47) and, as a scientist "had once been on a Nobel Prize trajectory" (p 213). Elite credentials, Piller wants us to know, are no guarantee of a moral compass.

Judged on Schrag's terms about how science should work, *Doctored* delivers a much-needed corrective to a research field that has lost its moorings. Ashe finally withdrew the 2006 *Nature* article, Cassava paid the US government \$40 million for misleading claims, Wang paid a \$50,000 penalty and faced a possible prison term for falsifying scientific data in grant applications (the US Department of Justice abruptly dropped the charge in October 2025, without explanation); and Alzheimer's researchers who have toiled on the margins for decades with little funding are finally getting some respect.

Since Piller's three lines of argument critique norms and structures that cut across many medical specialties, *Doctored* should be seen as a call to confront violations of research integrity in every field of clinical research.

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References

1. Piller C. Blots on a field? *Science*. 2022 Jul 22;377(6604):358-363. <https://doi.org/10.1126/science.add9993>
2. Cohen L, Robinson S. *Everybody Knows* [Studio Album, I'm Your Man], Montreal & Los Angeles: Columbia; 1988 [cited 2026 Jun 30].