

Book Review: The Poison Squad

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Introduction

Deborah Bloom, a renowned American journalist, starts off her book “The Poison Squad: One Chemist’s Single-Minded Crusade for Food Safety at the Turn of the Twentieth Century” by introducing the amazing forgotten story of the invention of food safety and the people who first tried to make the United States a country that protected consumer from crazy business practices of the 19th century.

By bursting our bubble of fantasizing the natural flavored lives of our great grandparents, the author first talks about the food adulterations of 19th century. She gives us a peek of the unregulated food, drink and drug horrors of that time by multiple examples of milk, honey, sugar, coffee flour and spices etc. She also doesn’t overlook the expedition of all these food fakeries by the late 19th century revolution of industrial chemistry and how the manufacturers welcomed the new chemicals and synthetic compounds. They mixed them into food articles to falsify their taste, smell, color and tricked the customers in purchasing something that its not.

Then, she gives a brief introduction of a tall white man with a swashbuckling look of confidence Harvey Washington Wiley, chief scientist of US Department of Agriculture. The man who recruited human volunteers called “The Poison Squad” and conducted researches and tests of many food products on them. Even under the severe pressure of business authorities, who saw his work as a threat to their profits, he revealed his discoveries about the chemical additives to

government, law and public. With all his sweats, the chemist got ahead in getting Pure Food and Drug Act of 1906 passed and enforced in the United States. The writer appreciates Dr. Wiley's work, that laid the grounds for today's consumer protection ideas, a great deal and hopes for us to acknowledge it as well.

The first half of the book highlights the food manufacturers' disguise attempts of insanitary products and Dr. Wiley's boldness towards exposing it all and speaking for public's rights of safe and healthy food consumption.

Chapter One: The Chemical Wilderness

The chapter is about an era from 1844 to 1887, a history of Wiley's chemistry career. Blum sketches the inspirations of this farmer boy who had an influential father who taught him authenticity and the Civil War soldiers who lit up a spark in him to become a physician; when he was in college. By earning an MD and teaching at local schools as a chemistry teacher, he soon found his passion of becoming a chemist and, in 1874, joined Purdue University as a chemistry professor with a bachelor's degree in science. In 1878, he practiced food chemistry in German Empire.

The writer takes notice of early human casualty cases in Britain due to food adulterations that fired up journalists' voices in America. In 1881, on demand of Indiana State Board of Health, Wiley examined honey and maple syrup market samples and published his report

showing that 90% of these samples was mere glucose. The report offended “the fake beekeepers” and brought the man in their eyes.

Then comes the time of 1882, when Harvey Wiley acquired the position of chief chemist at Department of Agriculture where he first encountered many personal attacks by the former chief chemist, but then got blessed with a new boss Coleman who was at the same page as him: ensuring public’s safety as first priority of their job. Wiley continued his food examination work with his new team and this time targeted the dairy products specifically milk and butter. Their findings of milk containing dye agents like chalk, lead etc. and butter being completely substituted with margarine were incorporated in the 1887 issues of Bulletin 13.

Chapter Two: Cheated, Fooled, and Bamboozled

In the second chapter, the writer describes the struggles of Wiley’s team from 1887 to 1896. After enlightening the food adulteration cases of dairy products, the chemistry department team found substantial fakes in manufacturing spices and reported them right away to the higher authorities suggesting the need of urgent action. Soon enough, this incident was followed by another agonizing discovery of the damages of salicylic acid (a preservative used in all kinds of beverages and wines) which made Dr. Wiley wonder about conducting trials of all other products on human subjects. Taking another step up in 1890, Wiley hired a journalist Alex Wedderburn who published his technical reports to broaden his audience. Wiley’s team then spread more blasts about coffee, teas and cocoa investigations.

The chemistry department had elections in 1892 introducing new boss Julius Morton, who as soon as came on board started to demoralize Wiley's team's food-purity researches by cutting down their budget, ordering to get rid of the journalist to stop sharing their research work with consumers and finally directing Wiley's job to Chicago. In a surprising turn of events, this movement turned out to be a blessing in disguise for him as now he could conduct his public presentations and talks more freely. The opportunity opened up new doors for him, to make people aware of all the food industry deceptions, like he was offered to share the copies of all his former researches and also write new content for a food magazine called Table Talk.

Chapter three: The Beef Court

Mapped over a short span of three years (1896 – 1899), this chapter is about a few unexpected events. In addition to on-going work discouragement, Wiley went through personal heartbreaks i.e., successive deaths of both his parents and a failed love with USDA librarian Anna Kelton.

As a result of another election, chemistry division got McKinley as its new president who did not have particular interest in food quality campaigns and rather hooked the team on the scandal of “embalmed beef” fed to the troops in 1898 war with Spain. The issue raised a heated argument and was dragged to court where Wiley and his team member Bigelow's statements were a great help to settle it down. Wiley and his team claimed that the beef supplies were not

persevered by latest chemicals but were rather gotten from poor sources in the first place which is exactly the same that the normal citizens are provided in the market.

The beef court incident aroused a sense of knowledge in public and editors, so Wiley struck the iron while hot and published his reports about fatal metal (copper, tin, zinc and lead) adulterations in dairy products, presenting terms like “embalmed milk” as the new headlines.

Chapter Four: What’s in it?

This chapter covers the three years’ time from 1899 to 1901 when the chemistry division was overwhelmed with hundreds of samples to be tested and analyzed for a new series of hearings of food-purity in the country. From dairy, wine, baking to spice products everything was on the line. Wiley suggested that, instead of applying immediate bas, government needed to ground these regulations in good science: remove the risky additives and ask the manufacturers to label all the additives. After the hearings, Senator Mason proposed two bills according to Wiley’s suggestions but felt pessimistic in the approval and, as anticipated, both bills were soon rejected due to manufacturers’ interests. Meanwhile, the good President McKinley got shot down to death in 1901 Pan-American Exposition and the charge was transferred to not-so-good Vice President Roosevelt who started on bad terms with our writer’s protagonist and ordered to get him fired as a result of his publication about Cuban sugar. However, Wilson’s favor saved his job with a harsh warning from the President.

Chapter Five: Only the Brave

Chapter five explains in detail the start of Wiley's human experiments of food adulterations from 1901 to 1903. Before that time, food additives studies were being done on animals like rabbits and rats or a group of younger kids, but there was no better way to graph the exact effects of these harmful chemicals on healthy human bodies. So, Wiley devised this new plan of "hygienic table trials" where he would conduct real human experiments of feeding the additives to a bunch of healthy, tough, young male subjects to see the consequences on these men's health.

With his team's help, he built a setup of restaurant in the basement of Agriculture Department building and made up the six-week long, precisely scheduled, three meals a day plan. Through an advertisement, he recruited his first batch of 12 young fellows for the first additive borax. He incorporated the chemical ingredient as borax capsules. By keeping record of every single health detail of these young men, he was determined to conclude the long-run researches.

Wiley strictly warned his team not to provide any information about the study to any sources. However, a young Washington Post reporter George Brown found himself much intrigued by Wiley's work and started hunting down any leaks. He published a number of articles about the "Old Borax (Dr. Wiley)'s Poison Squad" (apparently Brown did not fall for the table tries title).

Chapter Six: Lessons in Food Poisoning

This chapter embodies the mental lessons that Wiley learned in 1903 from his opponents when he realized that he was actually at a war already. He circulated the report of his first Poison Squad session by enlisting all the after-effects of mild, normal and high doses of borax for a normal and healthy human. He drew a conclusion that borax and boric acid should be constrained as they are harmful for the kidneys. With this report release, he had already welcomed the next batch of Poison Squad targeting salicylic acid that was showing worse health penalties.

Meanwhile, congress reviewed their set of food protection rules but the modifications suggested by Wiley were shut down once again under manufacturers' pressure. Not only that, but they were also forming an anti-organization of their own and paying chemists to falsify testimonies. This taught Wiley that if he was to achieve the necessary reforms in food industry, he needed the right allies. So, he started joining forces with renowned cookbook authors and event organizers and with their help he organized a new publication of simple food adulteration detection methods and kitchen hacks.

Chapter Seven:

This chapter covers the fruity part (1904 – 1906) of Wiley's long harvest. The National Food Manufacturers Association's political efforts, to get their illegitimate food pollution sponsored by the government, were in a rush. Their chairman Weldon Heyburn challenged Wiley's food and drug bill before the senate in January 1905. Despite of the support by Idaho

club women, Wiley lost the legislation and his frustration grew deeper. In the meantime, editors and journalists developed more interest in country's food contamination issue. Novels and articles like *The Jungle* by Sinclair, *How the Baby Pays the Tax* by Henry Dodge, *The Slaughter of Americans* by *Pierce's Magazine* urged the President Roosevelt to call a delegation of food commissioners and media representatives to discuss the matter. The President's words were under clear influence of Wiley's research and with his support the food and drug bill was passed on February 26, 1906 by 63-4 senate votes.

Chapter Eight: The Jungle

The *Jungle* was a novel by a young writer Upton Sinclair that talked about diseased cattle meat cans supplied in market for public and fed to American soldiers in the war against Spain. The book did not earn any popularity at first, but when Armour a meatpacking titan tried to bribe a publishing firm to seize its abroad publications, the firm snapped and counter reacted reprinting 150,000 copies in US. The novel brought mixed sensations; on one hand people started demanding answers and on the other the meatpackers contacted their sincere friends in the government. Long story short, President Roosevelt, after brushing up the situation in details signed two new acts: Meat Inspection and Pure Food, on 30th June, 1906. He did not credit writer Sinclair's or Dr. Wiley's contribution in this regard that stung Wiley.

Don't be too optimistic to see the pure food act passed, the second part of the book describes the real and unpredicted battles yet to come.

Chapter Nine: The Poison Trust

9th chapter is about the bitter sweetness of Department of Agriculture's interrelations. Wilson, the Agriculture Secretary and Wiley's immediate boss, had supported him a long way in all his researches and food investigations. After the act was passed, Wilson encouraged its enforcement by letting Wiley to work on the necessary set of rules with other three departments. He also had his back in abandoning the vicious move of a congressman Tawney to cut off federal funds for food safety programs of Wiley's team. But it only began to drive a wedge between Wiley and his boss, when he piloted scheme to regulate whiskey products. Wilson played dirty tricks of bamboozling him with a new associate member at the Bureau (Fred Dunlap) and a Board of Food and Drug Inspection with two new members to take away Wiley's powers.

In the background 1907, Wiley's team also published the injurious findings of third Poison Squad trial study about sulfurous acid.

Chapter Ten: Of Ketchup and Corn Syrup

This chapter unravels the two yearlong (1907 – 1908) Wiley's targeted studies about sodium benzoate, a compound used for preserving ketchup. Ketchup was a product not made of pure tomatoes rather a balanced mixture of tomatoes and other flavors that did not need any preservation, but companies were making it out of inferior sources and then using sodium benzoate to increase its life span. Wiley's complaints after sharing outcomes of his Poison Squad dinners of the compound convinced H. J. Heinz Company to change their formula and supply

expensive but healthier ketchup. In response, other food processors turned to President Roosevelt and Secretary Wilson for help and stop Wiley's demands of banning sodium benzoate and benzoate of soda from food products. However, when Roosevelt summoned all the concerned parties in White House and Wiley and his team revealed the study results of compound's use, President agreed to the ban policy.

Though Wiley won the argument of ketchup in the meeting, he irrationally called saccharin unhealthy and irreplaceable to sugar or glucose. President, as he was himself regular saccharin user, took offense of his jumped statement and shut him up. Later on, Wiley denied to compromise on anything other than glucose to be labeled as sugar and so the formal term "corn syrup" was authorized. Afterwards, when Wiley continued with his tough and meddling behavior about further cases e.g., French wine vinegar, Roosevelt appointed five new scientists called as The Remsen Board to reexamine and evaluate his work. Wiley's work started to be overruled and criticized by his very own traditional colleagues and he was losing his amiable relationships with them.

Chapter Eleven: Excuses for Everything

Relating to last chapter, this one unleashes more challenges and oppositions in our writer's hero's way. Wiley's boss Wilson was getting worn-out of his alarmist investigations with each coming day and so, he started trying to slow by shunning the industry unfriendly publications. Edwin Ladd, a modern food chemist, organized a protest against Wiley and

Roosevelt's wearing responses towards Wiley's food safety researches. These political differences went viral in the media and led to many rumors. Unbothered by any of this, Wilson kept degrading Wiley's reports like formaldehyde and sulfur additives, thus creating more friction between the two individuals. Soon the Remsen Board, under Wilson's supervision, published a report negating Wiley's experiments and findings of sodium benzoate and declared its reuse in the industry. Wiley, disheartened by his own office mates, thought about calling it quits but then lifted his spirits once again to stick to his one and only motive: refining the quality of food and public's lives.

Chapter Twelve: Of Whiskey and Soda

Chapter twelve illuminates the scenarios where new President William Taft readdresses the whiskey and soda law enforcements and roots for new hearings of the case. The discussions were concluded siding with Wiley's argument of standardizing alcoholic beverages by honest means. Wiley's colleagues expedited their labors of defying his position at the Bureau by contradicting to his opinions over any and every matter.

Next Wiley's team found out about the use intoxicating agents in soft drinks and sodas. Coca Cola especially was adding the amount of caffeine in a glass of soda more than that there is in a cup of coffee. Young kids, four years old, were consuming these drinks and there were several cases of addiction. But when Wiley came up to Wilson about this report, he totally refused to take it out to public platforms. Wiley then sought a renowned and influential

newspaper editor Seely for his help and, on Seely's pressure of publicizing Wilson and his department as corrupt government, Wilson ordered the team to seize Coca-Cola's grand shipment on 21st October, 1909.

Chapter Thirteen: The Love Microbe

In the early 1910, Wiley seems to get himself out there in public talks more passionately than ever. He visited New Jersey, New York, Philadelphia, Washington, Oklahoma, Brooklyn etc. Wilson continued to be the bad guy and authorized George McCabe of all the food regulation decisions in the department. McCabe took full advantage of the opportunity and claimed his superiority over Wiley by reviewing his old certification of dyes and bleached flour. He adjourned the certification from the rules and argued upon the bleached flour research of only quoting the nitrates to be injurious and no levels defined as safe and unsafe. Anyhow, he got his way around of getting ahead of Wiley and eliminating nitrates from the list of poisonous compounds.

In the background of all this work rivalries, Wiley bumped into his first love Kelton on a street someday and restarted the whole relationship on good terms. Soon, he proposed (once again), but this time got a positive answer. The news of their engagement was all over the media where Wiley "the greatest germ enemy fell for a love microbe".

Soon enough, trials of Coca-Cola case began, and both parties went head on. Federal government started off with the argument that the sodas had replaced the cocoa leaf extract with

caffeine additive, which was injurious for humans (presented by the research on rabbits and frogs). Their side of the hearing had more than twenty government witnesses of scientists and Coca-Cola addicts etc. The company did a harder strike and changed the whole story to one statement that the caffeine was not an additive rather a part of its recipe and that subsides the whole discussion out of Bureau of Chemistry's boundary. They also denied the addiction effects by showing the results of their very own kind of Poison Squad research. By calling the government untrustworthy, Coca-Cola was declared the winner of this combat.

While all this was happening in Tennessee, Wiley's work foes were implanting a case of government fund misuse, behind his back. They made up a story of Wiley and his team members Bigelow and Kebler of ruling on pay of a subordinate Rusby. With Wilson's assistance, they secretly conducted the whole plot to eradicate Wiley and his team from the Bureau while they were away from office. They also got President Taft on board to invalidate Rusby's contract, demote Kelber and Bigelow and Wiley asked for volunteer resignations.

Chapter Fourteen: The Adulteration Snake

As the story comes to its end, this chapter shows signs of Wiley's good times. After his long service at Bureau of Agriculture. Wiley polished his political skills and so he used them to get back at his work enemies who accused him of illegal fund use. He stated the facts that McCabe and Dunlap meddled with his desk belongings and plotting a conspiracy along with Wilson. As the three of them had constantly been refusing to prosecute hundreds of his cases and

grouping against his team for quite a long time now, he proved the charges to be childish and lame and a crossover to his rights as a respectful man. He earned the support and encouragement of his fellows, media and food commissioners, as a result, President ordered to drop all the charges and Wiley was embarked with clear triumph.

However, this incident proved to be the last straw that broke our camel's back and he started to think about getting far away from this Bureau. He was contented with all his work and contributions toward food industry, but was still dismayed by the adulteration snake that coiled through. He was also being bombarded with one better than the other kind of offers and opportunities from remarkable platforms. And finally came the good news of his first child and he decided to leave his job with sheer dignity and pursue something else. On March 15, 1912, Wiley notified the media of his resignation from his twenty-nine years long civil service at Department of Agriculture.

Chapter Fifteen: The History of a Crime

The shift of power took place right after Wiley's resignation; Wilson became the new President and he appointed Dr. Carl Alsberg as the new chief. Alsberg turned out to be even more rigid and uncompromising than Wiley and initiated some appreciable reforms in the food industry. Dr. Wiley joined the Good Housekeeping magazine as a director and started writing his columns about food safety and nutrition.

Anna Kelton Wiley also became an activist Women's Political Union member and fought hard for women's equal rights to vote and liberty. More power changes occurred in federal Government as Harding replaced Wilson as the new President, Alsberg resigned his position and Campbell was his new replacement. The food and drug act of 1906 was challenged by Wiley's old enemies and he took protective action for his law (remember it was called Wiley's law?). He said in an interview that all I have done is to try to win against food adulterations but seems like the battle is against us now. In 1927, the Chemistry Bureau was split in two branches: Food and Drugs, Chemistry and Soils.

Disappointed and angry Wiley poured his heart into his book and reversed to all the history of all the additives, compounds and chemicals he worked on, who and how attacked him in the process. Nevertheless, Dr. Harvey Wiley did not leave this earth with all this thwart, he died as a younger version of himself: lively, passionate and humorous. After exact twenty-four years of the milestone of his life i.e., approval of Pure Food and Drug Act, Wiley took his last breath on June 30, 1930. His autobiography came late that year, after his demise.

Law Lessons from the Book

Blum's story of food adulteration crime and its counter law enforcements is an interesting series of events. The chief of Chemistry Bureau conducted researches with his team, compiled the reports and conclusion and drafted the necessary acts and laws. Next, the secretary of Department of Agriculture reviewed and revised those proposals with required evidences and

passed them over to the President. After meetings and consultations with the secretary, chief and other relative experts, the President ordered the approval or dismissal or revisions of the law.

What seems to be a smooth progression was not that articulate. Politics, business interests, biasness, grudges and diplomacies were all hidden ingredients. Media also played a massive role in it by revealing both truthful and deceitful news. Once a law was passed, it needed further set of regulatory measures for its implementation in the industry. Challenging and demanding for rehearing was another tactic of those who were in the downfall by the law. They dragged the same old cases over and over again with new logics and complaints and that most of the times led to making amendments in the acts and laws.

So, what I gathered from this wonderfully narrated crime and control story is that law is not straightforwardly based on some documents and researches neither does it controlled by the most influential positions. Yes, proposing a federal and administrative law needs the ground work of papers and experiments, but the approval and enforcement stages are where you need power, politics, planning and patience (the four Ps). You must know what you are dealing with and plan your way out of how to get that mission achieved.

America and the Federal Government

The 19th century America and its federal government, represented our writer, was controlled yet powerful. Though it kept changing and shifting, the most part of Wiley's life

experienced the reign of President Roosevelt and Secretary Wilson. Both of them stepped on his work in their own separate ways.

The government typically assumed or demanded to be fair and honest to its country. The forces are expected to see and act according to public's interest as their first priority. Yet, the system is never ideal. Personal and biased interests always come prior for most powerful people. Just like Roosevelt, who supported many laws and actions of Wiley in governing the country's food industry healthier and safer for American lives, not always stood for the national interests. Wilson, the other front man, who initially and for a longer period of time fortified Wiley's work for nation's benefits, turned his back on him when he got tired of his rambling reports. Another factor of over friendships of these lawmakers with the businessmen and economy sucking leeches is an incurable malfunction. How would you embody a person into power who does not have any associates and networks? Everybody is bound to run favors and biased decisions for his own or other parties' advantages.

So, I have concluded in my study of 19th century picture of America's federal government, portrayed by our dear author that power is and always was communal. Government is responsible for taking care of people that actually want to be taken care of. Public and media should be faithful and compliant to themselves first and then demand security from their leading faces. Correspondingly, the government needs to fix its interrelations, get everyone on the same

page and then march together towards the better future of the nation. America has been on the road for a while now and we have come a long way.

Management and Leadership Teachings

Let me first sketch the leading personality of Blum's book:

- i.** Young passionate but inexperienced
- ii.** Tough and uncompromising
- iii.** Authentic and reliable
- iv.** Emotional and irrational
- v.** Crediting and acknowledging
- vi.** Competitive and bold

Inexperience is inevitable when the leader is young and new to the game, however, he/she should compensate this incapability by seeking advisory and counselling of older and proficient allies. Rigidity is a basic ingredient to lead a mission, but the person should be able to adopt obligatory compromises for higher goals. Honesty and authenticity are the elementary factors of a genuine leader. The excellence meets the person who is dutiful towards his people. Emotions tend to drive kings to dust, if they don't know how to channel them. Featuring a leader needs high sentimental resilience and rational conduct.

Positivity is another key feature of a successful leader. An optimistic and cheering person is the one who can lead his team to the greater triumphs. Crediting and acknowledging the

offerings of the fellow members promotes encouragement and brings grander goods. A bold individual who is not fearful of facing the destitutions and rough patches is the person destined to lead the way. Last but not the least, foreseeing the bigger picture and planning the routes to get to the goal is compulsory piece of the puzzle. Allies, foes and rivalries should make the leader stronger, better and sharper and he must know how to extract the richness out of them all.