

# *Who put the borax in Dr. Wiley's butter?*

False cures and adulterated foodstuffs were flooding the market when a chemist and his "poison squad" pushed through the first Pure Food and Drugs Law

By GERALD H. CARSON

On a hot and humid July morning in 1902, a burly, 200-pound scientist and connoisseur of good food and drink sat hunched over his desk in a red brick building in Washington and planned deliberately to feed twelve healthy young men a diet containing borax. Dr. Harvey W. Wiley, chief chemist of the Department of Agriculture, had in mind a double objective: first, to determine the effects upon human beings of certain chemicals then commonly used to preserve processed foods; and, more broadly, to educate the public in the need for a federal "pure food" law. Food preparation was becoming industrialized and subject to more complicated processing; products were traveling longer distances, passing through many hands. Manufacturers, facing a novel situation, turned to dubious additives to make their products appear more appetizing or to preserve them. Borax compounds, the first object of Dr. Wiley's investigations, were used to make old butter seem like new.

Volunteers for the experiment were recruited from the Department of Agriculture. They pledged themselves to obey the rules. A small kitchen and dining room were fitted out in the basement of the Bureau of Chemistry offices with the assistant surgeon-general in attendance to see to it that the subjects of the experiment did not get too much borax, and Dr. Wiley to see that they got enough. A bright reporter, George Rothwell Brown, of the *Washington Post*, gave the volunteers an enduring handle, "the poison squad"; and before long the public began referring to Wiley, affectionately or otherwise according to the point of view, as "Old Borax."

Six of Dr. Wiley's co-operators at the hygienic table

got a normal ration plus measured doses of tasteless, odorless, invisible boracic acid. The other six also enjoyed a wholesome diet, with equally tasteless, odorless, invisible borate of soda added to their menu. The resulting chemical and physiological data was quite technical. But the meaning was clear. The effects of borax included nausea and loss of appetite, symptoms resembling those of influenza and overburdened kidneys. The feeding experiments continued over a five-year period. After the borax initiation, which made a popular sensation, the squad subsequently breakfasted, lunched, and dined on dishes containing salicylates, sulfurous acid and sulfites, benzoates, formaldehyde, sulfate of copper, and saltpeter. Seldom has a scientific experiment stirred the public imagination as did Dr. Wiley's novel procedures in, as he said, "trying it on the dog."

"My poison squad laboratory," said Dr. Wiley, "became the most highly advertised boarding-house in the world."

A popular versifier wrote a poem about it, the "Song of the Pizen Squad." Lew Dockstader introduced a topical song into his minstrel show. The chorus closed with the prediction:

*Next week he'll give them mothballs à la New-  
burgh or else plain:*

*O they may get over it but they'll never look the  
same!*

The *New York Sun* sourly handed Wiley the title of "chief janitor and policeman of the people's insides," an expression of one line of attack which the opposition was to take—invasion of personal liberty.

The movement to protect the health and pocket-

book of the consumer was directed no less at "the patent medicine evil" than it was at the chaotic situation in the food manufacturing field. The "cures" for cancer, tuberculosis, "female weakness," the dangerous fat reducers and "Indian" cough remedies were a bonanza for their proprietors, and many an advertising wizard who knew little enough of drugs or *materia medica* came to live in a jigsaw mansion and drive a spanking pair of bays because he was a skillful manipulator of hypochondria and mass psychology. Slashing exposés in the popular magazines told of babies' soothing syrups containing morphine and opium, of people who became narcotic addicts, of the use of tonics that depended upon alcohol to make the patient feel frisky.

"Gullible America," said Samuel Hopkins Adams in an angry but thoroughly documented series of articles, "will spend this year [1905] some seventy-five millions of dollars" in order to "swallow huge quantities of alcohol . . . narcotics . . . dangerous heart depressants . . . insidious liver stimulants."

The nostrum vendors at first looked upon the Food and Drugs Act as a joke. In time the manufacturers of Pink Pills for Pale People learned the hard way that they were living dangerously when they ignored the precept, "Thou shalt not lie on the label."

As public interest rose in "the food question," powerful groups took their places in the line of battle to contest the pure food and drug bills which appeared, and died, in Congress with monotonous regularity. On the one side were aligned consumer groups—the General Federation of Women's Clubs, the National Consumers' League, the Patrons of Husbandry, and the labor unions. With them stood food chemists who had had experience in state control work, the American Medical Association, important periodicals (*Collier's Weekly*, Bok's *Ladies' Home Journal*, *World's Work*, *The Independent*, *Cosmopolitan*), President Theodore Roosevelt, and Dr. Wiley.

In opposition were the food manufacturers and manufacturers of articles used in the adulteration of foods and drugs such as cottonseed oil, the proprietary medicine industry, the distillers, canners, *Leslie's Weekly* (to which Dr. Wiley was anathema), newspaper publishers opposed for business reasons, Chicago meat packers, and powerful lobbyists holed up at the Willard and the Raleigh Hotel; also an obdurate Senate, responsive to pressures from big business. Wiley, as the leading personality in the fight for a food bill, achieved the uncommon distinction of acquiring almost as many enemies as did President Roosevelt himself.

When the average member of Congress, newspaper publisher, or pickle manufacturer smelled socialism

and deplored the effects of the proposed legislation upon business, he was only responding normally to two powerful stimuli: self-interest and the nostalgic memory of his lost youth. Most mature Americans of the 1880-1900 period were born on farms or in rural areas and knew the conditions of life of a scattered population. The close-knit farm family was the dominant economic unit. It raised, processed, cured, and stored what it ate, and there is abundant evidence that it ate more and better food than the common man of Europe had ever dreamed of tasting. There was no problem of inspection or of deceptive labels. No "Short-weight Jim" invaded the home kitchen or smokehouse. If the preparation was unsanitary, it was no one else's business. What wasn't raised locally was obtained by barter. There were adequate forces of control over that simple transaction—face-to-face bargaining, community of interest, fear of what the neighbors would say.

As to drugs and medicines, grandma could consult the "family doctor" book and compound her home remedies from roots, herbs, and barks gathered along the edge of forest, meadow, and stream: catnip for colic, mullein leaf for asthma, the dandelion for dyspepsia, and so on through the list of simples, essences, flowers, tinctures, and infusions, whose chief merit was that they did not interfere with the tendency of the living cell to recover.

When Americans were called to the cities by the factory whistle, a dramatic change took place in their food supply. No longer was there personal contact between the producer and consumer, nor could the buyer be wary even if he would. For how could a city man candle every egg, test the milk, inquire into the handling of his meat supply, analyze the canned foods which he consumed in increasing quantities?

Since foodstuffs had to stand up in their long transit from the plant to the home, it is not surprising that unhealthy practices developed. During the "embalmed beef" scandal, for example, there was a debate as to whether a little boric acid in fresh beef was after all only an excusable extension of the ancient and accepted use of saltpeter in corning beef. Analytical chemistry was called upon increasingly to make cheap foods into expensive ones, to disguise and simulate, to arrest the processes of nature. The food manufacturers raided the pharmacopœia. But the salicylic acid that was approved in the treatment of gout or rheumatism was received with mounting indignation on the dining room table where it proved to be a depressant of the processes of metabolism. It was objectionable on another ground too—that it led to carelessness in the selection, cleansing, and processing of foodstuffs.

It is difficult to picture today the vast extent of adulteration at the beginning of this century. More than

## A FERTILE FIELD FOR THE MUCK-RAKE

THE SAUSAGE DEPARTMENT IN A CHICAGO PACKING-HOUSE

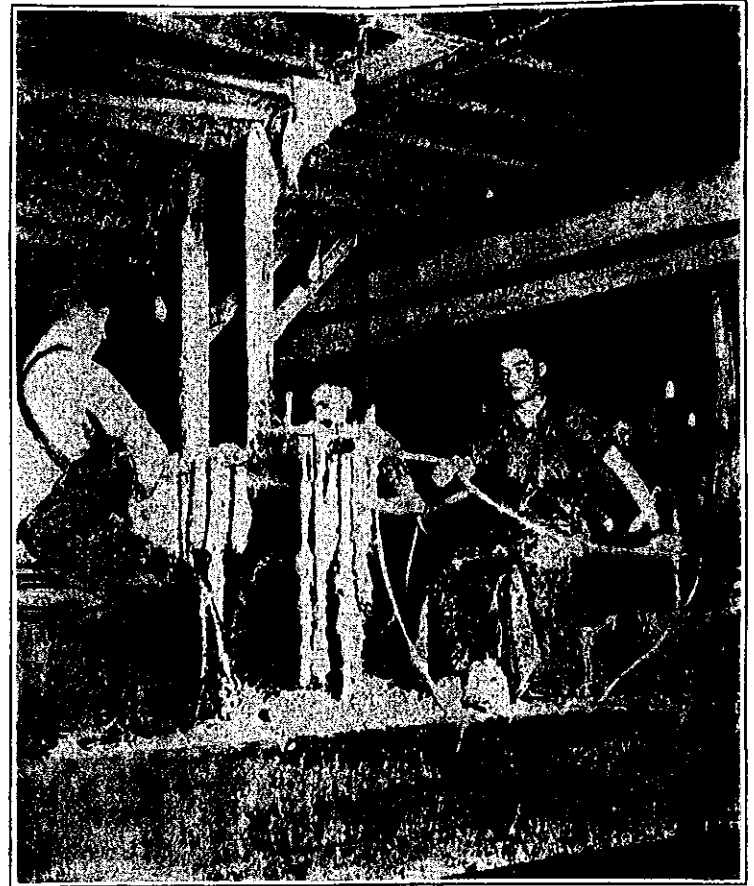
half the food samples studied in the Indiana state laboratory were sophisticated. Whole grain flour was "cut" with bran and corn meal. The food commissioner of North Dakota declared that his state alone consumed ten times as much "Vermont maple syrup" as Vermont produced. The *Grocer's Companion and Merchant's Hand-Book* (Boston, 1883), warned the food retailer, in his own interest, of the various tricks used to alter coffee and tea, bread and flour, butter and lard, mustard, spices, pepper, pickles, preserved fruits, sauces, potted meats, cocoa, vinegar, and candies. A New York sugar firm was proud to make the point in its advertising of the 1880's that its sugar contained "neither glucose, muriate of tin, muriatic acid, nor any other foreign, deleterious or fraudulent substance whatever." The canned peas looked garden-fresh after treatment with  $\text{CuSO}_4$  by methods known as "copper-greening." The pork and beans contained formaldehyde, the catsup benzoic acid. As a capstone of inspired fakery, one manufacturer of flavored glucose (sold as pure honey) carefully placed a dead bee in every bottle to give verisimilitude.

The little man of 1900 found himself in a big, big world, filled with butterine and mapleine.

This is not to suggest that the pioneer food manufacturer was as rascally as his contemporaries, the swamp doctor and the lightning rod peddler. What was occurring was less a collapse of human probity than an unexpected testing of human nature in a new context. Someone has said that all morality is based upon the assumption that somebody might be watching. In the milieu of late Nineteenth-Century business, nobody seemed to be watching. Thus the food crusade became necessary as a means of redressing the balance in the market which had turned so cruelly against the ordinary American and, indeed, against the honest manufacturer.

The ensuing controversy was symptomatic of the passing—painful, nostalgic to many, including no doubt many a big business senator—of the old, simple life of village and farm which was doomed by the expanding national life. It was, one feels, not solely in defense of the hake (sold as genuine codfish with boric acid as a preservative) that Senator George Frisbie Hoar of Massachusetts rose in the Senate to exalt "the exquisite flavor of the codfish, salted, made into balls, and eaten on a Sunday morning by a person whose theology is sound, and who believes in the five points of Calvinism."

The friends of food reform needed all the courage and public discussion they could muster. Since 1879, when the first federal bill was proposed, 190 measures to protect the consumer had been introduced in Con-



*This interior view of a Chicago packing-house occupied a full page of a 1906 issue of Collier's. Such vivid reportage greatly abetted the long fight for a pure food and drugs bill.*

gress, of which 49 had some kind of a subsequent history, and 141 were never heard of again. Meanwhile the states did what they could. About half of them had passed pure food laws by 1895. But there was no uniformity in their regulations. Foods legal in one state might be banned in another. Some of the laws were so loosely drawn that it was quite conceivable that Beechnut Bacon might be seized by the inspectors because no beechnuts were involved in its curing. Was Grape-Nuts misbranded because the great Battle Creek "brain food" had only a fanciful connection with either grapes or nuts? One bill actually proposed a numerical count of the contents of a package—the grains of salt, the cherries in a jar of preserves. What if Mr. Kellogg had to count every corn flake which went into his millions of packages?

Conflicts and foolish regulations could be ironed out over a period of time. The fatal flaw was that individual states had no power to get at the real problem:

interstate traffic in the "patented" bitters, cancer cures, and strawberry jellies made out of dyed glucose, citric acid, and timothy seed.

The act which Wiley drew up was first introduced in 1902. It was successfully sidetracked in one legislative branch or the other for four years. The provisions were simple. In essence, it was a labeling act.

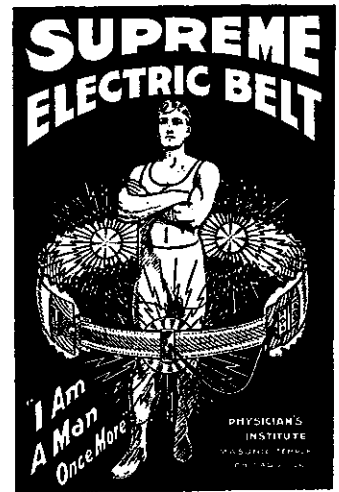
"Tell the truth on the label," Dr. Wiley said, "and let the consumer judge for himself."

Some of the legislators who opposed the act were states' rights Democrats, concerned about constitutional interpretation, who in the end fortunately saw the wisdom of sacrificing principle for expediency. Others were Old Guard Republicans who were special custodians of the *status quo* and highly sensitive to the sentiments of the business community: men like Senators Aldrich of Rhode Island (wholesale groceries), Kean of New Jersey (preserving and canning), Platt of Connecticut (home of the great Kickapoo Indian remedies), Hale and Frye of Maine, along whose rock-bound coast the familiar Maine herring became "imported French sardines," packaged in boxes with French labels.

The tactic in the Senate was one of unobtrusive obstruction and lip service to the idea of regulation. Open opposition was never much of a factor. "The 'right' to use deceptive labels," observed *The Nation*, "is not one for which impassioned oratory can be readily invoked." When a serious try was made to pass a general pure food law in 1902-3, Senator Lodge was able to direct the attention of the Senate to legislation more urgently needed, such as a Philippine tariff bill. In the last session of the 59th Congress (1904-5) the food bill was considered less pressing than a proposal to award naval commissions to a couple of young men who had been expelled from the Academy for hazing but still wanted very much to become officers in the United States Navy.

President Roosevelt finally decided to push the issue. "Mr. Dooley" offered a version of how it happened. "Tiddy," he said, was reading Upton Sinclair's novel, *The Jungle*, a grisly sociological tract on "Packing-town." "Tiddy was toying with a light breakfast an' idly turnin' over th' pages iv th' new book with both hands. Suddenly he rose fr'm th' table, an' cryin': 'I'm pizened,' begun throwin' sausages out iv th' window. Th' ninth wan sthruck Sinitor Biv'ridge on th' head an' made him a blond. It bounced off, exploded, an' blew a leg off a secret-service agent, an' th' scathred fragmint destroyed a handsome row iv ol' oak-trees. Sinitor Biv'ridge rushed in, thinkin' that th' Prisdint was bein' assassynated be his devoted followers in th' Sinit, an' discovered Tiddy engaged in a hand-to-hand

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Entered according to Act of Congress, in the year 1907, by S. C. UPHAM, in the Clerk's Office of the District Court for the Eastern District of Pennsylvania.

## Consumption can be Cured!

### The True Remedy at last Discovered!

UPHAM'S

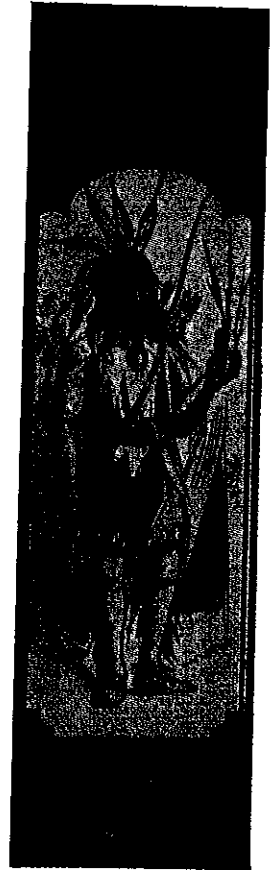
## Fresh Meat Cure!!

PREPARED ACCORDING TO THE FORMULA OF  
**PROF. TROUSSEAU, OF PARIS,**

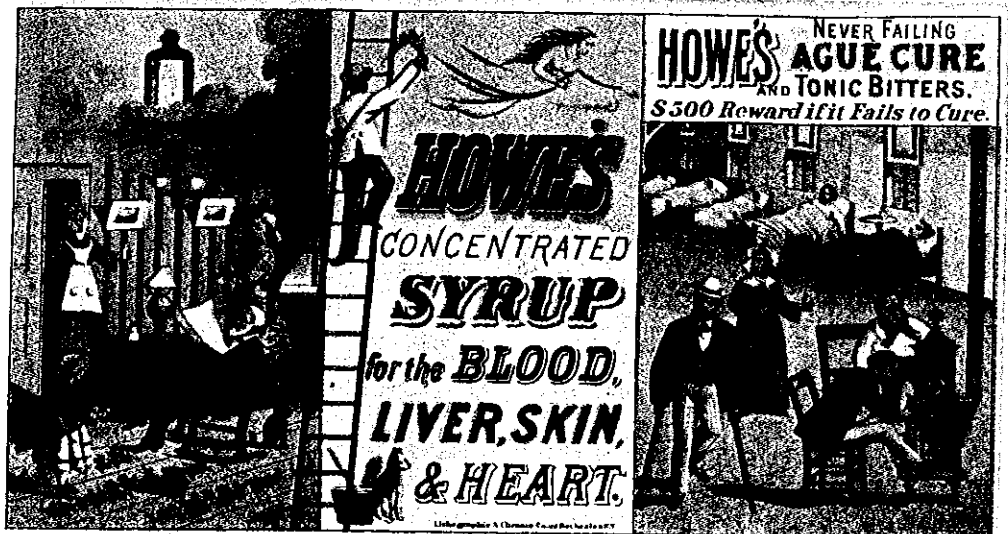
For the Prevention and Cure of Consumption, Lung Diseases, Brouchitis, Dyspepsia, Marasmus, Nervous Prostration, General Debility, and all morbid conditions of the system dependent on deficiency of Vital Force.

The new plan of treating Pulmonary Diseases with FRESH MEAT is creating a profound sensation in Europe. Its beneficial results have been heralded through the press in both hemispheres. The common judgment of the medical faculty seems to have decided that no mere medication can avail as a curative agent in that dread scourge of the race, Pulmonary Consumption. The nature of the disease appears to be such, that the ordinary appliances of the schools are thrown away in all attempts to combat it successfully. Palliative results, at least, can only be hoped for under the therapeutic agency of Drugs.

The FRESH MEAT TREATMENT was first tried in Russia by Dr. Weisse. The



The men in the gray flannel suits had few verbal restrictions before the passage of the Pure Food and Drugs Act in 1906. Their products, displayed here on posters, trade cards, and pamphlets, were emphatically declared to be good for either man or beast, mother or child, one's inside or one's outside. Experiments on patent medicines showed that some of them had as high an alcoholic content as corn whisky, but of course ingredients were never listed on the label in those days.



# Who Put the Borax in Dr. Wiley's Butter

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conflict with a potted ham. Th' Sinitor fr'm Injyanny, with a few well-directed wurruds, put out th' fuse an' rendered th' missile harmless. Since thin th' Prisdint, like th' rest iv us, has become a viggytaryan. . . ." At any rate, in his annual message to Congress, December 5, 1905, Roosevelt recommended in the interest of the consumer and the legitimate manufacturer "that a law be enacted to regulate interstate commerce in misbranded and adulterated foods, drinks and drugs," and the bill was re-introduced in the Senate by Senator Weldon B. Heyburn of Idaho. Pressure from the American Medical Association, the graphic exposé of revolting conditions in the Chicago packing houses, and Roosevelt's skillful use of the report of an official commission which investigated the stockyards, finally forced a favorable vote in the Senate and then the House on the Pure Food and Drugs Bill. The meat inspection problem was, actually, a different matter. But an angry public was in no mood to make fine distinctions. Meat, processed foods, and fake medicines all tapped the family pocketbook, all went into the human stomach, and all smelled to high heaven in the spring of 1906. Roosevelt signed the bill into law on June 30, 1906.

The enforcement of the law was placed in the hands of Dr. Wiley. According to the Doctor, it was after the bill became law that the real fight began. Most food and drug manufacturers and dealers adjusted their operations to the new law, and found themselves in a better position because of it, with curtailment of the activities of fly-by-night competition and re-establishment of the consumers' confidence in goods of known quality. But there were die-hards like the sugar and molasses refiners, the fruit driers, whisky rectifiers, and purveyors of wahoo bitters, Peruna and Indian Doctor wonder drugs.

The administration of the Food and Drugs Act involved the Bureau of Chemistry in thousands of court proceedings, *United States v. Two Barrels of Desiccated Eggs*, *United States v. One Hundred Barrels of Vinegar*; and one merciful judge noted that Section 6 extended the protection of the act to our four-footed friends. Pure food inspectors had seized 620 cases of spoiled canned cat food. When the case of the smelly tuna fish turned up in the western district court of the state of Washington, the judge cited man's experience with cats throughout recorded time: "Who will not

feed cats must feed mice and rats." He confirmed the seizure and directed an order of condemnation.

The law was subsequently strengthened both by legal interpretations and by legislative action, as experience developed needs not met by the original act. Government technicians worked with private industry in the solution of specific problems such as refrigeration and the handling of food. When Dr. Wiley retired from public service in 1912, a revolution had occurred in food processing in only six years' time. Yet the food industry had hardly begun to grow.

"The conditions created by the passage of the act," said Clarence Francis, former president and chairman of the board of General Foods Corporation, "invited responsible business men to put real money into the food business."

The next 25 years saw the decline of the barrel as a food container and its replacement by the consumer unit package; the setting of official standards for the composition of basic food products; and the banning of quack therapeutic mechanical devices such as the electric belt, whose galvanic properties were once presented so vividly to the "Lost Manhood" market. We still have with us in some measure the "horse beef" butcher and the "butterlegger." Tap water remains a tempting means of "extending" many foods. But there is no question about the general integrity of our food supply, the contribution to the national well-being of the original food law, as amended, and the readiness of today's food industry leaders to accept what is now called the Food, Drug, and Cosmetic Act as a proper blueprint of their obligation to the nation's consumers.

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Gerald H. Carson, a retired advertising agency executive and author of *The Old Country Store*, is a student of American social history. He contributed "Holiday Time at the Old Country Store" to the December, 1954, issue of AMERICAN HERITAGE.

