

Protection of the American Consumer: The Muckrakers and the Enactment of the First Federal Food and Drug Law in the United States

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THE PURE FOOD AND DRUG ACT of 1906 was passed in response to the demand of the public for protection from the deception practiced upon consumers by manufacturers of and dealers in foods and drugs. The Act protected the public from being deceived in the foods which nourish them and in the medicines which are relied on to cure their ills, but did not deprive the public of the freedom to eat what they may choose to eat and to take such remedies as they may wish to take. In the effort to sell food and drug commodities every human weakness and desire was exploited. If you had no interest in a commodity, you were made to desire it; if you already possessed it, you became convinced that yours was out of date and a new one was necessary; if you thought you were perfectly healthy, you were told about all the diseases you might now have or in the future, and so on. By suggestion, innuendo, or outright assertion one product was held up as superior to the next. The philosophy was largely based upon the old policy of *caveat emptor*—let the buyer beware. In the field of patent medicines and cosmetics this led to high-pressure advertising of commodities that were often absolutely worthless or harmful. The

Pure Food and Drug Act of 1906 put a check on the manufacture, sale, and transportation of harmful foods, drugs, medicines and liquors, by providing a comprehensive statute regulating interstate and foreign commerce in adulterated and misbranded food or drugs. Regulatory authority, under the Act, was assigned to the Department of Agriculture's (USDA) Bureau of Chemistry. The chief advocate for the 1906 Act was Harvey W. Wiley, M.D., Chief Chemist at the USDA, because he provided momentum for consumer groups, other scientists, and the muckrakers to exert pressure on Congress to place the food and drug crisis on the agenda for a national legislative debate. The 1906 Act would not have been enacted had the public not been informed about the problems of food and drug adulteration and misbranding.

Public Discontent

The public sentiment that Congress should enact a law to regulate the food and drug industry began after the Civil War, and grew during the decline of laissez-faire in the United States. A culmination of this discontent came in the first decade of the present century when Theodore Roosevelt, catching the prevailing feeling of unrest, led a vigorous campaign for greater government regulation, a campaign which was duplicated in many of the states. The tremendous revival of the combination movement in the prosperous years immediately following the Spanish-American War, coincident with the abuses and the high-handed disregard of public welfare as evidenced by the large corporate interests, brought a period in which many of the worst features of our economic and social life were aired before the public. Upton Sinclair in *The Jungle* (1906) revealed the horrible filth and misery of the workers in the meat-packing industry; and Charles Edward Russell excoriated the "beef trust" in *Everybody's* in articles entitled "The Greatest Trust in the World." Other books and numerous magazine articles enlarged upon the lawlessness and greed of big business and the venality of politicians. In the campaigns of 1896, 1900, and 1904 the Democrats directed part of their artillery against the trusts.

Some of this "muckraking" was undoubtedly exaggerated, but most of it, unfortunately, was only too true. Whether exaggerated or not, it helped to stimulate a healthy reaction for reform, a movement in which President Theodore Roosevelt took the lead. The Pure Food and Drugs Act of 1906 marked a distinct step forward in the policy of government intervention to protect the welfare of the public, as did the Meat Inspection Act passed a week later. Nonetheless, Roosevelt warned in his address at the laying of the cornerstone to the House

of Representatives Office Building (April 14, 1906) that "men with the muck-rake are often indispensable to the well-being of society, but only if they know when to stop raking the muck." Deep down Roosevelt shared the reformers' sympathy for the underprivileged, their concern with justice in the drafting of national pure food and drug legislation. On Capitol Hill stood a powerful obstacle to achievement on a national scope: the Senate of the United States. Aldrich, Platt, Allison, and Spooner ruled unchallenged. They were conservative in temperament and conviction, devoted to the welfare of the Republican Party as they saw it, and the center of a powerful contingent responsive to the views of business, a contingent that would defend the very interests under attack. Only by their sufferance could a bill be brought to a vote.

The Progressive Movement

From 1903 on, the campaign for national pure food and drug legislation was affected by the progressive movement in politics; under the leadership of such men as Roosevelt and Wiley the pure-food enthusiasts spearheaded an assault on the congressional opposition. The House of Representatives was a less formidable obstruction than the Senate since its members were closer to the people. Yet even there the reformers had to contend with the iron rule imposed by the Speaker, the reactionary Uncle Joe Cannon. The Progressives sought to rescue democratic government from the alliance between business and politics and to face the problems created by our rapid transformation into an urban, industrial nation. The Progressives were largely middle-class citizens led by small-business and professional men crusading for social and industrial justice. They helped to make the political environment easier for Wiley and the pure food enthusiasts to press their cause.

No one was more aware than Wiley of the need to mobilize sentiment in support of pure food and drug legislation. Already he had worked closely with the executives of trade associations and had sought to enlist the club-women of America. Already he had tried personally to build a wave of public opinion that would brush aside the reluctant leadership of the House and Senate. When opportunity presented, he wrote and lectured. At the Pan-American Exposition in Buffalo in 1901 he arranged to exhibit a collection of samples to illustrate the various types of adulteration. Probably the most effective method of communicating his message to the public at large was through the newspaper reports of his testimony before congressional committees. Despite the sensationalism that frequently annoyed the chemist, such

accounts served a useful purpose in their awakening influence. But much more remained to be done. The most urgent need was widespread popular support that would compel Congress to act.

Safely elected in 1904 in his own right, Theodore Roosevelt was growing increasingly alarmed at the multiplying signs of unrest because of the marked jump in the Socialist vote in the 1904 elections. Roosevelt called for positive action by the federal government against corporate wrongdoing and social evils. In his annual message of December, 1905, Roosevelt laid down the basic principles of the program which would become known as the "New Nationalism." The chief executive warned Congress that, "the fortunes amassed through corporate organization are now so large, and vest such power in those that wield them, as to make it a matter of necessity to give to the sovereign—that is, to the government, which represents the people as a whole—some effective power of supervision over their corporate use." The states could not do the job; only the federal government could deal with problems that had become nationwide in scope. Recent Court decisions, however, had led to "a very unfortunate condition of things, under which these great corporations doing an interstate business occupy the position of subjects without a sovereign, neither any State government nor the National Government having effective control of them." The time had come, Roosevelt declared, "to assert the sovereignty of the National Government by affirmative action." He urged "that a law be enacted to regulate interstate commerce in misbranded and adulterated foods, drinks, and drugs." The federal authority must intervene, Roosevelt announced, "to secure the health and welfare of the consuming public."

By 1906, the Progressive movement was beginning to move into high gear at the national level. A bill for a federal pure food and drug law was pending before Congress at the beginning of 1906. The pressures for congressional action were growing in strength. The work of Dr. Wiley had awakened the public to the dangers of adulterated foods and quack drugs. Samuel Hopkins Adams' expose of patent-medicine nostrums in *Colliers*, "The Great American Fraud," was creating a nationwide excitement and irritation in the popular mind. America had changed, and a large part of the population depended on food imported from distant parts of the United States. The change in society also brought a change in diet and living conditions. Most of the food products came in cans or packages. Very little of the total food consumed was produced locally. Industrial workers lived near the factories and had no opportunity to raise their own crops.

The muckrakers did not aim to destroy the economy that Roosevelt's "Square Deal" was reforming, but they hoped to restore to the changed conditions of life the ideals of an earlier America—to return to some golden age. They were familiar with an agricultural atmosphere where the people used simple and home-type remedies. The advertising campaigns in the industrial society encouraged the people to take patent medicines without knowing what chemical or substance they were consuming. Most of the drugs were over-the-counter preparations guaranteed to cure all kinds of diseases. If these foods and medicines were—to most of the people who used them—merely worthless; if there were no other charge to be made than that the manufacturers', sales managers', and advertising agents' claims for them were false, the 1906 Act would not have been enacted. But many of the drugs, including some of the most widely advertised and sold, were not only worthless, but were actually dangerous.

Quack Medicines

William J. A. Bailey, an ex-automobile swindler, thought he could make money by dissolving radium salts in water and selling this water to rich men to cure their ills. Bailey's radium water sent many to horrible deaths just by drinking this deadly fluid. Radithor, the radium-bearing water killed the wealthy manufacturer E. M. Byers. The portrait of Bailey occupies a prominent place in the gallery of quacks. Bailey was in the automobile business before he "discovered" Radithor under the name "Carnegie Engineering Corporation," leading the public to believe in his world-wide circulars that he was connected with the Carnegie Steel Company. On May 8, 1915, the New York Times reported Bailey's arrest following an investigation of his activities by federal authorities. Bailey also pleaded guilty in January 1927 to the illegal practice of medicine in New Jersey. As president of the Associated Radium Chemists, Inc., he sold a line of patent medicines, including Dax for coughs, Linarium, an alleged radium liniment, and Clax for influenza. The company's best selling product, unfortunately, was Arium, which was advertised as "radium in tablets." Another Bailey nostrum was Thorone, put on the market by the Thorone Company, and widely advertised as being 250 times more active than radium. Thorone was recommended especially for sexual impotence, and was "indicated in all glandular, metabolism and faulty chemistry conditions." Bailey's next enterprises were the Radiendocrinator, which purported to be a source of gamma rays which would "ionize the endocrine glands;" the Bioray, which was a gadget supposed to give off a continuous flow

of gamma rays; the Thoronator, which was a small vial that when filled with tap water was "miraculously and instantly" transformed "into genuine radioactive water as rich in vital rays as some of the most famous health springs of the world;" and Adrenoray, which was advertised as a radioactive belt containing "a measured amount of genuine radium from which is emitted constantly a definite volume of mild, penetrating, stimulating gamma rays" which when worn would ionize the adrenal glands "by a continuous biopositive radiation." Bailey had learned that there are plenty of gullible prospects among the rich, and to appeal to all of the gullible ones he need only claim a "cure" for all diseases and conditions. Accordingly, Radiendocrinator sold for a thousand dollars, and was recommended for everything from acidosis to diabetes, from pimples to poor memory. In January, 1932, Radithor was ordered to stop representing that it was harmless, and that it was a cure for the 160 conditions and symptoms listed in its advertising.

Most of the quack medicines which afflicted that generation were positively harmful in their effects. The "headache powers" were quite uniformly drugs, and vicious habit-forming drugs sold under false, misleading, or incomplete labels. Women and children became addicted to their use in tragic numbers. The pain-killers and pain-relievers were poisonous and injurious, and sold in amazing quantities. Poor mothers doped their babies into insensibility at night with soothing syrups containing opium, morphine, cocaine, laudanum, and alcohol. The most vicious of the medical frauds was the group which preyed on incurables. Cancer "cures" flooded the market. Quacks did not stop at duping actual sufferers from this disease, but worked craftily to convince every prospective customer that he had cancer somewhere or other in his anatomy. Consumption, as hoped, gave the patent-medicine business a fertile field for exploitation. Patients with tuberculosis were usually willing to spend the last cent they had to recover their health, and the fiends who preyed on them many times got their last cent in exchange for a mixture of cod-liver oil and poisonous drugs.

In the spring of 1899, the "embalmed beef" scandals generated much concern. This excitement grew out of allegations that unfit beef had been furnished to troops in Cuba and Puerto Rico during the Spanish-American War. Possibly, the trouble in the Army had come from rapid deterioration of the canned meat after opening in the tropics. Starting in January, 1905, the distinguished British medical journal, *The Lancet*, had run a series of articles assailing the Chicago packing houses as dirty and unsanitary and calling for stricter federal inspection. Later that year, muckraker Samuel Merwin, in a *Success Mag-*

azine article on the monopolistic practices of the Beef Trust, raised the question, "Are Packers, as Is very often Charged, deliberately Selling Diseased Meat?" and answered in the affirmative. Also, during this time was the formation of the "Whiskey Trust" (Distillers' and Cattle Feeders' Trust) in 1887, the "Sugar Trust" (Sugar Refineries Company), the "Cotton-Oil Trust" (1884), the "Lead Trust" and some others. As indictments were pending for price-fixing against five meat-packing companies and seventeen of their officers the prestige of the Beef Trust was at a low ebb. The American people were prepared to believe the worst about the packers, as well as becoming increasingly more pure-food conscious.

Roosevelt's Commission

The Department of Agriculture conducted an investigation and President Roosevelt sent a commission of his own to bring in a report on the packinghouses. Roosevelt appointed Commissioner of Labor Charles P. Neill and a New York social worker, James B. Reynolds. Neill served as Roosevelt's chief troubleshooter in labor and social welfare issues. Reynolds, a lawyer turned social worker, was head worker at the University Settlement and had long been active in "good-government causes" in New York City. Roosevelt instructed the two men that he wanted "to get at the bottom of this matter, and be absolutely certain of our facts when the investigation is through."

The report of the commission was delivered to Roosevelt on June 2, 1906. On June 4, Roosevelt sent it with a message to the House of Representatives stating "it shows the urgent need of immediate action by Congress in the direction of providing a drastic and thorough-going inspection by the Federal Government of all stockyards and packinghouses and of their products . . . The conditions shown by even this short inspection to exist in the Chicago stock-yards are revolting." In part, the report Roosevelt sent with his message stated:

"Many inside rooms where food is prepared are without windows, deprived of sunlight, and without direct communication with the outside air . . . vaults in which the air rarely changes. Usually the workers toil without relief in a humid atmosphere heavy with odors of rotten wood, decayed meats, stinking offal, and entrails. The tables on which meat was handled, the tubs, and other receptacles were generally of wood, most of which were water-soaked and only half cleaned. The privies, as a rule, were sections of workrooms, enclosed by thin wooden partitions, ventilating into the workrooms. In a word, we saw meat shovelled from filthy wooden floors, piled on tables rarely washed, pushed from room to room in rotten box carts, in all of which processes it was in the way of gathering dirt, splinters, floor filth, and the expectoration of tuberculous and other diseased workers. Where comment was made to floor superintendents about these matters, it was always the reply that this meat would afterward be cooked, and that this sterilization would prevent any danger from its use. Even

this, it may be pointed out in passing, is not wholly true. A very considerable portion of the meat so handled is sent out as smoked products and in the form of sausages, which are prepared to be eaten without being cooked. Some of these meat scraps were dry, leathery, and unfit to be eaten; and in the heap were found pieces of pigskin and even bits of rope strands and other rubbish. Inquiry evoked the frank admission from the man in charge that this was to be ground up and used in making 'potted ham.'"

Cosmetics Poisons

Purchasers of cosmetics bought preparations containing harmful, irritating, and dangerous poisons. A widely advertised toothpaste had as its principal ingredient a poison. Two-fifths of each tube was potassium chlorate, a poison that was responsible for dozens of deaths. This was not a safe toothpaste for children to use, or to be left within the reach of infants.

In the front rank of manufacturers willing to profit from the sale of poison were the makers of hair-dyes. They used an imposing list of poisons—lead acetate, silver nitrate, various copper salts, aniline-derivative colors—and put them into their dyes, selling millions of packages to all comers as "safe." Since it was not necessary to put all the available poisons into a single dye, many manufacturers, to show both safety and sincerity, whose dye contained only lead acetate proudly advertised the fact that their dye contained no silver nitrate or copper salts. Preparations like these, containing poisons, were doubly dangerous because the symptoms following their use were frequently of such an obscure nature that doctors were unable to trace the symptoms to the real cause—some toxic substance in the patients' cosmetics.

The rise of modern chemistry indirectly increased adulteration by making it possible for the manufacturer to have at his disposal all the knowledge of analytical chemistry which was developed out of the need for a food investigator to detect impurities in food. In earlier days the trader and the manufacturer only had the knowledge handed down to them from their forefathers. But in the nineteenth century the spread of literature with recipes, secrets, and formulas were available for anyone who desired them. As early as 1795, a small volume, entitled "Valuable Secrets of the Arts and Trades" contained recipes for mixing beeswax with bullock's suet that had been soaked in strong vinegar and colored with saffron. It showed how candle fat could be puffed up by adding mutton fat cleared with quicklime, and how lemonade was made with a few drops of oil of sulphur (sulphuric acid) with the raspings of a lemon.

As a result of this literature that was distributed in Europe in the early nineteenth century, and in the United States a little later in the

century, the knowledge of adulteration made it possible for the illicit manufacturer or trader to have at his disposal an accumulating skill to deceive the public.

With no federal law governing the adulteration or misbranding of food during the entire nineteenth century, food marketing was a state and local matter, and it was not known what the results would be if a pure food and drug law was passed by the Congress. Besides the protection of the public health and the reduction of fraud, which were to be safeguarded at any price, no one knew just what that price was. The pure food and drug legislation helped the nation's physical welfare and its balance of trade abroad, but most importantly it gave assurance of a safe food supply which immensely contributed to the growth of cities. With the enormous diversity of laws and regulations that emerged in the states with no attempt at uniformity or cooperation, the attitude of many manufacturers in favor of a federal law stemmed from the desire to decrease economic waste.

The Muckrakers

The muckrakers advocated the pure food and drug legislation because it increased the protection of the public health, decreased the amount of sickness, and lengthened the average American's life span. The 1906 Act increased supervision of the sanitary conditions of the factories where foods were produced and processed, kept food poisoning at a minimum, and did much to prevent the spread of epidemics through food channels. Partial formula disclosure made it possible for consumers to avoid food ingredients to which they were allergic. The same provision was important when patent medicines got into the hands of children, and knowledge of the contents made possible the correct treatment in cases where an overdose was taken. Disclosure of the presence of habit-forming drugs protected the consumer from unconsciously becoming addicted to them. By establishing reliable standards of identity, purity, and potency of drugs, physicians across the country were able to secure reliable and more uniform results.

Protection of the public health also meant a decrease in the time lost from work because of illness, which resulted in a more efficient output for the employer. This reduced labor turnover, the expenses of training employees, and absences due to illness caused by poor food.

The muckrakers assailed the food, drug, cosmetic and therapeutic device manufacturers as members of evil, business-dominated organizations in league against the public welfare. Roosevelt first referred

to the expose writers of the period as "muckrakers" in his off-the-record speech at the Gridiron Club dinner held January 17, 1906. He referred to Bunyan's allegorical figure in Pilgrim's Progress. Because newspapermen picked up on it, Roosevelt repeated this catchy figure of speech at the dedication of the cornerstone of the House of Representatives office building on April 14, 1906. He declared:

"There is filth on the floor, and it must be scraped up with the muckrake; and there are times and places where this service is most needed of all the services that can be performed. But the man who never does anything else, who never thinks or speaks or writes, save of his feats with the muckrake, speedily becomes, not a help to society, not an incitement to good, but one of the most potent forces of evil."

Muckrakers were listened to because they were considered legitimate representatives of segments of American society. Muckraker soon came to be regarded as a term of approval, a categorical badge of honor.

Historical Perspective

From a historical perspective, English laws on the subject during modern times can be traced to the reign of Henry III, and anti-adulteration laws generally date from the laws of Moses and from the second century B. C. Chinese and Sanskrit civilizations. Although it can be said that the laws of Moses are embodied in America's food and drug laws, it is more accurate to say that the English laws provided the precedent for subsequent legislation in America. After the Revolution, many wealthy American farmers became interested in improving the quality and quantity of America's domestic food supply. The lead was taken by planters like Washington and Jefferson, who were farmers on a large scale and intensely interested in agricultural experiments. Washington was not only the greatest man, but the greatest agriculturist of the period, turning from tobacco raising to an intensive cultivation of other products. He was the founder of the mule-raising industry in the country, the fine Kentucky breed of later years descending directly from the best asses of France and Spain sent him as presents by Lafayette and the King of Spain. His experiments in sheep raising, continued by Jefferson, did much to better the breed of sheep in the South. A similar improvement also took place in the quality and size of cattle. English shorthorn or Durham cattle were imported into Kentucky in 1817, and in succeeding years great numbers were bought by farmers who desired to better their stocks.

Knowledge of these superior breeds, of the new inventions, and of the improved methods of manufacturing and processing of food was disseminated by five means: agricultural societies, agricultural

and trade fairs, farm periodicals and literature, agricultural schools, and government aid. The beginnings of all of these are to be found in this period. The Philadelphia Society for Promoting Agriculture was founded in 1785 and included in its membership Washington and Franklin. Similar societies were founded in five other states before 1800. The first half of the century saw other organizations springing up all over the country, whose purpose was to spread information, lend mutual aid, and stimulate improved methods by holding fairs and offering prizes—pioneers in the great task of agricultural education. The first fair in America was held in Washington in 1804, from which came the Berkshire Agricultural Society, the first permanent fair association in America. The first state aid for fairs was granted by New York in 1819, when \$20,000 was appropriated for two years. The United States Patent Office in 1858 printed a list of over 900 societies, most of which were state or county organizations that existed for the purpose of holding fairs. The interchange of ideas, the new information obtained, and the rivalry promoted by these fairs made them of great importance in demonstrating new machinery. In the late eighteenth century Oliver Evans perfected devices which did every step of milling from cleaning to barrelling by mechanical means. This may be the first instance of an uninterrupted process of machine manufacturing from raw material to the finished product in the history of industry.

Agricultural journalism, like the muckrakers, sprang up along with the associations and fairs. Its real beginning dates from 1819, when John S. Skinner founded *The American Farmer* at Baltimore, a weekly paper which enjoyed continuous publication until 1833—a venture quickly imitated in other parts of the country. Of these papers, perhaps the best in the East was *The Cultivator* (1834-1853), founded in Albany by Jesse Buel, and in the West *The Prairie Farmer*, founded in 1840.

Food and Drug Education

Education about food and drugs in America undoubtedly had its start with special instruction in the existing schools, perhaps the first being the establishment in 1792 of a professorship of natural history, chemistry, and agriculture at Columbia University. Also, the term bills of students at Harvard College were for many years met by payments of produce, livestock, meats, and occasionally with various articles raked up from the family closets of student debtors. One student, later president of the college, in 1649 settled his bill

with "an old cow," and the accounts of the construction of the first college building include the entry "Received a goat 30s plantation of Watertown rate, which died." The first institution devoted principally to the teaching of food production was the Gardiner Lyceum, established in 1822 at Gardiner, Maine, which for the next ten years maintained its distinctive character. Other schools were founded with the same purpose in view, but education in food and drugs had to wait on state aid before it became a real factor. The state constitution of Michigan, adopted in 1850, provided for a college of agriculture. In accordance with this provision the legislature appropriated \$40,000 for buildings, instruction, and maintenance, and in 1857 a state college of agriculture was opened, the first institution of its kind in America. Two years later Maryland and Pennsylvania followed the example of Michigan in establishing state-supported institutions.

The great growth of food and drug education followed the passing of the Morrill Act in 1862. However, national aid to agriculture began in 1839, when Congress appropriated \$1000 to the Commissioner of Patents for the "collection of agricultural statistics and other agricultural purposes." After 1842, with the exception of one year, gradually increasing appropriations were made for this purpose as well as investigations for the promotion of agriculture and the improvement of America's food supply. Annual agricultural reports were printed after 1854. In 1862 these activities were removed from the Patent Office and a Commissioner of Agriculture was created to direct a bureau whose duty was "to acquire and diffuse among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of the word, and to procure, propagate, and distribute among the people new and valuable seeds and plants." In 1889 this bureau was elevated to the rank of the other departments, and its head made a Secretary and a member of the Cabinet.

The decade of the fifties saw a rapidly growing interest in food and drug education which found a vent in the establishment of several state agricultural schools. Impetus to the movement was given by the passage of the Morrill Act in 1862. Introduced by Justin S. Morrill in 1857 and vetoed by President Buchanan, it was brought up again during the Civil War and passed. The act provided that 30,000 acres of public land be given to each state for each Senator and Representative in Congress, the funds from the sale of these lands to be accumulated and the interest used to support, endow,

and maintain "at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, in such a manner as the legislatures of the states may, respectively, prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." This first "land-grant" act constituted the greatest single piece of legislation ever passed in the interest of food and drug education, and under its provisions institutions were gradually established in each of the states and in Hawaii, Puerto Rico, and Alaska. In some states the agricultural or mechanical schools were attached to the state universities or other colleges. In Massachusetts, the income was divided to help found two schools, The Massachusetts Agricultural College (now the University of Massachusetts at Amherst) and the Massachusetts Institute of Technology.

Growing interest by farmers, chemists, manufacturers, and journalists was the product of expanding development in food and drug education. They learned that neither consumers nor industry had an adequate remedy to protect them from deceptive trade practices. The 1906 Act did serve to provide, at least, a public remedy by permitting the federal government to regulate and control the food and drug industry in the United States. Even though every generation of Americans has had its challenges, few generations have acted effectively in meeting those frontiers. Like the American Revolution, the fight for a pure food and drug law did not occur without a battle. The battle front was Washington, D. C., and the front lines were located on Capitol Hill. Public support for this measure initially began with the farmers. Their complaints about adulterated agricultural products began shortly after the Civil War. Many events caused their lament. First, the completion of the first transcontinental railroad and the Suez Canal provided the means for interstate and foreign commerce. Second, technological developments caused the small urban centers of the pre-Civil War period to become large industrial cities to which farmers and immigrants migrated. Third, with the decrease in the numbers of farmers per capita and the increase in the number of urban residents unable to produce food for their own consumption, innovative methods utilizing substances using certain additives were developed. Fourth, the use of innovative methods of adulteration became widespread after the dissemination of trade publications was made possible because of new processes utilized

by the emerging mass communication industry. Finally, the entrance of the corporate entity as an outstanding form of enterprise created economic and political power in giant corporate enterprises.

Reports of Adulteration

Farmers, unable to cope with the changing times through their local political process, sought relief from the United States Department of Agriculture. In the annual report for 1869, Dr. Thomas Antisell, the chemist of the Department, said that fertilizers and food were extensively adulterated, and called for the control of the purity of these products by chemical supervision. The annual report of the Department for the fiscal year 1878 contained the first official record of the Chemical Division's study of food adulteration. Minerals and organic poisons were found to be common adulterants in tea, sausage and other foods. During the following year, Peter Collier, of the Chemical Division, presented the alarming results of his analyses of butter, oleomargarine, alcoholic liquors, and lead powders used to color coffee. Collier, convinced that the adulteration of food and medicine should be a criminal offense, stated: "Where life and health are at stake no specious argument should prevent the speedy punishment of those unscrupulous men who are willing, for the sake of gain to endanger the health of unsuspecting purchasers."

Collier's views were similar to those of scientists studying adulteration in other countries. Frederick C. Accum, a German chemist and pharmacist who studied adulteration in England, published a series of alarming articles beginning in 1798, and a treatise on adulteration in 1820 which was printed in the United States. Dr. Arthur H. Hassell, also of England, began in 1840 a general investigation of food adulteration. His finding that almost all dietary staples were adulterated stirred so much public opinion that the English Parliament passed food and drug laws in 1860, 1872, 1875, and 1879. Subsequently, in the United States, Professor Sharpless, the chemists of the Bureau of Agriculture, and many state boards of health, printed classified lists of adulterants commonly found in articles of food. On March 29, 1892, these lists were published in the House Report from the Committee on Agriculture. These lengthy lists indicated that poisonous substances were used to color coffee, above all that the United States food supply was largely adulterated, and that the rate of adulteration of products was increasing. The report emphasized that deterrent legislation would give a "stupendous sum" of annual saving to the consumer through pure food.

The American export market was suffering from the discredit cast upon American food and drug products. Prosecutions in England of tradesmen selling adulterated American products cast suspicion on other products. National inspection abroad was so rigid and thorough that its absence in this country was viewed as evidence of a disinclination on the part of our Government to protect consumers against commercial avarice and fraud. In consequence there was an alarming decrease noticeable in the export demand of articles most subject to adulteration and which needed more inspection to assure edibility and healthfulness. Nothing but Congressional action could relieve the situation.

It is apparent that America's federal government was not the leader in enacting food and drug laws. Besides England, many countries including Canada, Germany, and Sweden had enacted some form of national legislation before 1879. Within the United States, although some state legislatures had enacted similar laws prior to 1879, the Congress did not do likewise except when economic interests would be served, e.g., the D. C. Flour Inspection Act of 1824, the Drug Importation Act of 1848, and perhaps a few others.

Struggle for Federal Legislation

The year 1879 was the beginning of the turbulent struggle for federal legislation. Collier's belief that legislation was necessary was shared by chemists from the nation's leading academic institutions who debated the issue of food and drug adulteration at the Social Science Association Meeting at Saratoga, New York, on September 8, 1879. These eminent scholars thought the problem was economic in nature. The New York Academy of Sciences, in cooperation with the American Chemical Society, and the Public Health Association, were also interested in obtaining legislation. Their efforts resulted in the publication of Edward Squibb's "Rough Draft of a Proposed Law." Between January 20, 1879, and June 30, 1906, when the Pure Food and Drug Act was passed, 190 measures were presented in Congress which were designed in some way to protect the consumer of adulterated and misbranded food and drugs. Of these, eight became law, six passed the House but not the Senate, three passed the Senate but not the House, twenty-three were reported favorably from the committee to which they had been referred, nine were reported back adversely, and 141 were never heard of after their introduction.

From the beginning it was clear that a comprehensive pure food and drug bill could not be passed by both the Senate and the House

all at once. The movement for the 1906 Act was gradual and began with specific laws on definite articles—such as those on glucose, cheese, meat, lard, butter, oleomargarine, baking powder, tea, drugs, and canned fish—to the general law of 1906. Congress found it easy to pass measures governing the importation of foreign goods, less easy to regulate exported goods, even less easy to improve food conditions in the District of Columbia, and exceedingly difficult to prohibit adulterated foods and drugs in interstate commerce.

In the long crusade for pure food and drugs, the outstanding figure was Dr. Harvey W. Wiley. He was an efficient scientist and investigator, as well as an effective writer and speaker. After a short but brilliant career as a chemist in Indiana, particularly at Purdue University, he was appointed Chief Chemist in the Department of Agriculture. This position he held from 1883 to 1912. When Congress created the Bureau of Chemistry in the Department of Agriculture, he was made the chief of the new bureau.

Dr. Wiley was unrelenting in his activity to fight against adulterated foods and drugs. He published U.S.D.A.'s Bulletins 13 and 25, which did much to create interest on the subject. Other reports, books, and articles followed from his prolific pen. In 1902 he organized what became known as "Doctor Wiley's POISON SQUAD." The "Poison Squad" experiment was the ultimate in human experimentation. Twelve young robust men from the Department of Agriculture were placed on a regimented diet of many different food preservatives, such as lye and formaldehyde. Their feces and urine were examined by Wiley. He also examined the men himself regularly. He thought that if these healthy men became ill because of the preservatives, the infant, the aged, and the infirm would definitely become ill. These experiments were carried on for five years and proved conclusively that such preservatives are harmful to health. The press carried the reports of these investigations all over the world.

Journalistic Exposés

About the time Wiley organized his poison squad, the journalists (later called muckrakers) appeared upon the scene. They made the poison squad's diet a matter of daily national concern. They accurately exposed a great variety of corruption and fraud, including all the interests opposed to the passage of a pure food and drugs act. Among these were some who preserved food by means of chemicals; the manufacturers of articles which were used in the

adulteration of foods and drugs; the "rectifiers," or producers of fraudulent whiskey out of alcohol, colors, and flavors; the patent-medicine manufacturers; and the dishonest misbranders and mislabelers of food and drug products. This publicity together with Upton Sinclair's socialist novel *The Jungle* which exposed the horrors in the meat packing industry, and the poison squad, eventually caused Congress to pass and President Theodore Roosevelt to sign the Pure Food and Drugs Act of 1906 and the Meat Inspection Act.

Samuel Hopkins Adams was an outstanding muckraker writing for *Collier's Weekly*. In 1905 and 1906 he wrote twelve articles under the general title "The Great American Fraud." Of these, seven appeared before the act was passed. He compared the chemical analyses with the curative claims of scores of patent-medicines. Many of these contained habit-forming drugs, sulphuric acid, and water. It cost, in many cases about eight cents to produce these drugs, which sold for a dollar.

Edward Bok and the *Ladies' Home Journal* directed attention to proprietary-medicine abuses. Back in 1892 the Journal denied its advertising pages to patent-medicines. In 1904, Bok was inspired by the actions of the American Medical Association and launched an editorial attack. He published the composition of popular remedies, pointing out that they were not only worthless as cures but commonly contained habit-forming drugs and alcohol. Mark Sullivan also wrote for the *Ladies' Home Journal*, but was initially hired by Bok to defend his editorials from a libel suit. Sullivan exposed not only that Lydia E. Pinkham's Vegetable Compound was 20.6 per cent alcohol but dangerous because it delayed competent treatment by relying on this worthless preparation.

The organized patent-medicine interests wielded a tremendous influence over the press through their advertisements. Wiley estimated that the newspapers and periodicals received \$100,000,000 a year from advertising patent-medicines. Collier's exposed their methods of muzzling the press. In order to prevent adverse legislation, one industry member inserted in his advertising contracts with over 15,000 newspapers this clause: "It is mutually agreed that this contract is void if any law is passed in your state prohibiting the manufacture or sale of proprietary medicines." Others made their contracts even stronger, and few courageous publishers like Bok would jeopardize their income from this source.

Scores of articles appeared in 1905 and 1906 which dealt with the patent-medicine evil and the adulteration of food. Even Senator McCumber of North Dakota had an article in the Independent which was entitled "The Alarming Adulteration of Food and Drugs." In it he presented many facts which Professor E. F. Ladd, the Food Commissioner of his own state, had discovered. Ladd had never found a can of potted chicken or potted turkey in North Dakota which contained chicken or turkey. The amount of borax or boracic acid which was used in sausages and hamburger ranged from twenty to forty-five grains per pound though the daily medical dose was only from five to nine grains. Nearly every ham exported to Germany contained borax, which caused Germany to ban any product from America which contained borax. Borax was a common ingredient of dried beef, smoked meats, canned bacon, and canned chipped beef. Only one kind of catsup was free from chemical preservatives and coal tar coloring. About seventy per cent of cocoas and chocolates were adulterated, and glucose served a great variety of purposes. More than ten times the amount of Vermont maple syrup was sold every year than that state was producing. A large proportion of ground spices were imitations. Jellies, wines, and other liquors were made from cheap substances and then doctored up. Butter was a mixture of butter and deodorized lard. Ice cream contained no cream, only condensed milk and neutral lard. Cider vinegar usually contained no apple juice. Drugs were adulterated and misbranded in a similar fashion, often with deplorable consequences like addiction to habit-forming drugs.

The women, too, had a share in this campaign of education and agitation for a pure food and drug law. The General Federation of Women's Clubs organized a Pure Food Committee in 1904. This committee wrote over two thousand letters, sent circulars to every state, and tried by letters, talks, exhibits, and literature to arouse interest in the subject. They kept up this newspaper warfare, and did more in their crusade without votes than since 1919 with votes.

Upton Sinclair's *The Jungle*

The most sensational piece of literature concerning this matter, however, was not so much the product of typical muckraking as of fictional propaganda. After having spent seven weeks in "Packing-town" in Chicago where he talked with workingmen, bosses, superintendents, night-watchmen, saloonkeepers, politicians, clergymen, and settlement-workers, Upton Sinclair wrote his famous novel, *The*

Jungle. In it he told of the tragedies which befell a Lithuanian peasant while working in the Chicago meat-packing establishments. The book was meant to be propaganda for socialism, but what the public noted most were the bits of information which it gave about the unsanitary conditions which prevailed in the packing houses and the unclean meat that was sold to the public. Sinclair described how diseased cattle were butchered, marked by the government inspectors, thrown into dumps, loaded on carts and wheeled back again and mingled with other carcasses and treated and sold as clean meat. Animals that had died on the trains in transit were unloaded in the stockyards at night and treated as pure meat. Some of the descriptions of the filth and dirt that prevailed in the packing houses were utterly revolting. It is no wonder that many people lost their appetite for meat. The author said later that he aimed at the public's heart and by accident hit them in their stomachs. The sensational passages were not more than eight pages in the 308 of *The Jungle*; but it was in those eight pages of the novel that the American people were horrified. *The Jungle* was the best selling book for a year in the United States, Great Britain and her colonies, as well as being translated into seventeen languages. A month after *The Jungle* was published, a political cartoonist, Mr. Dooley, imagined the scene when Roosevelt read Sinclair's novel:

"It put th' Prisdint in a tur-rble stew. Oh, Lawd, why did I say that? Think iv—but I mustn't go on. Annyhow, 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 fargmints desthroyed 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 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 viggityryan . . ."

After all this clamor—or rather, while the clamor was going on—Congress could no longer dispose of this matter by mere obstruction. In his message of December 5, 1905, President Roosevelt briefly but forcefully called for legislation on the subject of misbranding and adulterating foods, drinks and drugs. In the same month Senator Heyburn re-introduced his bill, Senate bill No. 88, "for preventing the manufacture, sale, or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicine, and liquors, and for regulating traffic therein, and for other purposes." The provisions of the measure introduced by Senator Heyburn of Idaho, Chairman

of the Senate Committee on Manufactures, were substantially the same as those suggested by Dr. G. W. Wigner, an English Public Analyst who won in 1879 the first prize in a contest offered by the National Board of Trade for drafting the best essay on the subject. On January 10, 1906, Senator Heyburn got the bill up for consideration. In his speech he pointed out the new features of this pure food and drug bill. In the first place, it held the officers of a corporation personally responsible for offenses, and in the second place, it separated liquors from food. Heyburn later on February 21, 1906, had a resolution and a report read from the American Medical Association which endorsed the Heyburn bill. It claimed to represent the conviction of 135,000 physicians in 2000 countries.

Passage of the Pure Food and Drug Act of 1906

The two Senators who bore the brunt of the fight for the bill were Heyburn, who was in charge, and McCumber. Among those who raised objections were Aldrich, Money, Bailey, Foraker, Spooner, Gallinger, Hemenway, Lodge, and Penrose. The vote in the Senate was taken on February 21, 1906, and passed by 63 to 4, 22 not voting. The four voting against the bill were Bacon of Georgia, Bailey of Texas, Foster of Louisiana, and Tillman of South Carolina. All four objected to the bill on constitutional grounds. Bailey insisted that the bill was "purely and only an exercise of the police power, and therefore not within the power of the federal government."

Four months elapsed before the House of Representatives gave the bill its serious attention. Then it gave parts of three days—June 21, 22, 23—to its discussion. Hepburn of Iowa was in charge of the bill; but Mann of Illinois opened the debate. He stated that the delay had been due to appropriation bills, and that the leaders of the House had constantly assured the proponents of pure food and drug legislation that this measure would be taken up. He said that after S.88 had been referred to the House Committee on Interstate and Foreign Commerce, this committee struck out everything after the enacting clause and substituted for it the House bill. He explained the differences between the two bills, which were not important, except that the House bill provided for the fixing of food standards and that it had a provision on narcotics, which S.88 did not have. After a lively, though not acrimonious, debate in which there were frequent allusions to Wiley, Adams, and the excitement of the public, the House passed its own bill with a vote of 241 against

17. In the ensuing conference committee all the important features of the Senate bill were retained, and the provision on narcotics was added. The House clause for the creation of food standards was eliminated. In this form both houses agreed to the conference on June 29, 1906.

Before the House took up the consideration of the Hepburn bill, the Senate had started another important food measure. Senator Beveridge of Indiana drafted a Meat Inspection bill. Roosevelt advised Senator Beveridge to wait until Reynolds and Neill came back from their inspection of the Chicago packing houses. Upon their return he consulted with them and continued working on his bill, drafting it about twenty times and sending every third or fourth draft to the Secretary of Agriculture Wilson for comment. On May 25, 1906, he offered it as an amendment to the Agricultural Appropriation Bill, and it was adopted without debate or reference.

The amendment provided that the Secretary of Agriculture should cause post-mortem examinations to be made of slaughtered cattle, sheep, swine, and goats; food products should be inspected; slaughtering and canning establishments should be kept in a sanitary condition; animals should be inspected before slaughtering; canned meat should bear the date of inspection on the label; inspections should be made also during the night; a fee should be charged for this service; animals for export should be inspected; labels on canned goods must not be falsified; but the act should not apply to farmers who might engage in local commerce.

After Roosevelt received the Neill-Reynolds report on June 2, he sent a message to the House urging the acceptance of the Beveridge amendment. The press release of the report compelled favorable action on the part of the House Committee on Agriculture. When the bill was reported to the House on June 19, 1906, it did not provide for the date on the label, but it did provide that \$3,000,000 be permanently appropriated for meat inspection, thus relieving the meat industry of that expense. In that form the bill was passed by a large vote, although not without severe criticism.

On the same day that the pure food and drugs bill was signed, June 30, 1906, the agricultural appropriation bill, of which the meat inspection rider was a part, received the signature of President Roosevelt. The former went into effect on January 1, 1907, the latter, on July 1, 1906; and a struggle which for many years had been waged in the legislative arena was transferred to the field of

administrative action. Roosevelt, Wiley and the muckrakers knew that if the Meat Inspection bill was signed before the Pure Food and Drug bill, the likelihood that the Congress would have acted favorably on a pure food and drug measure would be impossible. The chief stimulus for the passage of the pure food and drug bill was the support from the President, who was not involved during the struggle until the surge of public support caused by *The Jungle* and the muckrakers. Due to the outrage from the Sinclair novel, a Meat Inspection bill had to be signed or the politicians on Capitol Hill would have had to answer to their constituents. A Pure Food and Drug bill was on committee tables for over twenty-five years, without passage of legislation. The Meat Inspection bill was the catalyst needed to get the Pure Food and Drug bill passed by both Houses of Congress.

Some mention has already been made of government aid to education and the scientific study of the problems in the food and drug industry. The work of the schools and experiment stations was augmented and to a certain extent directed by the activities of the Department of Agriculture. George Washington as President recommended a governmental board to investigate the ways of improving America's food supply, but it was not until 1839 that Congress appropriated \$1000 to the Commissioner of Patents for the "collection of agricultural statistics and other agricultural purposes." Even more progress was made by the enactment of the Morrill Act in 1862. Doctor Harvey Washington Wiley was one of the earliest of the State Chemists, one of the first men to take an interest in food and drug purity. He was an outstanding figure in the crusade, and like the muckrakers, was the product of the education which men like Washington and Jefferson felt was so vitally needed for a strong and free America. He had graduated from Hanover (Indiana) College in 1867 at the age of 22; received his A.M. degree in 1870; obtained a M.D. at Indiana Medical College in 1871; earned a B.S. at Harvard in 1873 while teaching Latin, Greek, and chemistry. In 1874 Dr. Wiley was appointed the first chemist at Purdue. Also he became State Chemist of Indiana, before being named in 1883 as Chief Chemist of the Department of Agriculture. The work of the muckrakers and Dr. Wiley was the fruit of the seed planted by our founding fathers, and we today as consumers of food and drugs have much to be thankful for the struggle and success in enacting the Pure Food and Drug Act of 1906. **[The End]**