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Readers will please note that Part V is within Part IV—this is to insure delivery of complete copies.

# POISON IN YOUR FOOD.

STRICT LAWS AGAINST ADULTERANTS IGNORED AND UNENFORCED.

Growing Feeling on the Part of the Average Citizen That It Is About Time to Protect Himself.

pot eat "faked" "doped" or "embalmed" food

The tenement dweller, for example, in eating breakfast of fish, coffee and bread is most tkely to swallow various quantities of borax, in which the fish has been preserved; ground husks of eccoanut and bits of hog liver that have been mixed with his coffee; and white earth, mouldy four and alum in his bread.

On the dinner table of the wealthy citizen counterfelt food also appears in manifold forms. The salad, as likely as not, is saturated with cottonseed or peanut oil, which came from s bottle bearing a grandiose Italian name and pretending to contain the highest grade of olive Mixed in the spices of the cakes are powdered leaves of the poplar, maple and elm trees and ground nutshells. The turkey, if bought in the open market, may have been killed four tays or four years ago, having been kept in cold storage and "embalmed" with acids. According to statements made by a United States Senator meat has been offered for sale that had been kept "embalmed" five years.

At the present time stores in almost all American cities are flooded with adulterated foods. They are to be found in most expensive as well as the cheap establishments. Fortunes are being made overnight, as it were, by unscrupulous manufacturers, who are able to cheat the public by labeling cheap trash "superfine." From European countries where pure food laws not only have been enacted, but are also enforced, hosts of "food fakirs" are emigating to this country to work here the swindles they were prohibited from perpetrating in their na-

So it happens that Germans make beer for Americans the making of which in their country would land them in prison. In America Frenchmen concoct wines, the making of which in France would send them to a penal colony, and Italians doctor up olive oils which if made at home would convict them as criminals.

It is not until recently that the people of this country awakened to their blindness, and have come to realize that their pocketbooks were being robbed and their health impaired by food counterfeiters. The headache that the American business man experienced a few hours after reaching his office, he used to regard as the result of a bad night's rest or a weak stomach or some other such disability of his constitution. Now this citizen learns that his distress was caused by the borax with which the pork chops he ate for breakfast had been "embalmed." He sed to pay doctor bills for his children with never a thought that the jellies he bought them were the cause of their sick spells. Now, he discovers that what he purchased at a fancy price was only glucose boiled with the sweepings of a cider mill and colored with coal tar dyes.

## PURE FOOD LAWS A FARCE.

As a consequence of this indifference of the Everage American to the food he ate, the pure food laws of most States have become a dead letter. In this State and city the laws are a farce and a mockery. They are rarely en-Although clear and concise in their wording they really mean nothing. For instance the pure food section of the Sanitary Code of this city reads as follows:

the city of New-York any food which is adul-terated. The term food, as herein used, shall include every article of food and every beverage used by man, and all confectionery. Food as berein defined shall be deemed adulterated: (a) If any substance or substances has or have been mixed with it so as to reduce or lower or injuriously affect its analysis.

(b) If any inferior or cheaper substance or substances have been substituted wholly or in part for the article.

(c) If any valuable constituent of the article us been wholly or in part abstracted.
(d) If it be an imitation or be sold under the

name of another article.
(e) If it consists wholly or in part of diseased or decomposed or rotten animal or vegetable substance, whether manufactured or not, or in the case of milk, if it is the product of a dis-

4sed animal.
(f) If it be colored, or coated, or polished, or powdered, whereby damage is concealed, or it is made to appear better than it really is, or of

ent, or any ingredient which may render such article injurious to the health of the person consuming it; or if it contains any antiseptic or preservative not evident and not known to the purchaser or consumer.

It is a matter of common report that every single provision of this law is violated a thousand times over in this city every day of the Year. And this city is no exception. The inhabitants of practically every town in the whole country are also being defrauded in the same

In consequence of the widespread and increasing evils of food adulterat on the public is at last becoming aroused. A movement for safeguarding the health of the people against the ever growing flood of "faked," "doped" and "embalmed" foods has been begun, and it has shown Its power in various ways. At Washington, in the Senate, a pure food bill has been introfuced to prevent interstate commerce in misbranded foods. At Albany a resolution has been offered in the Assembly, calling upon the State Commissioner of Health to answer the charge that the food laws are flagrantly violated.

In this city Dr. Thomas Darlington, the Health mmissioner, is preparing to make special eftoris to check the sale of adulterated foods that tre praticularly harmful to health. In a short time he will shift the department's food analysts to a larger and better equipped laboratory, where they will be able to conduct an investigation of hundreds of samples which have already ben bought in groceries and markets in all typ, this branch of the department has been hadicapped from lack of room and funds. In the new addition to the East 16th-st. laboratory the food analysts will have the necessary room, 44 he expects that the Board of Estimate will that him the money. The results of this work most likely cause a panic among many confacturers and dealers, and may result in erous prosecutions.

# STATUTES INSUFFICIENT.

ome argue, however, that whatever the health orities may do, they cannot check to any reciable degree the sale of adulterated foods er the present laws of this State. Even a dealer or manufacturer is caught and cted, he is made to suffer little inconven-The fine he has to pay is so trivial, comared with his tremendous profits, that he hardly horices it. The reputation of the old brand hay indeed be injured, but the old goods may be decked out with new labels, at the small out of paper, printing and sticking. For ex-

There are few city people nowadays who do ample, a Supreme Court judge, sitting in Johnstown, N. Y., rendered a decision the other day, in which he found Fred Berghoff guilty of violating the new honey and syrup law. Berghoff was accused by the State of manufacturing and selling as a syrup a concoction other than represented by the name of the article. It was proved by experts from the State agricultural stations that the "syrup" was composed of 75 per cent glucose and a small amount of honey and other materials. It was also brought out that the stuff was sold largely throughout the northern part of the State. The fine, however, was only \$50.

> But while legislators are debating and chemists are making analyses, the manufacturers of impure foods are even more actively at work. The most successful of them have in their employ skilled scientists who are constantly evolving new and still more cunning methods to deceive the consumer. Every discovery in chemistry or physics is studied for the purpose of incorporating it in this modern "black art." No sooner were the aniline dyes discovered, for example, than adulterators of food and beverages began to use them to doctor cheap products and give them the bright colors of high class articles. So successful have the "black artists" been that there is now, hardly a manufactured product to be eaten or drunk which cannot be doctored so as to fool the public.

#### USE OF UNLAWFUL INGREDIENTS. It has already been stated that every provision

of the Sanitary Code of this city is violated a



Nicholas II and Grand Duke Vladimir walking in the grounds of Tsarkoe Selo, guarded against eassination at every turn by soldiers and police.—(Black and Whita

UNEASY LIE THESE HEADS.

of boracic acid. Hamburger steak is "kept" by the use of sulphide of soda, which not only prevents the fermentation of the meat, but prevents its digestion after being taken into the body, for digestion is only a form of fermentation. In this way all preservatives have a tendency to resist the action of the gastric juice and to cause food to pass through the body without being assimilated. As Dr. Wiley has said: 'No food containing a preservative is fit to

quently kept for months in storage by the use the olive oil on the market is adulterated. As a rule oil labelled as "imported" is adulterated far more than California oil. Of eighty-three samples of "olive oils" bought in the open samples of "olive oils" bought in the open market by government chemists in the year 1908, a greater percentage of "foreign" oils had been doctored than Californian. Not much adulterated olive oil comes through the custom houses, for the "faking" is done in this country. Most of the Italian oil, for example, is shipped here in buik, where the adulterator mixes in a quantity of "fake" oil, and then labels the product with a high sounding foreign name. Lard oil, sunflower oil, poppy seed oil, maize and seaame oil are also used in fixing "imported olive oils."

In flavoring extracts the adulterator is able

without being assimilated. As Dr. Wiley has add to consider the control of the co

Tea is colored and "faked" in many ways. In "facing teas" Prussian blue, indigo, turmeric, plumbago, gypsum and soapstone are used. Foreign leaves are also utilized such as grow in many streets on shade trees, among which are the hawthorn, box elder, chestnut, sycamore, rose, plum, elm, willow, beech, oak, ash, birch, poplar and raspberry. Starch is mixed with cocoa, capsicum with ginger, flour with mustard, ground olive seeds with white pepper, ground redwood with red pepper and powdered talc with powdered sugar.

ground redwood with red people and powdered tale with powdered sugar.

Eeer is now made largely of glucose and fixed with sallcylic acid. Most of the cheap whiskey sold in this city contains no whiskey at all, but is a concoction of cologne spirits, prune juice and other ingredients.

# THE CORELESS APPLE.

### Great Things Are Predicted for the New Discovery.

"The coreless apple has at last been produced." says Sampson Morgan, in "The Nineteenth Century." "It is regared as 'the world's greatest discovery in horticulture,' and in fruit growing cir-cles is called 'the wonder of the age.' If the fruit is of high quality, of good salable size and color and a late keeper, then it will revolutionize the and a late keeper, then it will revolutionize the conhercial apple growing industries everywhere. It it is not a full-sized apple, then, despite the fact that it possesses one-fourth more solid fiesh than the seedy apple of equal proportions, it cannot be expected to supersede such mammoth though seedy varieties as the Blenheim Orange. Golden Noble, Bismarck or Peasgood's Nonsuch. The flavor of the coreless apple is beyond question. If it proves as large as its rivals, trees producing the new wonder, which is a wintry variety, fill be planted by the million in the con fruit fields at home and abroad. Even if the seedless apple justified all that has been said by its best friends in its praise, there is little likelihood of its impeding the profitable sale of ordinary apples of high grade. Its introduction would, however, ruin the sale of common out-of-date varieties worn out, moss covered, and profitless trees, which for years have encumbered thousands of acres of of the richest and most productive land in the world. In that sense the coming of the cor less apple would do unteld good to many landowners, cultivators, and public consumers com

Why should we not possess a coreless and seedless apple, since the seedless orange is unquestionably the largest, most expensive, and best fruit of its class obtainable? The new apple, which is both coreless and seedless, was introduced by an old fruit raiser. For twelve years he experimented to obtain the fruit. As the result of seeking to se cure the seedless apple, a blossomless tree has been developed. It bears a stamen and a very small

developed. It bears a stamen and a very small quantity of pollen. The importance of such developments is apparent. The cold spells do not affect the fruit, and the apple grower has little to fear from late spring frosts, which in most years do much harm on the fruit farm.

"The tree is described as blossomless, the only thing resembling a blossom being a small cluster of tiny green leaves which grow around the newly formed apple, and shelter it. Being devoid of blossoms, it is claimed that the fruit offers no effective hiding place in which the codlin moth may lay its eggs, which it usually does in the

THE ASSASSINATION OF ALEXANDER II, CZAR OF RUSSIA, ON MARCH 13, 1881, BY A BOMB THROWER. HE WAS THE FATHER OF THE GRAND DUKE SERGIUS, WHO WAS ASSASSINATED LAST FRIDAY IN THE SAME WAY.

thousand times over every day. In practically food articles for sale which contain "substances bread sold in East Side "bakeshops" or to be chrome yellow and turmeric.

found on the tables of restaurants, including his book, "Food, Its Adulterations, and the Methods for Their Detection," says: "The effect of alum on the system is that of an astringent. producing constipation and deranging the process of absorption. The very purpose for which it is used by the baker is the prevention of those early stages of solution which spoil the color and lightness of the bread while it is being prepared, and which it does most effectually; but it does more than is needed, for it also continues its effects when taken into the stomach, and the consequence is that a large portion of the gluten and other valuable constituents of the flour are never properly dissolved, but pass through the alimentary canal without affording any nourishment whatever."

It was not until the immigration to this country of many thousands of persons from Russia and Southeastern Europe that bread has been made in the country of flour adulterated with foreign substances. Wheat has been so cheap in this country that there was no incentive to adulterating it. In their own countries, however, many Europeans have learned in famine times to mix in their flour worthless materials, such as ground acorns, potatoes, straw, bark and white earth; and in certain districts of the East Side immigrants have revived the counter-

### feit methods of the Old World. MUCH BOGUS BUTTER.

Butter is adulterated far more than bread. Despite the oleomargarine laws, "scrap fat" constitutes an ever increasing portion of the socalled butter of the market, and among the substances which such butter has been found to the manufacture and handling of foods that Dr.

contain are cheese, flour, chalk, common salt, ! every store and market, for example, there are gypsum, alum, glucose, borax, cottonseed and Department, at Washington, made some carepeanut oil, boracic and salicylic acids, coloring . to reduce or lower op injuriously af- matters like aniline yellow, butter yellow and their strength or quality. Much of the annatto, saffron, marigold leaves, carrot juice,

Most of the butter sold in this city is oleomarnot a few of fashionable reputation, possesses in- garine, butterine or "renovated" or "process" gredients which are mixed in unlawfully. In- butter. Pure oleomargarine is made from the stead of being the "staff of life," such bread fat of cattle, and when good beef stock is used may well be called the "crutch of disease." the product is regarded by authorities as a Chemists call it "alum bread." Made of un- "cleanly, wholesome and nutritious article of wholesome flour, often mouldy and as frequently food." There are various grades of oleomaradulterated with cheap corn flour, this bread garine, however, and the lowest of them constibecomes white and of attractive texture be- tute the bulk of the "butter" used in this city. cause of the alum mixed in the dough. So In making these grades all the scraps and powerful an agent is alum in masking delete- sweepings of the slaughter houses are used, and rious qualities in bread that powdered tale, the fat of hogs, sheep and other animals is sometimes used as a face powder, and terra also thrown in. Glycerine, skimmed milk, cottonalba, or white earth, may be mixed without deseed oil and peanut oil are frequently added. tection. Alum is also used in many baking pow- Butterine originally signified a better product ders, and its action upon the secretive organs than oleomargarine, having some cream mixed of the body is especially harmful. Hassall, in in with the eleo oil of which it was chiefly composed; but the term now means little more than oleomargarine. The amount of oleomargarine made in this country, according to reports made to the Treasury Department, has grown to vast proportions. In 1890 it amounted to 32,324,032 pounds, and in 1902 to 126,316,436 pounds. A great proportion of the oleomargarine is made by the Beef Trust.

Process butter is old rancid butter worked over again. It is first melted and the clear butter oil is separated from the curd and water. The oil is then mixed with some fresh milk or buttermilk and churned a little, when the "fresh" butter appears. It is then placed on dairy butter. Powerful antiseptics are also put | where in this city, for example, on the shelves into butter to prevent it from becoming rancid, and, according to Professor Mitchell, chairman of the Wisconsin Dairy and Food Commission, these often act disastrously on the stomach, causing indigestion and gastritis.

Meats and other animal products are frequently "embalmed" by the use of "preservatives," which are hardly more or less than mild poisons. Boracic acid is the agent most used. In warm weather the Western refrigerated meat which constitutes one of the chief foods of New-Yorkers is treated with boracic acid, so that it will not spoil in the dealers' hands, and most of the canned meats contain a quantity of borax. Tripe, fish, sausage, poultry, headcheese and other such foods are frequently "embalmed" in the same way.

Such a great amount of borax is now used in

W. A. Wiley, chief chemist in the Agricultural ful tests of its effect upon the human body. He organized what was known as the "poison squad" and fed it "preserved foods. In reporting his conclusions, he said:

The medical symptoms in long continued small loses of boric acid or in large doses extending over a shorter period show in many instances a manifest tendency to diminish the appetite and to proluce a feeling of fulness and uneasiness in the stomach, which in some cases results in nausea, fest tendency to diminish the appetite and to produce a feeling of fulness and uneasiness in the stomach, which in some cases results in nausea, with a very general tendency to produce a sense of fulness in the head, which is often manifested as a dull and persistent headache. In addition to the uneasiness produced in the region of the stomach there appear in some instances sharp and well located pains, which, however, are not persistent. The administration of boric acid to the amount of four or five grams a day, or borax equivalent thereto, continued for some time, results in most cases in loss of appetite and inability to perform work of any kind. In many cases the person becomes ill and unfit for duty.

The general results of the investigation show in a convincing way that even in doses not exceeding half a gram a day boric acid and borax equivalent thereto are prejudicial when consumed for a long time. It is undoubtedly true that no patent effects may be produced in persons in good health by the occasional use of preservatives of this kind in small quantities, but the young, the debilitated and the sick must not be forgotten, and the safe rule to follow is to exclude these preservatives from foods of general consumption.

LARGE SALE OF FOOD PRESERVATIVES.

# LARGE SALE OF FOOD PRESERVATIVES.

The manufacture of chemical mixtures to "embalm" foods has become a considerable business in itself. Levi Wells, the Food and Dairy Commissioner of Pennsylvania, reported recently that he had discovered numerous agents travelling through the State and selling their "preservatives" to butchers and grocers. On the packages were printed directions for use. Some of these preparations are also delivered wholesale to grocers to sell to their customers for use ice and often sold at the same price as the best in homemade articles. One may see everyof grocery stores, mixtures which guarantee to "keep" cider or mincemeat or grape juice fresh. Most of these "preservatives" contain boracic or salicylic acid.

Sausages, especially, in the summer time, are doctored with some sort of "embalming" agent One that is sold largely among butchers has the following directions:

The color brand referred to has the following directions:

Use one ounce to fifty pounds of meat. It works like a charm; it gives the sausage a delicate, lean meat tint. Oysters and other kinds of sea food are fre-

deal of water, some coloring matter, a little alcohol and a little sulphuric acid to give the drink a "claret" taste.

deal of water, some coloring matter, a little alcohol and a little sulphuric acid to give the drink a "claret" taste.

SACCHARINE ADULTERANTS.

Syrups and molasses are extensively adulterated. There is little pure honey and maple syrup. At an investigation made by the Senate Committee on Manufacturers in 1896 one manufacturer testified under oath that much of his "pure Vermont maple sugar" contained only "one-fourth of what he bought for maple sugar," and he was not certain that even this had not been adulterated. The bulk of his product was pure gilcose. He also said that most mapping the contained only of the periose the retailers wanted to pay. Of fifty samples of molasses examined by the government only insteaders were pure. All the government only insteaders were pure. All the government only insteaders were pure. All the government only insteaders were pure all the colon, the comb being made in part of paradine, and saturated with a mixture of glucose charged for the counterfeit was 20 cents a bulk of such samples was glucose, which costs three cents a pound. Honey is also adulterated that comb, the comb being made in part of paradine, and saturated with a mixture of glucose, which is made chiefly from corn starch, and which is now manufactured to such three cents a pound. Honey is also adulterated that government the such as a substitute. It is especially harmful troubles and diabetes.

Canned fruits and vegetables are doctored to a large degree with sallicyle acid to prevent adults of the cornel of the content of the