



THE ADULTERATION OF FOOD IN ENGLAND.

BY A FAMILY DOCTOR.

It is generally believed that an Act came into force about a year ago, in this country, which has to a great extent done away with adulteration and the various tricks of trade. That such an Act does exist it is true, that its provisions, and in many instances its penalties, have been carried out must be admitted, and to a certain extent good has been accomplished; but the profits to the manufacturer and trader arising from adulteration are so very great, and the risk of detection so small, that the vile work goes on almost as merrily as ever. A more stringent Act, one more easily carried out, and one the clauses of which shall be less faulty, less easy to drive a carriage and four through, will require to be brought into force before the middle classes and the poor—for it is just these who suffer the most—cease to be both pillaged and poisoned.

Morally speaking, the adulteration of food is surely very simple, and none the less of a crime because the custom is such a common one. A man who wilfully adds a non-poisonous substance to an article which he sells, for the sake of increasing its bulk or weight, and afterwards rails that to you as pure, is, it seems to me, better than a pickpocket, and the man who adds that to his goods which shall injure the health of the partaker is certainly worse. For my own part, I would far rather deal with a baker or grocer who sold pure goods but dealt in light weights, than with one who sold me an adulterated article, giving me full measure and a little over. Rob me, if it be my fate to be robbed, but spare my health.

Yet it must be confessed that the buyers themselves are sometimes to blame for throwing temptation in the way of the tradesman. They will not pay the price for the genuine article, on the one hand; or, on the other, they prefer beauty to reality—facts, however, that do not for a moment exonerate the dishonest trader.

The profits arising from the sale of adulterated articles are, as I have already said, very large, and in many cases the only gain the retail merchant has comes from the added adulterations.

There can be no doubt that the use of adulterated food and drink greatly affects the national health, and that thousands annually owe their death to the tricks of trade. The lower orders suffer the most, although the higher do not escape. Hard indeed is the lot of the poor man who, after toiling all day, must sup at eventide on bread and tea, but harder still it is if both be adulterated, which they usually are. Poison in the cup! Poison in the cake! The alum and other foreign matters in the bread will not aid digestion.

A large number of vegetables and other impurities find their way into brown or unrefined sugar; there are sugar-mites, somewhat like cheese-mites, and vegetable fungi, and bits of sugar-cane. There is a disease well known as the grocer's itch, which is supposed by medical authorities to originate from the bites and burrowing habits of these sugar-mites. Now, sugar is certainly not an expensive item in one's dietary—the refined kind should therefore be invariably used. The impurities in some kinds of brown sugar are so disgusting as to render it entirely unfit for human consumption. Some of the cheaper kinds of white sugar are adulterated with chalk. This is insoluble in pure water, and a few drops of acid added to this will cause effervescence. Common sugar is often mixed with sand. If you take a clear, narrow glass, and dissolve some of the suspected sugar in it, you will find, if your suspicions are correct, that after it has stood for a few hours there will be a sediment.

From sugar to sugar-confectionery the transition is easy, and I beg mamma's will listen, and fond, foolish old uncles too. First and foremost, let me tell you that the articles in question are not even entirely composed of sugar, but are largely adulterated with chalk, starch, and pipeclay. I don't think pipeclay can be good for little Tommy. At all events, little Tommy doesn't need it. Again, "sweets" are often "sleazy" done up in colored papers, and these papers are very often dyed with poisonous colors, and Tommy, not content with eating his sweets, will persist in licking the paper.

But worse than all this, poisonous, because beautiful, pigments are very frequently made use of to color the confectionery itself. Of course, we must remember that there are harmless colors, as well as poisonous—for instance, sap green, turmeric yellow, saffron yellow, indigo blue, carmine or cochi-

neal red, logwood or madder purple, &c.: these don't harm Tommy. Indeed, as the first-mentioned, sap green, is nothing more or less than the juice of the buckthorn-berry skilfully prepared, it might almost be submitted that at times Tommy would reap a positive benefit from a handful of sweets so colored.

But these harmless colors have the misfortune to be rather expensive; and some wicked manufacturers, reckless as regards the consequences to poor Tommy, find in poisonous pigments a cheaper substitute, and use copper and arsenic greens, lead, antimony, or arsenic yellows, ferrocyanide of iron, or copper blues, and seek their reds from lead or mercury.

Honey is "doctored" with starch, and at times with chalk or pipeclay. Jams and fruit jellies, I need hardly say, suffer greatly at the hands of the adulterators. They are not only often artificially colored, but they sometimes contain copper. This last adulteration, I ought to add, is usually unintentional, being the natural result of boiling the preserves in copper or brass saucepans—such a practice is highly to be condemned.

Now, if one could be always sure of being able to purchase good flour, there would be no difficulty in making good bread at home. I have no wish at all to be severe on bakers; they are fully as honest as any other class of tradesmen, but they are driven by the public themselves to use various ingredients for the purpose of beautifying, so to speak, the loaves they sell—the public being imbued with the insane notion that the whiter the bread is, so much the purer must it be.

Flour is adulterated with barley-meal, rice-flour, bean-flour, Indian corn, and potato-flour. Barley-meal I consider most nutritious, and the addition of the other kinds of flour to wheat, while they may affect the purse of the purchaser, cannot really hurt his stomach. But the practice of mixing alum with the flour, in order to whiten the loaf, I consider nefarious in the extreme. Carbonate of soda is also largely used. Now, as a medical man, I shall not attempt to put it in any stronger than this: daily doses of alum or carbonate of soda produce dyspepsia, and dyspepsia is the forerunner of one-half the ills that flesh is heir to.

A flour that is heavy is usually an adulterated one, for wheaten flour is the lightest of any. A too white loaf of bread should always excite suspicion.

Milk, one of the most nutritious articles of diet, is very largely adulterated, especially in towns and cities; probably not one half is genuine. The unprincipled owner of a milk-walk, indeed, usually makes more money out of the pump-well in the corner of the dairy, than he does from the produce of all his cows put together. Now most people think that if the milk were diluted nearly one-half, it would certainly look blue and thin, and so it would, but the honest dairyman, while manfully pocketing the profits arising from the iron cow, with a thoughtfulness which does him credit, endeavors not only to suit your sight, but to please your palate. "Milk blue and thin," did you say? Bless you, he wouldn't sell such stuff for the world! and the addition of a little annatto restores the color in a wonderful manner, and doesn't a little sugar or treacle make it taste nice? and doesn't a dash of salt bring out the flavor? He! no wonder you smack your lips when you taste it, and say, "I wouldn't change my milkman for all the world!"

And starch, and chalk, and sheep's brains, and turmeric, and the decoction of white carrots are sometimes found in milk, but of course these all get in quite accidentally. If milk is of a very suspicious rich color, you ought to evaporate a portion of it to a small quantity, if it got a darker yellow or yellowish red, annatto is most likely present; if a few drops of acid render it considerably redder, there can be little doubt about the matter.

When you can buy your milk from a farmer you ought to do so. The average specific gravity of milk would seem to be about 1030. A middle-aged cow gives the best milk, and one that is fed on pasture-land, and not too frequently milked. The morning's milk is the richest, and that from cows much in the open air is the healthiest.

The principal adulterations of butter are water, salt, curds, starch, and different kinds of fats. Place the butter in a bottle near the fire, when after some time the water will sink to the bottom, and a fair estimate of its amount may thus be formed.

No article of commerce has been more shamefully treated in the way of adulteration than tea. It is painted and faced with poisonous substances, "lic-tea," which isn't tea, but an agglomeration of all sorts of filth held together by gum, is added to it; and it is also often mixed with the leaves of the willow, the poplar, the elm, the oak, or the hawthorn. I advise my reader to obtain a few pounds at a time from a good tea house, and give a fair price for it. If it is wished to find out if there be any admixture of foreign leaves, the shape of the leaves of the tree I have mentioned must first be learned, or a few samples may be

procured and pasted on paper, then take a sample from the tea-pot float them on water to make them unroll, and so compare them.

Coffee is adulterated with chicory, burnt beans, &c., and the chicory is itself mixed with roasted wheat, sawdust, and probably brick-dust. The best way to obtain really good coffee is to buy the freshly-roasted beans, and grind them at home, adding a little chicory if you like the flavor of it.

Pepper is mixed with flour, mustard, ground rice, &c., cayenne with red lead, vermilion, ground rice, and brick-dust—the latter by way of flavoring, I suppose. Anchovies seldom are anchovies. Pickles are dyed and poisoned, cheese is stained, and flavoring powders mixed with arrowroot, while for fear it should be too strong and injure the mucous membranes of customers, traders often thoughtfully reduce it with wheaten flour, and afterwards restore its color with turmeric.

Potted meats are adulterated and dangerously dyed, and tinned vegetables are often rendered beautifully green by the addition of sulphate of copper. (N. B.—Preserved vegetables ought to have an olive-green appearance—not a bright and showy green.)

It is a good plan, if you can manage it, always to deal with the best shops, and pay a fair price for the articles you want. Avoid shops that puff and pretend to undersell their neighbors. When I see a grocer retailing his goods at wholesale prices, I know that man is one of two things, he is either a wholesale rogue or a duke in disguise—a man of immense wealth and extreme generosity, who has doffed his ducal coronet, and exchanged his ermine robes for the humble, though honorable if honest, shopkeeper's apron.—*Cassell's Magazine.*

THE LATEST WONDER.—The Phonograph.—The *Scientific American* contains the first announcement of what may be the most wonderful invention of the day. Nothing could be more incredible than the likelihood of once more hearing the voice of the dead, yet the invention of the new instrument is said to render this possible hereafter. It is true that the voices are stilled, but whoever has spoken or whoever may speak into the mouthpiece of the phonograph, and whose words are recorded by it, has the assurance that his speech may be reproduced audibly in his own tones long after he himself has turned to dust. A strip of indented paper travels through a little machine, the sounds of the latter are magnified, and posterity centuries hence hear us as plainly as if we were present. Speech has become, as it were, immortal. The *Scientific American* says: "The possibilities of the future are not much more wonderful than those of the present. The orator in Boston speaks, the indented strip of paper is the tangible result, but this travels under a second machine which may connect with the telephone. Not only is the speaker heard now in San Francisco, for example, but by passing the strip again under the reproducer, he may be heard to-morrow, or next year, or next century. His speech in the first instance is recorded and transmitted simultaneously, and indefinite repetition is possible. The new invention is purely mechanical—no electricity is involved. It is a simple affair of vibrating plates, thrown into vibration by the human voice. It is crude yet, but the principle has been found, and modifications and improvements are only a matter of time. So also are its possibilities other than those already noted. Will letter-writing be a proceeding of the past? Why not, if by simply talking into a mouthpiece our speech is recorded on paper, and our correspondent can by the same paper hear us speak? Are we to have a new kind of books? There is no reason why the orations of our modern Ciceros should not be recorded and detachably bound so that we can run the indented slips through the machine, and in the quiet of our own apartments listen again, and as often as we will, to the eloquent words. Nor are we restricted to spoken words. Music may be crystallized as well. Imagine an opera or an oratorio, sung by the greatest living vocalist, thus recorded and capable of being repeated as we desire."—*Ex.*

—Catin taught the world the importance of shutting the mouth and breathing through the nose. It would seem that his little book, entitled "Shut Your Mouth," is bearing fruit in Germany, where now thoughts receive more attention from physicians than anywhere else in the world. Respiration by the mouth is easier than by the nose, but not so safe. The nose to a certain extent fits the air for entering the lungs. The sense of smell prevents our breathing an air loaded with poisonous vapors. The moisture of the nasal cavities to some extent saturates the air and makes it less irritating to the throat and larynx. The inequalities of the nasal passage and the hairs catch the dust before it goes far enough to harm. On the other hand, breathing through the mouth dries the throat, and in children may cause false croup, catarrh, and it may effect the Eustachian tube as to cause injury to the ear and deafness.—*Semi-Tropical.*

DOMESTIC.

ECONOMIZING STEPS.

A large part of the wearisomeness of household work comes from the number of steps required of the housekeeper while performing it. The going up and down stairs, the vibration between the kitchen, dining-room, cellar and other parts of the house, wear out the strength quite as much as all other tasks combined. Hence such concentration of resources as will give the housekeeper the advantage of position, and the easy command of every point to be covered, is of the utmost importance. If she can find in her laundry everything necessary for washing and ironing, the work is comparatively easy. If she can find in her pantry every requisite for compounding bread, pastry, cake, and have no occasion to run here and there to get things together and put them away again, her task will seem light.

If in her sewing-room she can put her hand on everything required by the seamstress, without the perplexity and trouble of hunting up linings, thread, buttons, braid, that task will be robbed of half its weariness. But comparatively few houses have been planned with reference to this saving of steps. The majority of families have no special room fitted up as a laundry, no pantry capacious enough to contain everything a pantry should contain, no sewing-room set apart for that sole purpose, and articles needed in these various industries are necessarily scattered, and kept where it is most convenient to keep them. The washing utensils are usually kept in the cellar and must be brought into the kitchen and carried back again.

The sewing-machine stands not far from the cook stove, so the woman who does her own work can have an oversight of the cooking while busy at the machine, but her materials for sewing can not all be within reach. Yet, by using her brains as much as she does her feet, she may save the latter many an unnecessary trip. If she must go down cellar for anything, let her pause a moment before starting and see if there is not something to be carried down, or if there is any errand there that may be attended to other than the special one she goes on. If she has occasion to go up-stairs, let her consider how much that is to be done she can accomplish with once going there, and so of everything else. A great deal can be done by planning work to make it easy. She who has arranged in her mind a little programme of her work, and goes at it systematically, will accomplish with half the fatigue, what, taken at random, might be entirely beyond her strength. Children can be trained so as to save their mothers' steps, and by setting and clearing away tables, putting their own toys and belongings in place, do very much to lighten the toils of their mothers.—*N. Y. Tribune.*

JAPANESE METHOD OF COOKING RICE.—A letter from Japan says: "They know how to cook rice here. Only just enough cold water is poured on to prevent the rice from burning to the bottom of the pot, which has a close-fitting cover. It is set on a moderate fire. The rice is steamed, rather than boiled, until it is nearly done; then the cover of the pot is taken off, the surplus steam and moisture are allowed to escape, and the rice turns out a mass of snow-white kernels, each separate from the other, and as much superior to the soggy mass we usually get in the United States as a fine mealy potato is to the water-soaked article."

LIQUID SHOE BLACKING.—The following is commended by excellent authority as giving a gloss like patent leather, being water-proof, and not soiling ladies' white dresses. Dissolve half a pound of shellac in alcohol, it dissolves slowly, but cork the bottle well, keep in a warm place, and shake often. Then add a piece of camphor the size of a hen's egg, shake well, and after it is dissolved add one ounce of lamp-black. If the alcohol is strong enough, all will be dissolved and ready for use in two days. If it is too thick, add alcohol. It dries in five minutes, and does not make the leather hard, as it does not penetrate but remains on the surface.

A correspondent of the *English Mechanic* says: "In 1871-72 I preserved eggs so perfectly that after a lapse of six months they were mistaken when brought to the table for fresh-laid eggs, and I believe they would have kept equally good for twelve months. My mode of preservation was to varnish the eggs as soon after they were laid as possible, with a thin copal varnish, taking care that the whole of the shell was covered with the varnish. I subsequently found that by painting the eggs with fresh albumen, beaten up with a little salt, they were preserved equally as well and for as long a period. After varnishing or painting with albumen, I lay the eggs upon rough blotting paper, as I found that when allowed to rest till dry upon a plate or on the table the albumen stuck so fast to the table or plate as to take away a chip out of the shell. I pack these eggs in boxes of dry bran."