

THE FOOD AND DRUGS ACTS.

WITH ESPECIAL REFERENCE TO PRESERVATIVES IN
FOOD-STUFFS AND THE
VAGARIES OF MAGISTERIAL DECISIONS.*

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THE carrying out of the various Acts or Statutes relating to the sale of food and drugs devolves on the medical officer of health, who, with his inspector or inspectors, under the Acts may be assisted or otherwise by the legal adviser of his sanitary authority. I find there are forty such Statutes.

The Acts I wish to-day to especially take note of are, the Sale of Food and Drugs Act, 1875, 1879; Margarine Act, 1887; and the Sale of Food and Drugs Act, 1899.

The definition of "food" in Section 26 of the 1899 Act is given as follows: "For the purposes of the sale of food and drugs the expression 'food' shall include every article used for food or drink other than drugs or water, and any article which ordinarily enters into or is used in the composition or preparation of human food, and shall also include flavouring matters and condiments."

The term "drug," of course, includes medicine for internal or external use.

Now, with regard to *offences*, I will quote from Bell and Scrivener, "The Sale of Food and Drugs Acts," third edition, 1900. On p. xxvii, Introduction, they set out offences:

"Sections 3 and 9 of the Act of 1875 create two main classes of offence which are punishable under the Acts:

"1. (a) The mixing of injurious ingredients with any article of food or drug sold or intended to be sold (Sections 3 and 4).

"(b) The selling of any article so mixed (Sections 3 and 4).

"2. (i.) The selling of any article of food or drug which—

"(a) is inferior in nature, substance, and quality to the article demanded by the purchaser (Section 6);

"(b) being a compound article of food or drug, is not compound in accordance with the demands of the purchaser (Section 7).

* Read at a meeting of the Northern Branch on February 28th, 1903.

“(ii.) (a) The abstraction from any article of food sold or intended to be sold of any part of it, so as to affect injuriously its quality, nature, or substance, without making disclosure of the alteration (Section 9).

“(b) The selling of any article so altered (Section 9).

“The main differences between the two classes of offence are that in the case of (1) it must be shown that the article is injurious to health (or, if it be a drug, that its quality or potency has been injuriously affected), whereas in the case of (2) the fact that the addition, abstraction, or whatever it may have been, was harmless is immaterial; that in the case of (1) guilty knowledge is an essential element of the offence, whereas in (2) it is not; and that the penalty under (1) is, of course, much heavier” (p. xxviii).

“*To the Prejudice of the Purchaser.*—The cases collected in the following note are illustrative of two main propositions: (1) That a purchaser cannot be prejudiced when notice is given to him at the time of the sale that the article sold is not of the nature, substance, and quality of the article he demands; and (2) that, in order to show that an article was sold to the prejudice of the purchaser, it is not necessary to prove that he has sustained actual prejudice or damage.”

“*Nature, Substance, and Quality.*—It is held that these words cannot be disjoined, and the very nature of the substance must be altered before the offence contemplated was committed.”

Now, before I had practical experience in the carrying out of the Acts, I thought there could be no difficulty in obtaining convictions against those who sinned against these important Acts—Acts passed by the legislature to protect the public. I had not long to wait to find out that in some districts the view taken of adulteration of food was looked upon very lightly, and often no conviction could be obtained, whereas in an adjoining district the magistrates took a much more serious view, and in some cases inflicted heavy penalties. These are what I call the vagaries of the law, for, as you know, they are the same Acts of Parliament. I will give you a few instances from many that I have collected:

For selling adulterated butter a fine of 20s. and costs and an additional sum of £5 5s. for extra costs was inflicted by the Leigh bench. For selling margarine for butter a fine of £5 and costs was inflicted at Eccles; £5 and costs for the same offence at Altrincham; £10 and costs for the same offence at Oldham; at St. Helens £15 and costs; £20 and costs at Bristol. For rice in pepper Stoke magistrates fined the trader £20. The Liverpool stipendiary refused

to fine where the husk had been bleached and ground with the berry to form white pepper. At Rawtenstall a grocer was fined £3 and costs for excess of water in butter. At the Woolwich Police Court a fine of £20 and £3 3s. costs was inflicted for 120 grains of boracic acid to the gallon of milk, and for 36 grains of boracic acid to the gallon £2 and £5 5s. costs. For boracic acid 51 grains to the pound, or 0·75 per cent., in margarine the Liverpool stipendiary imposed a penalty of £20 and £5 5s. costs, and 20s. and costs for boracic acid in cream. For boracic acid in shrimps at Morecambe a fine of £10 10s. and costs; Blackburn and Ormskirk £5 5s. and costs; whereas in Leeds, Rochdale, and Wigan the cases were dismissed.

By way of digression, I may mention that the Leeds stipendiary, after giving his opinion that a third of a pot of shrimps was sufficient for analysis, and that he agreed with Dr. Spottiswoode Cameron as to the legislature requiring a notification label as to the presence or use of preservatives, said he had to determine whether an offence had been committed within the meaning of a section of an Act which had been in force for twenty-seven years. He found as a fact that the ingredient to which exception had been taken was not present in such quantities as to be injurious to health, and also that it was added as a preservative, and not to increase the bulk, weight, or measure, or to conceal its inferior quality. He found for the defendants, and awarded £5 5s. costs.

With regard to the Departmental Committee's report on the "Use of Preservatives and Colouring Matters in the Preservation and Colouring of Food," you will find the following conclusions after examining seventy-eight witnesses :

Paragraph 112. — After very carefully weighing the evidence, we have come to the conclusion that, as regards the trade in fresh and cured meat, fish, butter, margarine, and other food substances in the consumption of which but small quantities of the antiseptic are taken into the system, there exists no sufficient reason for interfering to prevent the use of boron preservatives. Even butter, of which the imports from all countries, except Denmark, frequently contain boracic acid, is not consumed in such quantities by individuals as to convey more than a very moderate daily amount of the drug into the system. The evidence satisfies us that the amount of preservative corresponding to 0·5 per cent. of boracic acid is sufficient for the purpose of preserving butter.

Paragraph 113. — But the circumstances and considerations affecting the milk traffic are very different. Milk—a very perishable substance, peculiarly liable to bacterial contamination—forms a very large proportion of the daily food of the public. The nutrition of infants and young children depends greatly on the purity and abundance of the milk-supply; and seeing how frequently milk is prescribed for

invalids and convalescents, it is of the utmost importance that it should not be the vehicle of any unsuspected agent. While it is possible that the milk containing boracic acid in sufficient quantity to act as a preservative (say 30 grains to the gallon) might be consumed to the amount of 4 or 5 pints a day without harmful results by most healthy children or adults, there is evidence pointing to an injurious effect of boracized milk upon the health of very young children.

Paragraph 116.—There is this further objection to the use of preservatives in the milk traffic, that they may be relied on to protect those engaged therein against the immediate results of neglect of scrupulous cleanliness. Under the influence of these preservatives, milk may be exposed without sensible injury to conditions which otherwise would render it unsaleable. It may remain sweet to taste and smell, and yet have incorporated disease germs of various kinds, whereof the activity may be suspended for a time by the action of the preservative, but may be resumed before the milk is digested.

Paragraph 121.—In regard to cream, the question is somewhat different. We are of opinion that, under present conditions, it would be difficult to maintain or increase the present supply of cream without the use of some preserving agent. The presence of a preservative is less objectionable in cream than in milk, because cream is usually consumed in much smaller quantities than milk; but inasmuch as cream is now often prescribed for invalids and children instead of cod-liver oil, we consider that the obligation should be laid on the vendor of cream of notifying the presence, nature, and quantity of the preservative.

RECOMMENDATIONS.

Based upon the foregoing conclusions, we beg to make the following recommendations:

(a) That the use of formaldehyde or formalin or preparations thereof in foods or drinks be absolutely prohibited, and that salicylic acid be not used in a greater proportion than 1 grain per pint in liquid food and 1 grain per pound in solid food—its presence in all cases to be declared.

(b) That the use of any preservative or colouring matter whatever in milk offered for sale in the United Kingdom be constituted an offence under the Sale of Food and Drugs Acts.

(c) That the only preservative which it shall be lawful to use in cream be boric acid or mixtures of boric acid and borax, and in amount not exceeding 0.25 per cent., expressed as boric acid. The amount of such preservative to be notified by a label upon the vessel.

(d) That the only preservative permitted to be used in butter and margarine be boric acid or mixtures of boric acid and borax, to be used in proportions not exceeding 0.5 per cent., expressed as boric acid.

(e) That in the case of all dietetic preparations intended for the use of invalids or infants chemical preservatives of all kinds be prohibited.

(f) That the use of copper salts in the so-called greening of preserved foods be prohibited.

(g) That means be provided, either by the establishment of a separate Court of Reference or by the imposition of more direct obligation on the Local Government Board, to exercise supervision over the use of preservatives and colouring matters in foods, and to prepare schedules of such as may be considered inimical to the public health.

In conclusion, I wish to say that, if the public are to be protected in their purchase of food-stuffs and in the preservation of their health, it should be made penal for a drug to be added to an article of diet, unless such preservative be declared on the label—not only the preservative used, but also the quantity. If I buy fresh shrimps, I want them fresh ; if I buy clotted cream, I want it declared that it is preserved by means of a preservative, the name and its quantity ; if I buy fresh butter, I want it fresh, and not made up with a drug that will keep it for months.

To my mind, it is not a question of being injurious to health *per se*, but a question of obtaining a substance of the nature, substance, and quality demanded.

DISCUSSION.

Dr. F. DREW HARRIS (St. Helens) said that he did not think any useful purpose was served by taking action in cases where shrimps contained boracic acid. Such articles of diet as shrimps were only consumed by healthy persons, and he did not think that the small quantity of boracic acid present in the samples would injuriously affect such persons.

Dr. SERGEANT stated that, in his opinion, the public required protection against doctored articles, and the sanitary authorities should give them that protection freely. He thought the Society should now press for legislation, and should insist in all cases where a preservative was used that the article containing it should be labelled in a plain and definite manner, and that the nature and amount of the preservative used should be distinctly stated.

Dr. MARTIN said that he could not agree that boracic acid was responsible for all the evils laid at its door. As a private practitioner he had given boracic acid in 1-drachm and $\frac{1}{2}$ -drachm doses for months together with no bad results. He had usually given it in cases of cystitis. He had also given it to babies as a remedy for thrush, and in using it for this purpose he had used it in large quantities, placing the crude powder on the child's tongue, and yet he had had no bad results.

Dr. T. E. HAYWARD said that, in the course of a lengthy practice, he had frequently given boracic acid in cystitis, but he had had in many cases dyspeptic symptoms following its administration. His opinion of the whole matter was that, if patients required boracic acid, it should be given to them in accordance with the prescription of a duly qualified medical practitioner, and not otherwise.

Dr. FRANCIS VACHER called attention to the fact that formalin was stated by farmers and others to completely evaporate in the course of a short time after being added to milk, and therefore was probably the least dangerous of the preservatives used for that article. In his opinion it was somewhat vexatious to insist upon the absence of farina from mustard. The addition of some starchy matter in mustard was necessary in order that the essential oil should be kept in the article. Personally, he did not see that it very much mattered in the case of mustard which was to be used as a condiment only, whether there was

a fair amount of starch in it or not. In the case of mustard to be used for medicinal purposes, people could obtain that in a stronger state from the chemists.

Dr. MEREDITH YOUNG disagreed with Dr. Vacher on the question of starch in mustard. It was altogether unreasonable to expect that any person should keep two separate lots of mustard in his house, one for use as a condiment and one for use medicinally. Mustard was frequently required in an emergency, as, for example, as a stimulant in cases of collapse, or as an emetic in cases of poisoning, and in these cases no time ought to be lost in applying the proper remedy. He thought the time had now come when a legal limit might be fixed to foreign ingredients, such as starch in mustard and in baking-powder, etc. With reference to the question of food preservatives, it was regrettable that there were so many differences of expert opinion. He called attention to a booklet by Dr. Oscar Liebreich, in which the use of boracic acid was defended on what was, scientifically speaking, slender ground, but which might appear to a non-scientific person as first-rate evidence. The question of labelling was one which would have to be very carefully safeguarded, for unless the labels were worded in the plainest possible manner the general public would be no wiser for their use.

Dr. BERRY, replying on the discussion, deplored the attitude of Dr. Harris and Dr. Martin. He certainly thought that they should try to be of one mind on the subject, and that those who could not entirely agree with the findings of the majority should, at all events, not obstruct them in any way in carrying out their duties. There were plenty of substances which might be used safely under medical supervision, but which, taken in unknown quantities and not under medical supervision, might result in serious damage to the system. Further than all this, the use of preservatives in many articles of food was detrimental to the home trade, and this was a point of view they must certainly not neglect to keep in mind.

EPIDEMIC DIARRHŒA.—Dr. F. Valagressa (*Annali d' Igiene Sperimentale*, vol. x., No. 4) has undertaken an investigation concerning the causes and treatment of epidemic diarrhœa, a disease which works greater havoc in Italy than in Britain. Bacteriologic examination of the evacuations have been made and uniformly a bacillus has been isolated which belongs to the *B. coli* group, and he concludes that the different varieties of this bacillus are in all cases responsible for the symptoms of this disease. The toxin of *B. coli* isolated from the fæces of children suffering from this form of diarrhœa, when inoculated in animals, caused vomiting, tenesmus, anorexia, amyloid degeneration of the liver, hyperæmia of the intestinal mucous membrane with punctiform hæmorrhages in the lower portion of the ileum and the vicinity of the cæcum. In other words, both symptoms and post-mortem appearances after inoculation were practically those observed in typical cases of the disease. As regards the action of the *B. coli* group on the blood serum, the author remarks that the results obtained are very conflicting; but he is inclined to believe that a specific agglutinative action results if the blood of children suffering from the disease be brought in contact with a culture of *B. coli*. Probably results would have been less conflicting if the culture employed was that of the particular variety of *B. coli*.