EXISTING DEFECTS AND POSSIBLE IMPROVEMENTS IN THE LAWS
RELATING TO ADULTERATION.

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(Read at the Meeting, May 6, 1903.)

IN 1889 I read a paper before this Society (printed in the ANALYST for January, 1890) on "The Possible Future Extension of the Duties of Public Analysts." I then dealt with the adulteration of various articles which did not come under the denomination of either Food or Drug, but which I thought might with advantage be purchased and submitted to Public Analysts. Among these were disinfecting powders, petroleum, and mixed fabrics. It was held that the time was not then opportune for the proposed extension of the operation of the Act to such articles, and cogent arguments were adduced in favour of this view.

I still think that the Act might be advantageously extended so as to include the analysis of disinfecting powders, which are sometimes scandalously defective.

The same remark applies to sanitary soaps. It ought to be made illegal for a firm to state that their soap contains certain substances having curative or emollient action, actually naming those constituents, when, as a matter of fact, there is nothing of the kind present.

With respect to the last case, I think that sanitary soaps do distinctly come under the existing Sale of Food and Drugs Acts. "The term 'drug' shall include medicine for internal or external use." This surely would include a carbolic or other medicinal soap, which is a medicine for external use.

It would be a great advantage to the public if proceedings similar to those under the Adulteration Acts could be taken under the Merchandise Marks Act. Unfortunately, it is nobody's business to take proceedings under the latter Act, and the police and sanitary authorities regard it as outside their province to institute proceedings even in cases where flagrant breaches of the Merchandise Marks Act are brought under their notice. Of course, we have some notable exceptions, as, for instance, proceedings taken by the representative of the Agricultural Department of the Danish Government for selling margarine as butter and Finnish butter as Danish butter. In a case heard recently at Leeds the total fines inflicted for misdescribing the origin of the butter amounted to £238, whereas if the defendant had been proceeded against under the Sale of Food and Drugs Acts, he would probably have got off with a fine of ten shillings for each offence. Again, the Merchandise Marks Act is very clear as to a misdescription by label being an offence, and if the Act were duly enforced it would not be safe for any manufacturer of condensed milk to assert on the label that his preparation was made by condensing unskimmed milk, with no addition save that of a small proportion of cane-sugar, when the fact was that the cane-sugar added was more than the total milk-solids contained in the sample. The enormous dilution directed on many of the labels of condensed milk are equally unjustified; but if a child fed on condensed milk dies from starvation owing to misdirection on the label, we do not find that the manufacturer is pro-

secuted, as he should be, for manslaughter, or at least as having wilfully contributed to the death of the child.

The gravest difficulty met with in proceedings under the Sale of Food and Drugs Acts is the effect of the warranty clause. While admitting that an innocent person should not be punished if he sells an article which he receives with a warranty as genuine, the fact of proving a warranty is generally the end of the proceedings. Even if the warrantor conducts his business in the same sanitary district as that in which the retail purchase was made, it is very difficult to reach him by a summons for false warranty, it being held in many cases that the proceedings are invalid, the summons of the warrantor not having been issued within twenty-eight days of the original purchase of the sample. There ought to be means by which the warrantor, when a warranty is pleaded, should be associated in the summons with the retail dealer, so that the case against the two could be heard together; or the limit of time of twenty-eight days should not apply to subsequent proceedings. With respect to the limit of twenty-eight days, an interesting case has recently occurred in which the summons was served twenty-nine days after the purchase of the sample, a few days being lost between the laying of the information and the serving of the summons. It was held by the defence that the delay was fatal, and that the proceedings commenced with the serving of the summons. On the other hand, the magistrate held that the laying of the information which resulted in the issue of the summons was the commencement of the proceedings, and as that occurred within the limit of twenty-eight days, the objection was invalid. However, he was willing to state a case, and the matter will probably be argued at a higher court. The ambiguity is not very material, and for my own part, I hold that the vendor should receive his summons within twenty-eight days' limit of time. But a still greater difficulty arises, when proceedings are contemplated, if the wholesale dealer or guarantor does not carry on his business within the same sanitary district as the retail vendor. The law is not explicit as to whether a summons issued, say, in Sheffield against a false warrantor resident in Liverpool will compel the warrantor to attend at the Sheffield Court. This actual difficulty recently arose, and the solicitor for the defence argued that a Sheffield magistrate had no jurisdiction, and could not compel the attendance of a warrantor from Liverpool. The case was dismissed on other grounds, but the magistrate said that the law was very intricate, and he should take time to consider whether the objection raised was valid. But it is not only the immediate guarantor who is in question; the wholesale dealer has a warranty from the merchant, and the merchant from the manufacturer or importer, so that it becomes quite impracticable to follow up the case to the original aggressor. It is evident, therefore, that the present state of the law is, to say the least of it, open to doubt, and the fear of spending money on abortive proceedings prevents sanitary authorities from prosecuting false warrantors who are beyond their own district.

It seems to me a grave public evil that the provisions of the Sale of Food and Drugs Acts are not extended to include certain articles which do not come under the denomination of either a food or a drug. Thus, for instance, there have been convictions in certain parts of the country for the sale of adulterated olive oil; but it seems to me doubtful if olive oil comes under the Acts unless it is intended for use as a food

or a remedy. The same remark applies to beeswax and other articles. That these articles are named in the British Pharmacopœia is not sufficient, for when the Sale of Food and Drugs Act Amendment Bill was in Committee in 1879, Dr. James Bell advised that the British Pharmacopœia should not be formally adopted as the legal standard of all articles described therein. He did this on the ground of non-necessity, as the Pharmacopœia was already substantially regarded as the legal authority; but we all know how far this is from being the case in practice. Partly, this may be due to the manner in which the Pharmacopœia has been edited; but if in a new Act the British Pharmacopœia were made the legal standard for drugs, with certain exceptions, such as soda-water, beeswax, vinegar, etc., a list of which could easily be set forth in a schedule, and added to by order in Council from time to time, such pressure would be brought to bear as would compel the compilers to remove the blemishes which in the past have discredited the work.

The absence of legalized limits as to the amount of impurity allowable in food causes much trouble and many failures of justice. The limit of strength in the case of spirits has operated very satisfactorily, but no limitation exists as to the amount of deleterious impurity allowable in such liquors; nor is there any legal definition of whisky, brandy, or rum. In fact, the whole question as to which of the subsidiary constituents of spirit are deleterious and to what relative extent is very uncertain, and would require lengthy investigation by experts before any legal limits could be fixed. The whole subject is highly complex, and its investigation does not come within the Public Analyst's duty, who, could he succeed in isolating the constituents which he might suspect to be injurious, would be at once crippled by the Vivisection Act, which would prevent him administering a dose to a mouse.

A highly important decision occurred in the Queen's Bench Division in the case of *Mason v. Cowdary* (2 Q.B.D., 1900, 419). The appellant in that case, an inspector under the Act, went to the respondent's shop and purchased six twopenny bottles of camphorated oil. He divided them into three lots of two bottles, sealing each lot in a separate bag, and handed one of the bags to the respondent and took away the others—one for submission to the Public Analyst and the other for retention by himself. He did not open any of the bottles or mix or divide their contents.

The Public Analyst's certificate of the analysis of the contents of the two bottles forwarded to him showed that the camphorated oil in these bottles contained $17\frac{1}{2}$ per cent. of camphor, and a summons against the vendor was issued accordingly, but the case was dismissed.

On appeal, Mr. Justice Ridley said:

"I cannot think that such a manner of dealing with the bottles purchased was a compliance with the requirements of the section. If the appellant had bought one bottle only, he would have bought one article. It does not matter that it is a small article; it would be precisely the same were it a magnum or a twopenny bottle. Six bottles are six articles, and these are required to be divided into three parts. Here, not one of the six articles was divided at all. In my judgment, the appellant bought six articles and did not divide any of them. As he did not divide any of the bottles, and each was an article, he did not act in the way prescribed by the section."

On learning Mr. Justice Ridley's decision, the Health Committee of the city of

Sheffield inquired of the President of the Local Government Board, through one of the members for the borough, whether it was proposed to take any action in the matter, with the view of having it provided that in cases similar to the one referred to, where the bottles purchased were attached to one card, or in some other way sufficiently classed together as articles of the same quality, the contents of the whole of the bottles purchased should be mixed together and then divided into thirds, in accordance with the provision of the Act.

In reply to this communication the Local Government Board replied, through Mr. R. C. Duff, as follows :

"With reference to the enclosed letter, Mr. Grant Lawson is advised that $\frac{1}{8}$ ounce (about) of camphorated oil would be sufficient material for analytical purposes (see the ANALYST for November, 1898).

"A bottle of camphorated oil containing so small a quantity as $\frac{1}{2}$ ounce could therefore apparently be dealt with in the manner prescribed by Section 14 of the Act of 1875 without prejudice to a proper analysis of the contents of such bottle.

"In these circumstances Mr. Grant Lawson ventures to hope that you will agree with him that the decision in *Mason v. Cowdary* does not afford any strong ground for amending the existing law."

I was thereupon invited by the Town Clerk of Sheffield to comment on the letter from the Local Government Board, which I did, on March 15, 1901, in the following terms :

"On reference to the ANALYST for November, 1898, I find that the authors of a paper on camphorated oil do state that the amount of camphor can be definitely ascertained on about $\frac{1}{8}$ ounce, but the assumption made in the letter of Mr. R. C. Duff that such a quantity would be sufficient to submit to a Public Analyst is quite wrong. His letter quite overlooks the fact that it is an analyst's duty not only to determine the amount of camphor, but to ascertain the nature of the oil with which it is mixed—whether olive, cotton, sesame, mineral, or a mixture of these—and to do that a considerably larger quantity of the sample is necessary. Further, from Mr. Duff's letter, the Local Government Board appear to have overlooked the practice of analysts of repeating their determinations, which would not be possible on the quantity regarded by the Board as sufficient. Again, camphorated oil is sold in penny bottles as well as twopenny, and if these penny bottles contain one-half the amount of the twopenny bottles the quantity of material is still further reduced.

"But Mr. Justice Ridley's decision has consequences far more reaching than appear to be appreciated by the Local Government Board. It is not a question of camphorated oil merely, but of all articles sold in small quantities. Thus, one pill would constitute a separate sample and require to be divided into three parts. The same with one lozenge or one sweet; and each fraction of a Seidlitz powder would form a separate sample and require to be divided into three. The same thing with bottles of aerated water and bottles of beer. No quantitative analysis for arsenic worthy of the name can be made on the third of a single bottle of beer, and of course a search for malt- or hop-substitutes is quite impossible on other than very large quantities of beer. From the answers given in the House of Commons by Members of the Government these facts do not appear to be generally appreciated. In my

opinion, Mr. Justice Ridley's decision renders an amendment of the law urgently necessary."

Unfortunately nothing has been done to rectify the defect in the law, and a severe blow has been dealt to the purchase and analysis of articles coming within the scope of Mr. Justice Ridley's decision.

The PRESIDENT (Mr. Fairley) thought that it would be well if the provisions of the Act could be extended, as suggested by Mr. Allen, to substances used in sanitary work—disinfecting powders, for instance—though the inclusion of water would necessitate special arrangements as to fees. With regard to the difficulties connected with the working of the Act, an instance within his own recent experience was furnished by some cases of butter adulteration, in which, the retailer having been discharged on the strength of documents which were considered to amount to a warranty, subsequent proceedings against the wholesale dealer were successfully defended on the ground of the flaws which the defence were able to show the warranty to contain; so that, although in no case were the actual facts disputed, both retailer and wholesaler escaped punishment. Another source of difficulty was the want of definite ideas or definitions of the nature of many commercial substances. Whisky, for example, had recently been spoken of in Parliament as if it were a perfectly definite substance, and as though it were quite easy to ascertain by analysis whether it was two years old or ten years old, or whether it had been made from silent spirit, from grain of any kind, or from malt. With regard to the question of the division of samples, in one or two cases which had arisen in his own district Mr. Justice Ridley's lead had unfortunately been followed, and samples which were really too small were declared by the magistrates, on the evidence put before them, to be sufficient for analysis. The substitution of samples was so very serious a matter that it ought, in his opinion, if proved, to be treated as a criminal offence, for its consequence might be to seriously affect, or even to ruin, the professional status of the analyst.

Mr. HEHNER said that to amend the Acts of Parliament so as to widen the range of substances included would necessarily increase the already sufficient difficulties which arose in dealing with food products of more or less definite origin; for, in the case of commercially manufactured goods, the law tended—and, in his opinion, quite justly—to an ever-increasing extent to allow the widest possible latitude in manufacture, so that many goods would be extremely difficult to deal with unless sold with a guarantee of composition. And if a guarantee of composition were attached to any article, it could be dealt with, even at present, under the Merchandise Marks Act. Under that Act, although it was but rarely brought into force, and hardly ever on behalf of the Government, the penalties, as Mr. Allen had pointed out, were in some proportion to the offences. He thought, however, that action of that kind was best left to the trade, which, after all, was quite capable of protecting itself. As to the working of the Sale of Food and Drugs Act, although the decisions given, not only in the smaller courts, but also in the High Court, were, when regarded from particular points of view, sometimes open to criticism, he thought that—at any rate in the High Court—the decisions were as reasonable as could be expected, having regard to the evidence upon which the judges had to decide. Of course, no two High Court cases

were on exactly the same footing, and cases which seemed to be similar might, owing to some small points which made all the difference from a legal point of view, be decided in quite contrary directions. He felt certain, however, that if the imaginary pill case came before the High Court, it would not be held that each pill must be divided into three, but that a differentiation would be drawn between an article put into a bottle and sold as a pennyworth and sixpennyworth of pills in the same envelope, and in all probability made in the same mould. If the Acts were further multiplied it would be almost impossible to administer them, not only from an analytical point of view, but from the point of view of inspectors and prosecutors also; and, therefore, while sympathizing with the greater part of what was said in the paper, and while he felt that often justice was not fully done, he did not think it would be quite wise, on behalf of the Society, to agitate for an alteration.

Mr. Moor thought it very desirable that the Act should be extended beyond those articles which it was at present practicable to include. It had been held that, while beeswax bought from a druggist must correspond with the Pharmacopœia, it need not do so if bought from a grocer; but it was very desirable that people should be able to rely on getting genuine beeswax if they asked for it, whether as a drug or for any other purpose. In the same way borax, a very common article of commerce, ought to be free from deliberate adulteration with sulphate and carbonate; nitrate of potash should not consist largely of nitrate of soda; carbonate of soda should be free from sulphate; sulphate of copper for agricultural work should not consist mainly of sulphate of iron; white lead should be free from barytes, and linseed-oil free from other oils. He would also, if possible, go further than this, and make it impossible for fraudulent statements to be made with impunity in connection with the sale of patent medicines, which led to loss of money by poor people. He rather gathered that Mr. Allen was in favour of the formulation by law of Government standards. Having himself given this matter a good deal of attention, he had come to the conclusion that, while it was most necessary that analysts should have standards for their own use, it certainly would not be well to have Government standards for everything, for the publication of standards broadcast would be sure to bring up a crop of attempts to defeat them. With regard to the quality of spirits, he thought that the Government could, without any further machinery or any greater expense, guarantee the age of spirits in bond, and could also prevent deliberate falsification of description.

Mr. F. J. LLOYD had long felt that the duty of the Public Analyst was too limited. He thought the Act should empower the Public Analyst to examine any substance whereby the public might be defrauded, provided such substance was not covered by another special Act. In cases like that of camphorated oil, which had been referred to, he suggested that the Public Analyst might, in the first place, report to the Council of the Society, and that the Council might approach the Government Analyst, so that the Department before which the matter eventually came might be fully advised as to the views held by the general body of analysts as represented by the Society. He thought that in that way more good would be done than if such matters were brought by individuals before a Government Department, with the chance that the Department might be incompletely or incorrectly advised upon the matter in

question. He had always felt it to be a great mistake for samples to be put up in paper envelopes. Samples certainly were tampered with now and again ; but it was quite easy to seal them in such a way as to prevent tampering. He had always been strongly in favour of the appointment of a standards committee. As it had not been possible to get the Government to appoint such a committee, he thought it would be practicable for the Society of Public Analysts to do so for itself.

Mr. ALBERT E. PARKES said that in very many shops in the poorer districts of London the quantities sold to individual customers were very small, and if an inspector asked at such a shop for a quantity of any article sufficiently large for his purpose, the vendor would be placed on his guard and the object of the Act would be defeated.

Dr. DYER said that a careful inspector would not be likely, in such a district as Mr. Parkes had referred to, to put a shopkeeper on his guard by ordering a larger quantity of any article than was usually bought at the shop, but would first send in, say, a small child, to ask for the usual small quantity, and he would then go in himself and demand a larger quantity from the same receptacle, which the vendor was bound to supply. The matter of tampering with samples was of course one of the gravest consequence ; but it would be impossible so to amend the Sale of Food and Drugs Acts as to deal with individual cases of fraud and perjury, into which such cases would resolve themselves. Moreover, there was always the third sample, and the local authority had the same privilege as the defence in regard to the submission of the third sample to the Government laboratory. It was scarcely to be expected that the inspector's sample would be tampered with, though mistakes might sometimes occur in the labelling of samples, even with an ordinarily careful inspector.

Mr. BEVAN (hon. secretary) then read the following letter, which had been sent by Mr. Walter Thorp, B.Sc., of Limerick, as a contribution to the discussion :

"DEAR SIR,—I shall be unable to attend the meeting on May 6, which I much regret, as I would like to take part in the discussion on Mr. Allen's paper.

"One point to which I would like to draw the attention of the members is the carelessness sometimes shown by inspectors under the Foods and Drugs Acts in labelling and sealing their samples. I had a case recently at the Ennis Petty Sessions in which a sample of milk was certified by the County Analyst to contain 2·1 per cent. of fat and 7·7 per cent. of solids-not-fat, and these figures were upheld by the Government laboratory. The third sample as analysed by me showed fat 3·45, and solids-not-fat 8·76. No correction was made for the age of the sample, which was twenty-five days old when received by me.

"I am drawing the attention of the Board of Agriculture for Ireland to this and similar cases ; but I think it would be a good thing if the Society of Public Analysts would approach the Local Government Board, and endeavour to obtain the adoption of proper regulations for sealing and labelling by all inspectors under the Foods and Drugs Acts throughout Great Britain and Ireland.—Yours faithfully,

"WALTER THORP."

Mr. RICHMOND desired to point out that questions connected with the substitution of samples were really questions of administration. There was no difficulty at

all in so sealing a sample that it could be identified by the seal alone. In certain districts in London it was the practice to use a seal with a movable date and number, so that each sample could be sealed with a different seal. With regard to the question of warranties, there was a strong feeling among some firms in the milk trade that warranties ought not to apply to milk. It would, in fact, be an advantage if the application of warranties were excluded in the case of all articles not contained in sealed packages, and especially in the case of milk.

Dr. RIDEAL, referring to the suggested extension of the Act to articles like disinfectants, said that he had a good deal to do with articles of that class, and he would be very sorry to have to undertake their examination at the fees ordinarily paid for analyses under the Sale of Food and Drugs Act, for the matter was a very complicated one, involving questions of bacteriology as well as of chemistry. The question of including water analyses had been already referred to by the President. With regard to the sealing of samples by inspectors, he thought that this was a matter upon which the Society might very properly approach the Government authorities without any alteration being made in the law, and if it were in order he would move the following resolution :

"That the Council be asked to consider the desirability of addressing a communication to the proper authority drawing their attention to the question of the sealing of samples taken under the Sale of Food and Drugs Act, and suggesting that local authorities be advised by the central Board of the importance of insuring efficiency in the sealing of samples."

Mr. THOMAS TYRER said that the suggestions which had been made as to the extension of the Sale of Food and Drugs Act led him to refer to a subject which had been alluded to recently in the public press—namely, the proposed establishment of a "testing-house" in connection with the London Chamber of Commerce. He was very strongly of opinion that it was not the business of the London Chamber of Commerce to establish such a "testing-house," which could only be regarded as a protection for the weak and not for the strong, who were well able to take care of themselves; and he could not help thinking that if there were any so weak as really to require such protection, it was quite time they went to the wall. With regard to broad questions of administration of Acts framed for the protection of the public, he thought that quite sufficient legislation existed already, and that the rest was simply a question of administrative details. It was a very serious matter, however, if samples could be "played the fool" with in such a manner as had been referred to, and he thought it highly desirable that such a matter should be taken up by the Society of Public Analysts. He therefore had much pleasure in seconding the resolution proposed by Dr. Rideal.

Mr. CHATAWAY said that, having been one of the first, as far as he knew, to introduce the method of sealing referred to by Mr. Richmond, he might perhaps be allowed to mention that, although he had had it in use for a considerable time in a very large district, he had never known a case of tampering with a sample so sealed.

Mr. BRIANT, referring to the analysis of whisky, said that, with the very small samples ordinarily submitted under the Sale of Food and Drugs Act, it was obviously inadvisable for an analyst to attempt to deal with matters which required not merely

a cursory analysis but an extended investigation—such, for instance, as the determination of fusel oil. Personally he thought it would be wiser at present for any analyst to refrain from giving any certificate as to either purity or impurity in the case of spirits.

The PRESIDENT, in calling upon Mr. Allen to reply, said that the leading idea of the discussion seemed to be that the Society of Public Analysts should lose no opportunity of trying to educate public opinion. If the level of public opinion could be raised, there would probably be fewer difficulties to deal with in the administration of the Acts.

Mr. ALLEN, in reply, said that it was sometimes very difficult to seal a bottle properly; for instance, if—as was sometimes the case with milk—the sample happened to be taken out of doors in a gale of wind. The question, however, as had been pointed out, was really one of administration, though anything in the nature of a warning emanating from the Local Government Board to local authorities would no doubt receive due attention. Generally speaking, it was in the case of small authorities, where only a small portion of the inspector's time was available, and where the inspector was necessarily more or less inexperienced in matters relating to the Food and Drugs Acts, that difficulties of the kind referred to occurred. He did not think, with Mr. Hehner, that the Act was good enough as it stood. There were several points in regard to which the law was unsatisfactory—*e.g.*, the question of warranties, the operation of the twenty-eight days' interval, the taking of proceedings against a wholesale dealer resident in another district, and the questions arising out of the decision recently given by Mr. Justice Ridley. These were all matters which, in his opinion, could be easily dealt with by amending the present Acts.

Dr. Rideal's resolution was then put to the meeting and carried unanimously.