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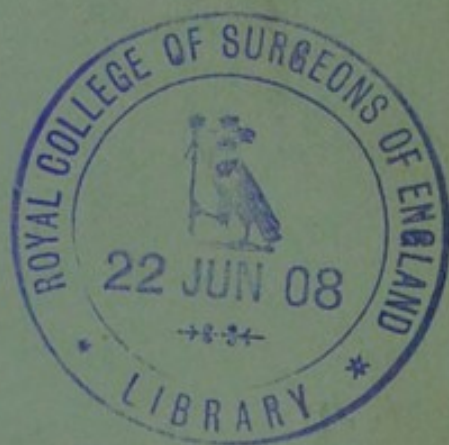
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THE REGULATION AND CONTROL OF THE MANUFACTURE AND SALE OF FOOD AND DRUGS FOR INFANTS

BY

ERIC PRITCHARD, M.A., M.D. (Oxon.)

*A Paper read before the National Conference on Infantile
Mortality, held at the Caxton Halls, Westminster, on the
23rd, 24th, and 25th March 1908*



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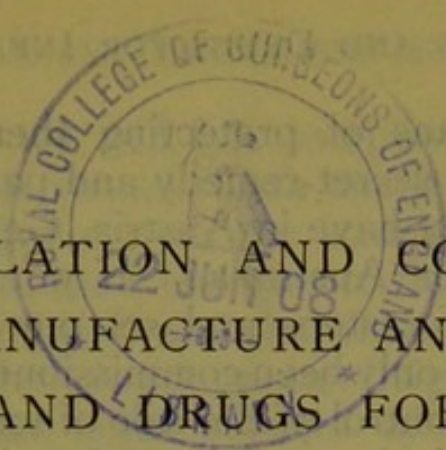
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THE REGULATION AND CONTROL OF THE MANUFACTURE AND SALE OF FOODS AND DRUGS FOR INFANTS.

By ERIC PRITCHARD, M.A., M.D. (Oxon).

AMONG the many factors that are responsible for the high mortality obtaining among infants in this country, there can be no doubt in the minds of those who have inquired into this matter that the unrestricted use of so-called proprietary foods among the middle and upper classes, and that of soothing syrups and teething powders among the poor, is one of those that must be reckoned with. These factors have no claim to rank on equal terms with ignorance and indifference on the part of the parent, with hereditary and constitutional disabilities latent in the infant, with unsatisfactory hygienic or economic conditions, or with debasement of the moral environment, but all the same they are factors, and important factors, well deserving of the attention of this Conference, which proposes to probe to its source and origin every possible cause of infant mortality. Some of those who have ventured to question the wisdom of our traditional national policy with respect to the general liberty of the subject, venture to question in particular the expediency of this liberty in respect of the unrestricted sale and manufacture of proprietary foods and drugs for infants. The shibboleth of "free play of natural forces" is all very well when the conditions are natural, but in this country natural forces are not allowed free play, and so-called public opinion is often fashioned by a financially-interested press. Is there any reason for thinking that the public in this country

have better means of protecting themselves against the wiles of the secret-remedy and patent-food manufacturer than they have in Austria, Germany, Switzerland, America, or Australia? If not, let us at once follow in their footsteps and set our house in order. Although I have only been commissioned to deal in this paper with the control of the sale of food and drugs for infants it is clearly impossible to forget, in its relationship to infant mortality, that the unrestricted sale of these commodities, and especially of drugs, to the public influences the death rate among infants in other than direct ways. The expectant mother who relieves the symptoms incidental to her condition by resorting to such drugs as veronal or antikamnia, or keeps up her strength by proprietary medicines, of which the most important constituent may be alcohol, contributes her quota to the general sum of causes which influence infant mortality.

As the more important of the two I shall deal with the question of drugs first and then proceed to that of so-called patent or proprietary infants' foods. The reasons for the popularity of secret remedies is probably explained partly on the ground of the resourcefulness of those who exploit them, partly on the attitude taken up by the public, partly on that assumed by our Government, and partly on that assumed by the medical profession. Dealing with the first of these causes, I would remind you that into the ignoble service of so-called secret remedies are pressed some of the most resourceful and brilliant brains of commercialism. Why this should be so is quite clear, for of all trades it is the most remunerative. The man Fulford, who exploited the British public with his Bile Bean bubble, accumulated a huge fortune in a few years, and showed his gratitude to a credulous public by leaving at his death one-fifth of his shares in the Bile Beans Company for the endowment of the Barnardo Homes. The Barnardo Homes, however, did not accept the legacy in the

terms of Fulford's will, but compromised matters by settling for a lump sum of cash unconditionally handed over. The effrontery of the statements of some of those who devote their energies to this sort of business is almost beyond belief, and they mount on the stepping-stones of audacity to ever greater heights of commercial prosperity. How is the panacea of education to protect speechless infants and ignorant womanhood from the mendacious exaggeration of these unscrupulous individuals? Can education make pharmaceutical chemists or analysts of those on whom the incidence of this roguery falls, and, if not analysts and chemists, how are they or others to arrive at a knowledge of the compositions of the nostrums that are dangled before their eyes? When one reads of the cures effected by secret remedies, and the highly imaginative results of patent food feeding, one is reminded of the old story of Bion, who, when he was shown the votive offerings hung in a great temple by those who had been saved from shipwreck through the efficacy of prayer, remarked, "But where are the names of those who have been drowned?" The numbers of shipwrecked infants are written in the mortality statistics issued by the Registrar General from Somerset House.

By reason of huge advertising contracts part of the press in this country is virtually in the manacles of this debased form of commercialism. In the *British Medical Journal* of 17th November 1906 Mr Henry Sewill stated in a letter on the subject of "The Antipodes and Patent Medicines," that "no help in the movement (against the infamy of quackery) will be given by the lay press; from the *Times* downward they are all taking a share of the enormous sum, certainly more than one million sterling, which is being spent annually by advertisements of quacks."

In America, where the "hydra-headed" monster of secret remedies is possibly even more rapacious and exacting than in this country, its forces are well organised

under the ægis of the Proprietary Association of America—a society whose objects are in some respects similar to those of a British organisation called “The Proprietary Articles Trade Association.” This latter organisation consists of manufacturers, wholesalers, and retailers, and its chief object is to prevent “price cutting” in what are popularly called “patent” medicines.

In the Report of the Royal Commission, drawn up by Mr Beale for the Parliament of the Commonwealth of Australia, page after page is devoted to an exposure of the methods of these organisations.

A few quotations from this Report will suffice to explain the double advantages of the advertisement. The following are samples of the regulations and printed forms used by certain firms for their advertisement contracts with thousands of newspapers throughout the United States :—

“We hereby agree for the sum of dollars per year to insert in the , published at , the advertisements of the Company.”

Then follow conditions as to the amount of space to be used in each issue, the page the advertisement is to appear on, and the position it is to occupy. Then come these two remarkable conditions of the contract :—

“First it is agreed in case any law or laws are enacted, either State or National, harmful to the interests of the . . . Company that this contract may be cancelled by them from date of such enactment and the insertions made paid for *pro rata* with the contract price.”

This clause is remarkable enough, but the second clause is still more remarkable and runs as follows :—

“It is agreed that the Company may cancel this contract *pro rata* in case advertisements are published in this paper in which other products are offered, with a view to substitution or other harmful motives,

also in case any matter otherwise detrimental to the Company's interest is permitted to appear in the reading columns or elsewhere in the paper."

One can only hope that things are not quite as bad as this in this country, but the eloquent silence of the lay press on the subject of the great Bile Beans Case, tried in the Court of Session in Scotland in February 1905, is at least highly suggestive that information of this kind which is damaging to trade interests can be effectually suppressed in those cases in which advertisements are sufficiently large. I do not believe that there is one person in ten thousand who has ever heard of the Bile Beans Case or the ruthless exposure of the tricks by which it was exploited on the public, and the fact that Bile Beans still enjoy a considerable sale in this country is a striking commentary on the power of the big advertisement.

In the *Pharmaceutical Journal* of 11th August 1906, there appeared the following paragraph:—

"In last Saturday's *John Bull*, under the heading of 'Shams,' there was about a page article dealing with the above ('the Bile Beans judgment'). This is the only instance I can find of the press in England touching the matter. Great is the power of the big advertisement!" — H. Jennings, Nottingham, 7th August 1906.

In striking contrast to the suppression of the reports of this case is the publicity recently afforded to the case of *Tucker v. Wakley* and another. In this instance the plaintiffs, unlike the Bile Beans Company, was a small firm which did not advertise. I could quote numerous examples of the same kind, but space is limited and "*ex uno disce omnes*."

But if the onus of blame for the popularity of secret remedies rests principally with the vendors of these often worthless shams, the body politic as represented by the Government can hardly be released from all responsibility, for are they not co-partners in the pro-

ceeds of this traffic in human life and human health? If participation in the profits to the extent of 12 per cent. of the retail price (stamp duty) does not constitute partnership—one might almost say dominant partnership—what in the name of justice does it constitute? Further, when our legislators are asked to give us relief from the bonds of quackery, faithful to the traditions of our antiquated policy they glibly put us off with the old shibboleths, "the freedom of the subject," "the free play of natural forces," "morality by Act of Parliament," "Am I my brother's keeper?" and so on. Recently, when our Home Secretary was asked in Parliament whether his attention had been directed to the frauds perpetrated upon the public by the advertising and sale of quack remedies, he replied, "I don't doubt but that the advertising and sale of quack medicines is often the cause of serious mischief, but it is an evil which must be met rather by the spread of education than by legislation or prosecution."

Public opinion in this country on the subject of food and drugs is made generally by advertising and by the press which is under the thralldom of the advertisement. Truly, as it has been said, "We must begin the campaign against quackery by educating our legislators rather than the public."

I am quite ready to admit that we as medical men—I mean we, the practising members of the profession—do not enter this fray with entirely clean hands. I should be very sorry to discover the mote which is in my neighbour's eye without admitting the beam which is in my own. We have been exploited just as much as the public have been exploited; we have been the catspaw and fool of the fraternity of the secret remedy. To satisfy the craving of our patients for new and sensational remedies we lend ourselves to the specious machinations of the drug manufacturer and we swallow wholesale the statements that are printed in their circulars and prospectuses. Let me quote you what

Mr Bok, the editor of the *Ladies' Home Journal* in America and a mighty champion of the cause of anti-quackery, said to a large gathering of members of our own profession :—

“I was given an opportunity to examine one hundred prescriptions; of these, forty-two prescribed a proprietary drug or article in part or whole. I selected thirty of these and called on each of the physicians who had written these prescriptions. Now, gentlemen, these physicians were men of excellent standing, some very high in their profession, and how many of these thirty physicians would you say gave me an accurate, or anything approaching an accurate, analysis of the ingredients of the nostrum which they had prescribed? How many? Two, gentlemen—two out of the thirty! The rest either did not know, or, what is even more dangerous, thought they knew when they didn't.”

Again :—“We are preaching to the public to stop the nefarious habit of self-doctoring, but possibly by such methods as these we are driving people to doctor themselves, driving them to the quacks and the charlatans.”

Are we better in that respect in this country than are the physicians of America? Are we any less inclined to prescribe secret or proprietary remedies of which we don't know the composition? I had the curiosity to have 2,653 prescriptions carefully analysed, as dispensed by a highly respected chemist in one of the most fashionable quarters in London, and this is what I found. Out of the total number of these prescriptions 573 contained proprietary compounds or proprietary drugs. Some of them even contained two or three proprietary preparations. How many of the physicians who prescribed these secret preparations knew what they were prescribing?

Proprietary medicines and so-called “ethical” preparations follow in the wake of the consulting physician

and spread with astonishing rapidity through the rank and file of the profession. Then they become the property of the public who proceed to doctor themselves. By so doing, not only do we cut our own throats, but we put into the hands of the public a double-edged weapon with which they can perform the same suicidal act for themselves.

This is what Mr Rufus Fleming, United States Consul in Edinburgh, explained to his Government in reporting on the trade in proprietary articles in Scotland:—"In the matter of a new pharmaceutical preparation Edinburgh may follow London opinion, but Scotland follows only Edinburgh. About six months after trade has become active in this city and vicinity (Edinburgh) the traffic from the cities and towns in Scotland attain a considerable volume. This wave-like movement is the common thing, and its origin and direction are invariable."

Next, let me explain how and in what way the unrestricted sale of secret remedies has a prejudicial effect on the mortality and morbidity of our infant population. As far as statistics can explain its relationship I must admit that there is very little direct proof that a large number of deaths among infants are immediately due to the administration of secret or proprietary remedies. Only a comparatively small number of cases come under the notice of our coroners.

In the Report of the Royal Commission already referred to, Mr Beale adduces authority (Dr W. Murrell) for the statement that 15,000 infants are killed annually by those means. This may or may not be an accurate estimate, but in view of the highly dangerous character of the drugs contained in many of the secret remedies, which our law permits to be sold without restrictions, and, in view of the enormous traffic that is conducted in them, the only wonder is, not that the deaths or computed deaths are so great, but that they are not infinitely more numerous. It

surely is a reflection on our common-sense as a nation that "Mrs Winslow's Soothing Syrup for Teething Infants," of which one of the active therapeutic agents is morphia, is still allowed to enjoy so wide a popularity in this country.

The official stamp, which proclaims the 12 per cent. share which our Government enjoys in the sale of proprietary remedies, is regarded by many an ignorant purchaser as a guarantee of merit and good faith, especially when, by an ingenious trick in the folding of the stamp, the "not" in the sentence, "This stamp does not imply any Government guarantee," is concealed from view.

Among the forty-eight million bottles or boxes of proprietary or secret remedies which bear the official stamp and are sold in this country, there are dozens of soothing syrups and powders which anybody can purchase from an apothecary, and which contain such dangerous drugs as morphia, acetanilide, and mercury. But in addition to this particular form of traffic in poisons any person is at liberty to enter a chemist's shop and ask for a pennyworth of soothing syrup for baby, and to receive a dose of Nurse's Drops, or some other dangerous compound containing opium or other scheduled poison, provided that the word "Poison" is printed on the label. An enormous sale is transacted in these soothers sold in pennyworths. They are popular because they are exempt from the stamp duty and can be purchased in smaller quantities than is usual in the case of proprietary remedies. There appears, however, to be a growing tendency among the better class chemists to discourage the sale of baby mixtures containing poisons.

Although to my mind the principle is wrong which allows a chemist to prescribe dangerous drugs for administration to infants, nevertheless, in that they are dispensed by chemists who have received an adequate pharmaceutical training and are conscious of their

responsibilities, they are doubtless less productive of evil than such proprietary preparations as "Mrs Winslow's Soothing Syrup," which contains morphia, or "Atkinson's Royal Infant's Preservative," containing chloroform and morphia, "Godfrey's Cordial," which contains opium, Chlorodyne which contains morphia, "Steedman's Powders," which contain calomel and starch, and a host of other proprietary soothing syrups and powders, which are sold by the hundred gross, and which contain morphia, chloroform, alcohol, and acetanilide, some of which are, and some of which should be, scheduled poisons.

It appears from Mr Beale's Report that there is no constancy about the formulæ of many proprietary medicines. Indeed, as long as the law allows manufacturers any protection in a registered trade name or in an official stamp, and to add or subtract any drug they please, without conforming to any definite standard or without indicating any such change on the label, we may be perfectly certain that the more unscrupulous among them will continue to enjoy and make use of this privilege as long as it suits their purpose. Mr Beale states that :—

"We see by analysis that while the constituents and preparation (of these proprietary medicines) vary, the name of the nostrum and testimonials of its efficacy remain the same. A cough cure or a bronchitis cure is prepared with or without morphia or chloroform to suit the laws of one State or another, thus with the same appearance a tablespoonful may be innocuous from one bottle and deadly from another. The morphia in a particular soothing syrup has been shown to vary greatly, and the chloroform also varies widely. Teething powders containing subchloride of mercury are marked, 'Containing no poison.' The quantities vary because of unchecked mixing, and may salivate the babes."

Further, Mr Beale adds :—

"The right claimed to name the nostrum at the will of the concocter is also inadmissible, because the name chosen may be of a misleading or intentionally deceptive character. Such as 'Bromo-Seltzer,' to hide acetanilide; 'Irish Moss,' to hide two narcotic poisons; 'Herbal,' to hide mineral poisons; 'Sulphur Bitters,' containing no alcohol, which do contain alcohol, but do not contain sulphur; 'Cherry Pectoral,' which contains nothing from cherries; 'Essence of Linseed,' which contains chlorodyne and morphia; and 'Syrup of Figs,' the active constituent of which is senna. The principal claim issued is that he (the drug packer) be left undisturbed in the cloak of secrecy and the public be left at his mercy."

My own experience has been that the habit of giving a certain proprietary teething powder containing mercury and starch to infants is more common among the poor of the West End of London than is the case with any other secret remedy. In infants these powders act as a most powerful purgative. They contain starch, which is not exactly the best form of food for young and delicate infants, and subchloride of mercury, which in all cases should be given with circumspection, and which is decidedly a dangerous drug to use indiscriminately. I remember as a student being told by the late Sir William Broadbent that subchloride of mercury was one of the most effective forms of soporific for certain cases of heart disease. Poor mothers soon learn the same lesson in regard to these powders; nothing gives the baby or its mother a better night's rest, and this knowledge very soon leads to serious abuses. I have known of several cases in which these powders were given regularly to infants to an extent that produced the clearest symptoms of mercurial poisoning.

Among better class patients one often has an uncomfortable suspicion that infants are being dosed unbeknown to the mother or oneself by unscrupulous

nurses, who sometimes have little difficulty in procuring soothing syrups containing morphia from the nearest chemist. The great objection, however, to the unrestricted sale of soothing syrups and teething powders containing dangerous ingredients is not so much that they are immediately responsible for deaths which come under the notice of the coroner, or even that they contribute indirectly to the mortality rate, as that they permanently injure the health of the vast number of infants who survive.

The sale of drugs of all kinds is regulated by the "Sale of Food and Drugs Acts," which makes no distinction as to whether the drugs are intended for administration to infants or adults. In the first of these Acts (Section VI.), it is set forth:—"No person shall sell to the prejudice of the purchaser any article of food or any drug which is not of the nature, substance, and quality demanded by such purchaser under a penalty not exceeding £20 for the first offence." But it is expressly provided that "an offence shall not be deemed to be committed in those cases where the drug or food is a proprietary preparation." Section VII. says: "No person shall sell any compound article of food or compounded drug which is not composed of the ingredients in accordance with the demands of the purchaser under a penalty not exceeding £20." Seeing that the manufacturer of a secret remedy is absolutely free to alter and vary the ingredients from time to time there is no protection whatsoever to the buyer that he is buying what the vendor professes, or has at any time professed, to sell. The sale of what are considered to be poisonous or dangerous drugs is governed by the Pharmacy Act of 1868. The provisions of this Act make it an offence for any person otherwise than a properly qualified chemist to sell certain substances mentioned in the following Schedule of Poisons:—

POISONS WITHIN THE MEANING OF THE PHARMACY ACT, 1868. PART I.

Not to be sold unless the purchaser is known to, or is introduced by some person known to the seller ; also entry to be made in poison-book of—

1. Date of sale.
2. Name and address of purchaser.
3. Name and quantity of article.
4. Purpose for which it is wanted.

Attested by signature, and must be labelled with

1. Name of article.
2. The word "Poison."
3. Name and address of seller.

Arsenic, and its preparations.

(For special regulations see page 61.)

Aconite, and its preparations.

Alkaloids.—All poisonous vegetable alkaloids and their salts.

Atropine, preparations of.

Cantharides.

Cocaine, and its salts.

Corrosive Sublimate.

Cyanides of Potassium, and all metallic cyanides and the preparation of such articles.

Emetic Tartar.

Ergot of Rye, and its preparations.

Picrotoxin.

Prussic Acid, and its preparations.

Savin, and its oil.

Strychnine, and its preparations.

Part II. also contains a number of potent poisons, the sale of which is confined to chemists and druggists, but, provide that the packages containing such substances are labelled with the word "Poison" and the name and address of the seller, they may be sold to any one without further restriction.

It follows that these Schedules are utterly inadequate to meet the requirements of the case, especially in regard to the sale of poisons administered to infants. Acetanilide, for instance, is certainly a poison which should be added to the number of those already scheduled, and veronal is another which might be added with advantage. But the inefficacy of a Poison Schedule of this kind to meet the requirements of the case is quite apparent when we remember the resourcefulness of the synthetic drug manufacturer, for as soon as one drug is added to the list we may be perfectly certain that new ones equally dangerous will be sub-

stituted for it. It follows from these enactments that any person is entitled to purchase from a qualified chemist for administration to infants proprietary medicines containing scheduled poisons, or proprietary medicines containing unscheduled poisons, and soothing syrups and medicines of all kinds dispensed at the discretion of the chemist, the only restriction being that in the case of scheduled poisons, belonging to Part I. and Part II. a label bearing the word "Poison," together with the name and address of the seller, must be applied to the bottle, while the name and address of the purchaser and the purpose for which they are required must be entered in the book kept for that purpose when poisons belonging to Part I. are purchased. I have been told of one case in which two drams of paregoric (containing half a grain of morphia) were purchased daily, and, in spite of the "poisons" label, administered to an infant, who at this early age must clearly have acquired the morphia habit.

Apart from the general inadequacy of these provisions for protecting a perfectly helpless class of individual, the particular weakness lies in the want of proper control over the sale of proprietary medicines which, as I have already stated, may be misleading in description, and which have no standard of composition or strength.

In no European country besides our own is the principle of leaving each individual to work out his own salvation in respect of taking such dangerous drugs recognised or encouraged by the State. In every other country the public are protected against the specious and insidious appeals to valetudinarianism which are the strongholds of quacks. For instance, the public sale of secret remedies is forbidden throughout Austria, Belgium, Denmark, France, Germany, Holland, Italy, Norway, Sweden, and many Swiss cantons, either completely or almost completely. In

Austria no recommendation of any proprietary medicine as a cure for any disease is allowed, and all advertisements in the press and elsewhere are under the direct and strict supervision of the police, while a maximum retail price is fixed for all proprietary medicines. In fixing these prices the Board of Health bases its calculations on the wholesale price of ingredients, and allows nothing for the incidental expenses, such as advertising, which in this country forms the greater part of the expenses of a proprietary medicine manufacturer. In France only qualified chemists are allowed to make and sell proprietary medicines. Associations which are of the nature of limited companies may not sell them, and it is strictly against the law to sell any patent medicines of which the formula has not been published, has not been favourably reported upon by the professional staff at the School of Pharmacy, and approved by the Minister of Commerce. It is significant that some "patent medicines" in Great Britain are forbidden entry into the French ports on the ground that the School of Pharmacy has reported that they constitute a danger to public health. If such articles are occasionally sold in France it is because they are smuggled into the country.

Australia and the United States of America, both of which countries were, until quite recently, the homes of quackery, have lately put in force strong regulations for the protection of the public. It is required that proprietary medicines which contain certain drugs shall have the names of those drugs declared on the labels. These regulations are preliminary to others of a far more stringent character which are now being drawn up.

One of the results of these enactments in America is that certain proprietary medicines which are so largely advertised both in this country and in America have been withdrawn from the American market, but are still sold here, while in other cases the chief ingredient

has been omitted from the stock packed for America, while the supplies imported to this country still contain it. In America, also, the jungle of quackery has been cleared, or, rather, is in process of being cleared, not only by legislation, but by force of public opinion, which has been stirred to support the law by the tireless energy and single-hearted efforts of Mr Edward Bok, editor of the *Ladies' Home Journal*. This highly respected journal is carrying on a relentless campaign against quackery of all sorts, and the results achieved are one of the triumphs of modern journalism. In America, also, a national anti-quackery society has been inaugurated with considerable enthusiasm, hundreds of independent associations joining in the movement, which is designed to carry on a persistent campaign against quacks and quackery. In the same country, the Bureau of Chemistry, an accessory of the Department of Agriculture, is also doing excellent work in the same direction, by conducting analyses of secret remedies, and by allowing the results to be published from time to time in the medical journals.

In Australia the movement against quackery is being ably assisted by the *Lone Hand*, a journal with an extensive circulation, which refuses to accept advertisements of quack remedies; while the labour section of the Commonwealth Parliament regards quackery as a form of imposition against which the poor must be protected.

What remedies have I to propose for the present deplorable condition of affairs, which allows our infant population to be drugged with dangerous soothing syrups and objectionable teething powders, while there is nothing to prevent the mothers of our race from dosing themselves with proprietary medicines containing alcohol, acetanilide, sulphonal, veronal, or a hundred and one other undesirable remedies of which they know not the dangers nor the quantities they are taking?

We have in this country a very excellent Act which compels, under a heavy penalty, all persons who sell any compounded food or drug, to supply an invoice or warranty of the materials from which either has been manufactured. Should it contain any deleterious or worthless ingredient, the seller is liable to summary conviction. This Act, which protects the purchaser very completely, has no application whatsoever to infants or human beings, but it is solely intended for the protection of cattle and certain agricultural interests. I imagine that most of us who take an interest in infant mortality would be quite satisfied if the application of this Act were extended to the case of infants. We could not ask for more stringent or effective regulations for the control of the manufacture and sale of foods and drugs. Surely the spirit of commercialism which prompted the framing of the "Fertilisers and Feeding Stuffs Act" for the protection of our greatest industry ought to consider the important industry of infant rearing. As Mr J. Compton Rickett, M.P., said, "Babies are getting scarcer and, according to the inevitable law of supply and demand, are rising in value." The administration of this Act rests with the Department of Agriculture, and, seeing that the latter already possesses the machinery for dealing with the control of the sale and manufacture of food stuffs for cattle and fertilisers for the soil, it might be convenient that the control of foods and drugs intended for infant consumption should be vested in the same department. The extension of this Act so as to include babies would be far more effective than any amplification of the Pharmacy Act, for, even if all known dangerous drugs were included in the Schedule of Poisons, as already stated, new unscheduled drugs would immediately fill their places owing to the resourcefulness of the synthetic chemist. I take it, however, that before such extension of the Fertilisers and Food Stuffs Act could

receive the sanction of Parliament, public opinion would have to be awakened in some such way as it has been awakened in Australia and America. There is no reason to suppose that measures which have operated to this end in these two countries would be less effective in England. Why cannot we induce some reputable and influential journal in this country to throw off the thralldom of the big advertisement, and initiate the same sort of campaign as that undertaken by the *Ladies' Home Journal* and *Collier's Weekly* in America? And further, why should we not have some sort of central organisation, such as that which is known in America as the National Anti-Quackery Society?

It may be of interest to the members of this Conference to hear that the well-known authoress, Mrs Baillie Saunders, is now writing a novel of which the leading motive is the subject dealt with in this paper.

CONTROL OF THE SALE AND MANUFACTURE OF INFANTS' FOODS.

Let me now return to the important subject of proprietary foods for infants. *Mutatis mutandis*, much that has already been said with regard to the exploitation of proprietary drugs applies equally to that of infants' foods. An admirable paper on the chemistry of these proprietary foods was presented by Mr James Knight to the 1906 meeting of this Conference. In his paper he stated the case against these foods in a most adequate and temperate manner, purely on the grounds of their chemical constitution, and from this point of view I have very little further to add. Some eight years ago, in the first edition of my little work on the "Physiological Feeding of Infants," I made the following statements:—

"The vendors of patent foods have much to be responsible for in the false education of the public in

matters of infant feeding. By literature, pictorial and otherwise, spread broadcast throughout the land, they have become the chief medium for formulating the ideas of our young mothers as to their duties towards their infants in regard to feeding."

To give an example of the mischievous instructions which they give for preparing an infant's daily food, I quote verbatim the directions as supplied with what is, perhaps, the best known of all patent foods. It certainly has an enormous sale, and has doubtless played no inconsiderable part in lowering the physical condition of many of the present generation in this country. The following are the instructions:—

"For children about the age of three months, dissolve a tablespoonful of the food in four tablespoonfuls of hot water, and add sufficient warm cow's milk to make half a pint." And, further, "The quantities mentioned in the directions will be found sufficient to fill a feeding-bottle, and enough for a meal for an infant of three or four months. The food should be put in a feeding-bottle, and the child allowed to suck until its contents are exhausted."

It is not stated how many bottles should be given during the twenty-four hours, but presumably not less than eight for a child of three months. A simple calculation shows that if these directions are followed out, the infant will receive in the twenty-four hours 64 ounces of milk and eight tablespoonfuls of the patent food. Sixty-four ounces of milk contain—

Fat	-	-	-	-	-	2.240 oz.
Proteid	-	-	-	-	-	2.56 "
Sugar	-	-	-	-	-	2.78 "

And eight tablespoonfuls (4 oz.) of the patent food (calculated according to the analysis supplied with the food) contain—

Fat	-	-	-	-	-	.007 oz.
Proteid	-	-	-	-	-	.4028 "
Sugar	-	-	-	-	-	2.72 "

The milk and patent food combined giving a total of—

Fat	-	-	-	-	-	2.247	oz.
Proteid	-	-	-	-	-	2.962	„
Sugar	-	-	-	-	-	5.50	„

An infant's physiological requirements of the above constituents, according to Rotch, who is an accepted authority on this subject, are as follows :—

Fat	-	-	-	-	-	1.26	oz.
Proteid	-	-	-	-	-	.63	„
Sugar	-	-	-	-	-	2.205	„

Comparing the quantities as required by physiological needs, and those recommended by the proprietors of the patent food, it will be noticed that, as regards gross bulk, the food is considerably more than two and a half times that of the normal standard. The fat is twice the required amount, the sugar, or carbohydrate, two-and-a-half times, and the proteid more than four times too much.

Subsequent to the publication of this criticism, the directions on the particular food in question were altered in conformity with the suggestions I made, but a considerable number of other proprietary foods of the same kind still give directions for preparation on the same sort of scale as that to which I took objection.

I cannot attempt to explain in this paper the whole case against the use of so-called patent foods on physiological and economic grounds, but I append here a short summary of some of the reasons which can be urged against them :—

1. There is no guarantee, except the good faith of the manufacturer, that the food is of uniform standard.
2. There is no guarantee as to the date of the manufacture of the food.
3. There is no means of ascertaining, apart from chemical analyses, whether the food contains

starch or other constituent undesirable for infants, consumption.

4. The cost is usually utterly out of proportion to the intrinsic value.

5. The great majority of cases of infantile scurvy have been in the case of infants fed on patent foods.

6. When prepared according to the directions given, most of these foods do not conform to the physiological standard required in the following respects :—

(a) The fat percentage is too low.

(b) The sugar or carbohydrate percentage is far too high.

(c) The nitrogenous elements are not presented in a form conducive to good nutrition.

(d) The food being of a soluble or pre-digested condition does not develop the digestive functions.

My own personal experience has been that babies, fed on most patent foods, display pronounced or at any rate mild symptoms of rickets, and, further, the great majority of them show, in a greater or less degree, feeble powers of resistance to disease. They are generally fat and give a superficial appearance of health, which is most deceptive to inexperienced persons. This, combined with the absence of symptoms referable to indigestion—a fact which is explained by the soluble or pre-digested condition of the food—is largely responsible for the popularity of these proprietary preparations. In the *Lancet* of 22nd July 1905, Dr W. J. Haworth gives statistics which showed that, while the mortality rate among infants fed on cow's milk was 177 per thousand, that of infants fed on patent foods was 202 per thousand. Too much reliance, however, must not be placed on these statistics, for the number of cases under observation was not sufficiently large. Personally, I should not have expected to find so

great a difference in the mortality rate. My own experience has been that it is not so much the death rate that is unfavourable, as that the morbidity rate in later childhood is excessive. Patent-food babies seem to suffer severely from bronchitis and convulsions, which are often wrongly attributed to the influence of dentition.

A high standard of purity has to be maintained by milk dealers, and the Government proposes to impose still more stringent restrictions on the production and distribution of milk. What applies to milk should surely apply also to milk substitutes. If we have a standard for the one, why should we not have one for the others also? At present if a milk dealer sells milk from which the fat has been abstracted, he commits an offence under the "Sale of Foods and Drugs Acts." On the other hand, a man may water his milk, and call it "Blank's Extra Nourishing Food," and make a fortune, because when sold under such a title it is constituted a proprietary food for which there is no standard. And for this Extra Nourishing Food he may make a charge of five or six times as high as that which he would be able to charge for pure milk. Therefore, while we are watching the back door for the fraudulent milkman the fraudulent seller of infants' food comes in at the front. A man who sells a bad infants' food is surely a worse offender than a man who sells watered milk, because he picks pockets on a larger scale.

Under the belief that these foods are all that is claimed for them, many a poor woman deprives herself of the necessities of life in order that she may provide her infant with what she considers to be essential for it. Granted that a substitute for cow's milk may at times be necessary, and that foods of the kind that are sold under proprietary titles can fulfil this requirement, it is a pity that there is not some means of providing these foods at a reasonable price. As a matter of fact,

very few of these foods have any advantage over ordinary bread jelly, which can be made quite inexpensively at home, while sugar, white of egg, and cream can be easily combined, and in such a form as to suit the requirements of most sick children who cannot digest ordinary cow's milk. The claims that are made for these proprietary foods are quite unwarranted. There can be no doubt in my mind that the control and sale of all these proprietary foods should be vested in the hands of a Government Department, and not only should there be a general standard for these foods below which none should be allowed to sink, but every tin or parcel containing them should bear a clearly printed statement of their chemical constitution. If this were done the public might in time recognise the true economic value of the preparations they buy. If such a statement were printed on the label each preparation would have its own standard, and if this standard were departed from the buyer would have grounds for action. A mere extension of the "Fertilisers and Feeding Stuffs Act" so as to include infants, as well as cattle and poultry, would, as I have already stated in reference to the question of drugs, be amply sufficient. In Australia the Victoria Foods Standards Committee adopted the following standards under the provisions of the "Victorian Pure Food Act":—

"Infants' foods shall contain no woody fibre, no preservative substance, and no chemical substance insoluble in water, and, unless described or sold specially as food suitable *only* for infants over the age of seven months, shall, when prepared as directed by the accompanying label, contain no starch and shall contain the essential ingredients and conform approximately in its composition to normal mother's milk."

The first prosecutions under this Act have just taken place in Richmond, Victoria, and a grocer has been fined for selling three separate brands of infants'

foods which did not comply with the regulations. Seeing that America and Australia have recently passed Pure Food Acts which control the sale and manufacture of infants' food; seeing, also, that nearly all European countries protect their infant population by the same means, and, seeing that we in this country protect our cattle and agriculture by most effective Acts, it does not seem altogether unreasonable to claim similar indulgence for our own infants.