Thesis for the Degree of M.D.

Some common morbid conditions of the Infantile Alimentary System with special reference to Summer Diarrhoea.

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Having resided for 2 years in a densely populated working class district in one of the largest cities in England, and during that time actively engaged in private practice, seeing and treating an average of 50 patients daily, the greater portion of whom were women and children, I trust I may lay claim to some little practical experience of the subject I have chosen for my Thesis.

The exigencies of private practice have been such that I have had neither time nor opportunity to undertake any scientific investigations. So I have striven, in the following pages, to give a practical account from the standpoint of the busy general practitioner, of one phase of infantile disease as met with among the children of the poorer working class population.

I wish especially to emphasize the fact that the origin of much of the disease, the cause of the high mortality during the first few months of life, is due solely to the neglect of personal hygiene and to uncleanliness in the feeding and surrounding of the children.
Seeing this class of people daily & being intimately acquainted with the conditions of their everyday life, one quickly recognises how much trouble & disease could be avoided by attention to a more cleanly habit of living, & at the same time one marvels that disease is not more rampant than it is.

The man, whose practice lies among this class of patients, is heavily handicapped in his methods of treatment. He cannot make use of the various elaborate methods set out at length in different text books, the authors of which generally write as though the convenience of a hospital were universally available.

The general practitioner must do the best he can, & the simpler the means of remedies he employs, the more likely is he, in the circumstances in which he is placed, to obtain good results; & considering the surroundings of the patient, the capabilities of its attendants, it is surprising, & at the same time gratifying, to contemplate that good results are often obtained, despite the various drawbacks one encounters.
The most simple hygienic principles in the rearing of infants are, more often than not, totally neglected. In few of my cases have I been able to obtain more than a partial carrying out of my instructions, although the latter have always been of the simplest description.

For instance in the preparation of infant food—many various formulas for humanizing sterilised milk are beyond the capacity of this class of mother, or nurse.

The use of enemas is only possible in a few instances, it varies other little refinements of treatment, which are often of great aid to me in overcoming the disease and quite impossible to carry out among this class of people.

In the large majority of my cases, which I have taken special note, the children were hand-fed—this being generally due to the fact that the mother was a willing hand & so wished to return to her work as soon after confinement as possible. She generally resumes her work about the third or fourth week after delivery. The child...
who then either nursed by its grandmother, or put out to nurse, the mother giving it the breast when she returned from her work & during the night, until the supply ceased. During the day, the child would be fed on milk & water or a concoction of boiled bread & water locally known as ‘jotts’. The feeding bottle, without exception, would be one of the tube kind. We are universally condemned by the medical profession, but which the working class mother thinks to be without an equal for general suitability & clogs to it in spite of every objection that one can urge against it. I have often demonstrated the filthiness of the J.R tube to the mother by splitting up a section of it & showing the decomposing matter with which it is lined. In some cases, although they buy one of the simple boat-shaped bottles, they invariably return to the tube. As to keeping the apparatus clean—even those of the women, who are what one would call ‘very clean,'
in ordinary matters, think that to purchase his bottles & to keep the one which is not in use in a basin of water, amply sufficient.

The small rubber tubes are hardly ever cleaned—simply left till the rubber wears out then more tubing is purchased. I wish to emphasize the fact that it is uncleanness, pure & simple, which is responsible for the high morbidity among infant life in large towns.

According to the note, I have taken the following as the common principle morbid conditions of the alimentary tract for which the children are brought to be treated by the medical man.

One month.

Teething.

Colic & Constipation.

Diarrhea & Vomiting.

Wasting.

Summer Diarrhea.

Taking them in the above order
Soreness. Among the various forms of soreness to be met with, there are two kinds, which are by far the most frequent, and which constitute the bulk of the cases brought for treatment—viz., the aphthous or herpetic variety or the parasitic variety or true thrush.

The latter is the more common of the two. I have noted 36 cases of this parasitic variety, or true thrush.

The infants varied in age from 4 weeks to 11 months. In 4 of the cases the posterior parts were infected in 1 case the vagina.

In all my cases the cause was traced to an unsuitableness in the feeding utensils. The children were all hand fed—milk, milk water, boiled bread, or some patent food were the principle articles of diet, with the invariably accompanying tube feeding bottle. In 20 of the cases the infants were ailing, weakly, but in the others they appeared quite healthy, only for the condition of the buccal cavity.

In the bad cases the child, when brought
for treatment the patient presented. The
secretions of the mouth were scanty and
gave an acid reaction. On the
surface of the tongue and cheeks, yellowish
numerous white patches were to be seen.
The surrounding mucous membrane
was in most cases being swollen and inflamed,
though in some cases it appeared to
be normal. There was frequently
vomiting or diarrhoea; the evacuations
were greenish or dark yellow.
The white patches in the mouth are
difficult to detach and when removed
leave a raw surface.
Microscopic examination of these white
curd-like flakes revealed irregular
filaments of a fungus (Pseudomonas, etc.)
with rounded spores, together with
epithelial cells, debris, and various other
organisms.

Under treatment they all, with one
exception, quickly regained health.
In the case that ended fatally, I
am fairly certain that the mother
made no attempt to treat the child,
that the medicine prescribed was not
given. The treatment which I found most successful was to swab out the mouth every three hours with the following solution:

R. Potas. Chlorate. gr x v  
Acid. H. Ox. gr v  
Glycerin. m. xx  
Ag. aq. 6 f. 1 f. Solution.

to give internally:

R. Calomel. gr x f. b. d. de san.

With the following mixture:

R. Sod. Brevetarii gr. ii  
Fr. Aq. Vom. m l  
Soda Vlichl. gr i  
Eryth. Acm. 36 vol. Streitm.  
Ag. aq. 6 f. 1 f. cup latera p. h. e.

At the same time insisting on the importance of absolute cleanliness in the feeding utensils, and that the mouth of the child should be cleansed after every feeding with a solution of Ammoniac of Soda 3 grs. to the ounce.

This parasitic form of tetanus I have often met with as secondary to other diseases of a debilitating character.
The other form of Stomatitis commonly met with—e.g. the Rhythms Variety, I found to occur in older children—10 mos. to 2 years. I have notes of 30 cases. In this form of the disease the children were generally weakly & unhealthy—often recovering from some respiratory disease which had reduced their vitality—or resident in damp ill-ventilated dwellings. In 24 of the cases there was an associated gastric catarrh which seems always to precede the Stomatitis. In 19 of the cases enteric catarrh was also present.

In these cases the cause of the disease is, I think, due to some toxic circulating in the blood, which acting as a nerve poison in the buccal mucous membrane, causes a herpetic eruption, or then ulceration results from the action of the bacteria which are always present in greater or less numbers according to the attention which is given to the factors of cleanliness in the feeding of the child. This form of Stomatitis
Sometimes occurs as a complication of some grave constitutional disease; in these cases I frequently found the parasitic form to be associated with it.

In the ordinary form the mother brings the child with the complaint that, 'It has a sore mouth it will not take its food, it is very feverish.' On examination of the child it is found that the temperature ranges between 100° - 103°, the pulse as a rule is very fast, 120-150. It is restless and fretful. The lips are held apart, the mucous membrane of the mouth is swollen, red and hot and presents characteristic ulcers. There is generally some tenderness and enlargement of the submaxillary glands. The ulcers are a little elevated, have reddened edges, and yellowish-white floors. They are exceedingly tender, and on this account the child refuses food.

This form resembles the parasitic variety, but in the latter there is no ulceration - the child is younger and microscopic examination reveals the fungus.
Under treatment in ordinary cases the case quickly recovers. The treatment I found most efficacious was—

1. Swab out the mouth with a little weak solution of permanganate of potash then
2. to pain the ulcers with a 2% sol of Cocain Hydrochlor. & touch them with solid nitrate ofsilver.

Two applications were generally sufficient. In addition I gave a teaspoonful of the following mixture every 3 hours, with the directions that it was to be given in very small quantities at a time, so that it might come in contact with the whole of the oral mucous membrane.

Rj. Tinct. ferris mercur. nii.
Glycerin. \textit{m.x}
Potas chlori soli
Ag 3 gr. 31. St. Levin.

with 5 gr. of Calomel every night for 3 nights.
In 5 or 6 days the child was nearly well again.
Teething. Disorders of Dentine.

Although dentition is a physiological process it cannot be placed under the term 'habitual condition', still it may be disordered, and give rise to symptoms of irritation. As a matter of fact this is frequently the case, for after the eruption of the tooth or teeth the symptoms for which the child was brought for treatment frequently disappear rapidly e.g., convulsions, bronchitis, diarrhoea, general lassness. A large percentage of children are brought to the general practitioners for treatment for which no other cause can be found, than the systemic disturbance due to the physiological process of dentition.

In treatment a calamine in the form of the following mixture, with a small dose of Calomel or cry Powder invariably has a good effect.

Ri: Antimony B Aq. 1/2
Sodi: Potass. 9
K. Carbon. Cns. 1/4
Sp. Chlor. 1/4
Syrup. Amand. 1/4
Ag. ad 3j
Cph. tinct. succ. hor.

12.
In connection with dilution, I wish to refer briefly to Infantile Convulsions, because of their intimate connection with the eruption of the temporary teeth; also because the majority of cases which have come under my notice have been clearly traced to some disorder in the alimentary tract. During the last 2 years I have treated over 70 cases of infantile convulsions in apparently healthy children. In many cases, there was a distinct nervous family history, in others only probable. In others, again there was nothing to suggest such an heritage. That, in the greater number of cases, the original cause was to be found in some disorder of the gastro-intestinal tract, was proved by the fact, that the administration of a 1/2 to 1 grain of Calomel quickly restored the child to its normal health again, although the tooth which in its process of eruption had produced the exciting cause of the fit, did not appear through the gum until 2 or 3 days afterwards.
Colic & Constipation. These are frequent and often obstinate conditions of infant life. I have placed them together for in my experience colic is frequently the precursor of constipation.

On questioning the mother one constantly elicited the fact that in the first few weeks of the child's life it suffered from "grapes", i.e. this had been treated by the mother with some popular remedy obtained from the druggist, e.g. "infant's preserve" or "grape water". So these concoctions invariably contain opium in some form or other, they have, when given for any length of time, a decided tendency to inhibit the natural peristaltic action of the bowels, which perhaps in some cases were congenitally sluggish, that the result is habitual constipation.

Other causes I found to be over-use of badly prepared standing foods—deficiency of fat in the food—insufficient supply of water. Out of the 62 cases in my notes in 4 I could find no cause and
the defect seemed to be an inherited one. In 3 of these cases, the mother, and in the other, the father suffered from habitual constipation. In treatment of my cases I found the heavy Carbonate of Magnesia in 5-8 grain doses with occasional small doses of Castor oil given over a prolonged period to act successfully. At the same time any errors or deficiency in diet were corrected. Abdominal massage along the line of the colon seemed to aid in attaining the desired result.

Vomiting & Diarrhoea.

Among my cases, these disorders constitute by far the greater number of causes for which the children were brought for treatment. I have noted over 380 cases, in which the ages ranged from 3-18mos. In only 11 cases were the children breast fed. In these 11 cases the
The mother was in ill health and therefore the milk was probably abnormal in quality or quantity or both.

In the bulk of the cases the direct exciting cause was uncleanness combined with the administration, in many cases, of ill-prepared or unsuitable food. The predisposing cause was found in some condition that lowered vitality in the child by neglect—damp, unhygienic surroundings.

A great many of these cases occurred in nurse children—the mother leaving the children to work in the mill.

In most of the cases the chief symptom was vomiting; this had been going on for some time—probably two or three weeks before advice was sought.

The history generally given by the mother was that the child was being brought up by hand and that the milk or milk water so the case may be, on which it was fed, did not appear to satisfy the child, or that it all came back unrelieved.
Child would then be given some other food—such as topped bread pots or soaked biscuits. Change of food having no effect, diarrhoea having now set in, the child was brought to the doctor. On asking to see the bottle from which the child was fed—the one with the india-rubber tubing was invariably produced—t he tubing, unless quite new, was always found in a dirty, sour-smelling condition. The child was restless, irritable, losing flesh, constantly moaning or crying. The abdomen distended and tender.

The stools have a peculiar, sickening smell—they may be pale or putty-like with fragments of undigested food, or curdy, liquid, greenish, and sour-smelling. The character of the vomit are watery, bile-tinted, with particles of undigested food.

If in the later stages of the disease—the child is much emaciated. Temperature normal or subnormal—pulse frequent.
small & weak. The skin dry & harsh, with eruptions round the buttocks. The tongue dry & coated, parasitic or aphthous stomatitis frequently present.
The anterior fontanelle sunken & the "abdominal face" distinctly marked.

In some cases the recovery under treatment is astonishingly quiet. In others it is slow, tedious & discouraging, sometimes lapsing into a working condition upon which no treatment has any effect. Some do well for a time but the parents or nurse have not the patience to continue the treatment, if the child lingers on in a debilitated condition and ultimately dies from exhaustion or some intercurrent disease.

The treatment I adopted was firstly to stop all milk food & this I think is a most important point. In place of
The milk food I give albumen water with a small quantity of alcohol, in the form of the best whiskey or brandy, in small quantities at a time, and allow the mother to give as much ordinary water between feeds as the infant will take. I give ½ grain of calomel every night for 3 nights, followed by ½ a teaspoonful of Castor oil in the morning. The following mixture to be given every 3 hours:

Rp
Dumette: Carb: gr. v
Sac: B: Carbo: gr. ii
Tract: Muri. Vom. m. vii
Arg. Arsenic m. v
Glycerin. m. x

Ag. 53; ft. haust.

At the same time strict attention to cleanliness is insisted upon at the infants either fed by spoon, or through a bottle without tubes.
Wasting, Atrophy, or Marasmus.

This condition, though not nearly so frequently met with as the others mentioned, still is a fairly common one, and in my experience was generally the result of a chronic gastro-intestinal catarrh; though in some of my cases there was no history pointing to such an antecedent.

I have notes of 19 cases about which I was at considerable trouble to obtain definite information. All were hand-fed infants, the ages were from 2-10 months. 10 cases followed an attack of chronic gastro-intestinal catarrh. 2 cases were the result of insufficient food. 2... infected typhilitis. In the remaining 5 cases there did not appear to be any ascertainable cause — nor did the children give evidence of any organic disease. It seemed to me that the stomach and intestines were simply unable to perform the functions of digestion and assimilation of food.
Of the 10 cases that followed chronic gastro-intestinal catarrh - uncleanness, combined with unsuitable food, was again the original cause of the disease. Two of the cases proved rapidly fatal; five ultimately succumbed after weeks of treatment, during which time whatever was done or given made not the slightest difference in the condition of the infants. Three of the cases recovered after being under treatment for 12, 17, and 20 weeks respectively. The other two made what seemed a miraculous recovery, being at one time in an almost moribund condition for over 36 hours. The two who had been starved made a good recovery after being placed in different surroundings, under other care. The syphilitic infants both eventually succumbed, though no improvement immensely, for some time under 1 gr. doses of Grey powder.

The children when brought to me, all presented much the same clinical
features. The mother says "It goes less & less, it does not weigh as much as when it was born", and indeed it presents a pitiable appearance.

There is great emaciation, the features of the face are small and sharp, with a pinched, worn expression. The skin is dry, harsh, and inelastic; it hangs in loose folds. The extremities are cold, & the anterior fontanelle depressed; the eyes are sunken.

The tongue is red, dry & stomatitis frequently present. The child is ravenously hungry & will take anything put before it if the condition of the mouth permits it. The temperature is normal or often subnormal; the pulse small & weak.

The child is constipated, the stools which are passed with difficulty and contain either very dark or foul smelling, or light-colored, Cheesy lumps often covered with a greenish mucous. The urine is scanty - of a very yellow color - and gives a strongly acid reaction. On
Standing, there is a large deposit, which under the microscope shows large numbers of urates - crystallized and amorphous together with urea acid crystals. Fatty or hyaline tube casts are also present. Albumen is invariably present, and out of the 9 cases in which I paid special attention to the urine, sugar was present in varying quantity in 7 of them.

In several of the cases, the child exhibits what the mother terms 'inward convulsions' - or as she calls it 'it is convulsed inwardly' - if seen in this condition one notices that the child suddenly arches itself, flexes its fingers & toes, works its eyes about, moans & the lips turn livid. These attacks pass away in from 1-5 minutes.

As to treatment - my results are not satisfactory, but in the class of patients from which my cases were drawn, it was impossible to obtain the long careful attention.
to hygiene & the proper care in the preparation and administration of food which were necessary for success. The following was the method of treatment which was carried out as well as possible under the circumstances.

Cleanliness in the preparation and administration of food, strict attention to the mouth of the child after feeding. The food to be given frequently & in small quantities at a time. I found that the food which was best suited to the low digestive power of the child was a first-class brand of sterilized condensed milk. This well diluted, and a small quantity of alcohol in the form of best whiskey seemed to be retained better than any other food. A teaspoonful of the following mixture was given every 3 hours with 1/2 grain of Grey Powder twice a day

|
| Glycerin: Ace.: Dep. ox. | 1/2 v
| Tues. 1/2 v. Wed. 1/2 v |
| Glycerin, 1/2 v. 2 1/2 v. |
| Ordinary milk food being gradually resumed. |
Summer Diarrhoea — of this disease I have had considerable experience. I have also benefited very much by the experience of my Chief — who had practised in the same district for 12 years. It is a disease which is well known & dreaded by the unfortunate people who are doomed to live in the crowded houses, narrow filthy streets of our large cities. The mortality among infants is very high — During the summer of 1901 the annual rate of mortality — under 1 year of age — for 1000 children born was 185/16 in this city of Manchester, with a population of about 550,000. The following are the official figures of the infantile mortality — from diarrhoea (Simple & Summer) during the years 1901 and 1902.

<table>
<thead>
<tr>
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<th>1901</th>
<th>1902</th>
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<tbody>
<tr>
<td>Jan. Feb. March</td>
<td>45</td>
<td>33</td>
</tr>
<tr>
<td>Apr. May June</td>
<td>32</td>
<td>33</td>
</tr>
<tr>
<td>July. Aug. Sept.</td>
<td>865</td>
<td>120</td>
</tr>
<tr>
<td>Oct. Nov. Dec.</td>
<td>74</td>
<td>52</td>
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On looking at these figures one is struck
with the marked difference in the death rate during the summer months of the 2 years. This is accounted for solely by the difference in the atmospheric conditions which prevailed during these two summers.

In the summer of 1901—The temperature was high; rainfall light—and amount of sunshine large.

In 1902. The opposite conditions prevailed. The temperature was exceptionally low; the rainfall deficient—the sunshine much below the average. This fact demonstrates very forcibly how the incidence of the disease depends, in some manner, directly or indirectly, on the height of the temperature.

J. Ballard has shown that when a slow-acting thermometer suspended at a depth of 4 feet from the surface of the soil registers 56°F., then Summer diarrhea assumes a prevalent character. This fact has I think given rise to the opinion still held
by some— that it is some emanation from the soil, which supplies the
cause of the disease. I think however it is now almost universally
recognized that the immediate cause of the disease is to be found in the
bacteria-laden food on which the infant subsists.

The fact that although the average
atmospheric temperature of the summer
of 1901 was much higher than in
1902, yet the temperature of the soil
4 ft. below the surface, averaged precisely
the same during the Imo months July,
August & September, viz. 57.6° F., may
be taken to prove that the soil temperature
can only exert an indirect causal
effect. The high atmospheric temperature
in large towns does I think undoubtedly
predispose to disease by lowering
the vitality of the nervous system.

Whatever secondary effects these may
have— there is no doubt, in my opinion,
that the primary cause of this septie
or summer diarrhoea of infants is due
to the presence of immense numbers of
micro-organisms in the child's daily food.

No specific organism has been detected, but the investigations of Booker and others point to the Streptococi and Proteus vulgaris, as being the main delinquents. It is said however by some that the normal bacteria of the alimentary canal, such as Bacillus coli communis, and Bacillus lactis oregenes, which are universally present in the stools of infants fed on milk, will under certain conditions take on a more virulent form and produce poisonous toxins. However, this may be, one has only to visit the crowded dwellings, to see for oneself the almost impossible task of keeping the food free from contamination.

One fact that impressed me very much, of which I have seen no mention, is that the main source of infection is to be found in the common house-fly, which in these households at this time of the year constitutes a veritable plague.
This universal pest is, I am convinced, largely responsible for the impurity of the food. Putrefying material is all around — in the house, the soiled napkins of the child form a heap in one corner — in another place is the refuse food — just outside the back door is the privy — in the streets are the dung mounds — from one putrefying mass to another these insects travel — every now and then settling with their bacteria-laden bodies, on, or in, the food about to be consumed or that placed away for another meal.

The milk is in most instances already contaminated when it reaches the consumer, & here again I believe the fly to be the chief culprit. For with the exception of a few instances, the cow-sheds in the country are generally filthy & surrounded by dung heaps on which swarm innumerable flies — during the process of m ixing no care is taken to protect the fluid from the incursions of
these insects. It is my opinion that if the house fly could be exterminated and the milk delivered to the consumer in a sterile condition, then with ordinary cleanliness on the part of the mother or nurse this devastating disease—summer diarrhea—would be a thing of the past.

During the months of July, August, and September in 1901, the cases under my notice amounted to 40–180–100 respectively, total = 320.

During the same months in 1902 in the same district with the same average number of other patients, the numbers were 2–20–38 respectively, total number = 78.

In 1901 there were 24 deaths about 8%.
In 1902 4 5%.

Included in the above number of cases of summer or staphylococcus diarrhea were several very mild cases which might be classed as simple diarrhea, but excluding a few which were due to some definite cause I have taken the mildness of the
case to be the effect of a smaller dose of the bacterial poison, or a greater toxin-resisting power on the part of the child.

In the severe cases, that come on suddenly, one has to bear in mind acute Scarlet Fever or some Inhutnent Poison. In one of my cases in which the child rapidly succumbed Scarlet Fever developed in two other children in the same house within the week.

In the ordinary cases the mother brings the child with the history that it had been ailing for 2 or 3 days and then it commenced to vomit almost everything it took, back again, soon can keep nothing on its stomach.

Diarrhoea also started at the same time as the vomiting, it was getting much worse.

In many cases the mother says that the child had had an attack of diarrhoea about a week before it was taken ill—from which it recovered.

On examining the child one finds the
Temperature raised, varying from 100°F to 103°F or more. (The temperature does not run high as a rule. In two of my cases hyperpyrexia developed, 107°F being registered per rectum, one recovered.) The pulse is fast 110–130 upwards. The tongue is coated with a thick whitish fur. The child is irritable, restless, very thirsty—cannot sleep.
The abdomen is distended and tender on pressure. The stools vary in frequency, from 10 to 20 or more in the 24 hours. They are watery, frothy, often greenish yellow, with sour putrefactive odor.
In severe cases it consists principally of serous fluid.
If the case responds to treatment the child gets rapidly better, but in many cases the disease reaches a further stage, the child becomes listless, drowsy, more exhausted, convulsions occur and death presently ensues.
In 8 of my cases cerebral symptoms...
Set in before death—there was twitching of face and limbs—squinting—dilated pupils—slow and irregular pulse—Cheyne-Stokes respiration, finally coma & death.

In 3 of my cases death occurred within 36 hours.

In 6 cases the children lingered on in a precarious condition for from 3 to 7 weeks, then developed a form of marasmus, from which they eventually succumbed. The intestinal tract appeared to become incapable of resuming its normal functions.

Treatment. In some of the cases owing to the excessive vomiting treatment is often a difficult matter. The child should be put to bed—not nursed on the knee. It should be disturbed as little as is compatible with the necessary movements for keeping it clean.

All milk food should be absolutely withheld. I found
that giving nothing but sips of water for the first 24 hours, together with 10 to 20 drops of best whiskey, well-diluted, to this to be followed by the administration of albumen water to be the best method of diabetic treatment.

The preparation of turkey, veal broth or barley water could not be carried out except in a satisfactory manner.

As to washing out the stomach, and irrigating the colon, as recommended by various authorities, although I have done it in several cases I do not think the practical result is as great as one would expect from the theory that suggests it.

Indeed in a large working-class practice it cannot be satisfactorily carried out.

As to the administration of drugs, I have tried several of the intestinal antiseptics, viz B. nephthol, resorcin, salol, Acet Carbolic
Hydrg: Perchlor, & Calomel, and the latter is the drug which of all the others, seemed to me to do any good. Of other drugs, Castor oil, & Carbonate of Bismuth, with an occasional use of Opium, in the form of Jule, Specacumbe, Crisp, generally proved sufficient for the successful treatment of an ordinary case. The following was the routine plan of treatment I adopted, I found to work out successfully in practice compared with other methods of treatment which certain of my friends in the surrounding neighbourhood adopted.

1. Milk food in any shape or form absolutely forbidden.

Nothing but water to be given for 24 hours & that to be given frequently 5 in sips
Ten to twenty drops of Whiskey every 3 hours
The child to feed on albumen water for the next 3 or 4 days.
Continuing with the whiskey.
If the child is improving try it with Mellin's food made with water,
or if it digests this a gradual return to a milk diet is allowed.

Every hygienic precaution being urged in the meantime, the milk
to be well boiled & obtained from the dealer as fresh as possible; these
conditions to be carried out for the remainder of the hot weather.

II

From 1-2 grains of Calomel given in
1/4 grain doses every 2 or 3 hours
Half a teaspoonful of Castor oil to
be given every 14 hours for 3 times

P. Dose: Carb. gr v
Baths, Salicylas. gr ii
Vina. Fascie: mj
Glycerini: mj xv
Ag. Arseni ad 3i

III. Cotton wool & flannel binder
around the abdomen.

In some of my cases...
in which the vomiting was especially severe, I found that if it did not yield to a hypodermic injection of morphia (50-70 grain) no other drug was of any service.

A recurrence of the disease was not infrequent & generally proved fatal.

In conclusion I wish to state, and to emphasize, two facts which in my opinion have not received the consideration of the Medical Profession & the General Public to the extent which is warranted by their importance.

I. That the primary cause of disease in the infant's alimentary system is to be found in the preventible impurity of their main article of diet viz, cows milk, together with the lack of knowledge among the working-class mothers concerning the feeding & management of infants.

II. That in the warm weather, the common
house fly is the main source of the infection of contamination of the milk.

With regard to the latter fact, I am convinced, from my own observations, that the comparative slight incidence of diarrhea during the summer of 1902 can certainly be traced to the scarcity of flies during that time.

As regards the supply of pure milk, this is a social question of the utmost importance, especially in the large manufacturing towns where so many of the children are reared by hand, for in spite of all the many substitutes—cow's milk is, as far as I can see, always will be, the main food for infants who are not suckled at the breast. On this account it is much to be desired that the Authorities should exercise a rigorous supervision over the milk trade, and surely it is quite feasible that some scheme could be formulated whereby a supply of pure, fresh cow's milk could easily be obtained by the people. In France and Germany, I believe there
are several towns where such a supply is obtainable; but our home authorities, at present, have not yet had the best importance of this question brought home to them. Carlo something like this be done, I am convinced thousands of lives would be saved annually.

I regret that I have not been able to set out in a more literary manner the result of a large clinical experience, but I have not "the pen of a ready writer."

I trust however I have given evidence of a practical knowledge & acquaintance with my subject, which, after all, is the principal requirement in every day practice.

Herbert Harris M.B. A.R. B.