

ESSAYS  
ON THE  
DISEASES OF CHILDREN,  
WITH CASES AND DISSECTIONS.

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VOLUME I.

CONTAINING

ESSAY I. OF GYNANCHE TRACHEALIS, OR CROUP.  
ESSAY II. OF THE BOWEL COMPLAINTS MORE IMMEDIATELY CONNECTED WITH THE BILIARY SECRETION.

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EDINBURGH:  
PRINTED BY AND FOR MUNDSELL & SON,  
AND LONGMAN & REES, LONDON.

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1801.

DIRECTIONS TO THE BINDER.

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## INTRODUCTION.

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To understand the economy of the viscera of the abdomen, and, consequently, to comprehend the pathology or diseased state of these parts, it is of the first importance to attend to the connections of the hepatic system. The liver and stomach and intestines form the extremities of one system of vessels, the vena portæ. The vena portæ is aptly enough described as a tree, which shoots its roots widely amongst the membranous viscera of the belly, and extends its branches into the substance of the liver. The bile, which is the peculiar secretion of the liver, being collected from the extreme branches of the hepatic system, by the branches of the ductus hepaticus, flows into the intestines; and as it is their peculiar stimulus, it holds a sway over their actions, according to the quan-

tity and quality discharged into them. The excitement of the intestines, again, has a reciprocal influence upon the glandular viscera, and particularly upon the liver; because, on the excitement of the intestines, depends the velocity of the circulation through them; and the returning blood of the intestines is sent back, not into the heart, but through the vena portæ, into the liver. And thus, in an obvious manner, are the intestines and liver connected; namely, the intestines with the liver, by the biliary secretion, and the liver with the intestines and stomach, through the medium of the circulation of the blood in the vena portæ.

As I introduce the proper subject of this paper with some notices of those diseases of infancy which depend on the liver, it may be necessary to preface these remarks with a short statement of the change which takes place in the system of the liver after birth.

During the dormant state of the fœtus, if I may so express myself, whilst it remains in the womb, the functions of the several organs are unexercised, and the mass of blood adapted to the growth of parts is supplied by the mother. The organs, therefore, which in the adult are subservient to the supplying of the blood with nutritious matter, are unemployed in the fœtus. The stomach, intestines, and glandular viscera of the belly, have as little connection with the

economy as the undistended lungs; and thus imperfections in these viscera are attended with no obstruction to the system, until the child is born; as organic defects in the lungs, and in that part of the structure of the heart which is subservient to the circulation through the lungs, show themselves only when the lungs have assumed in part the function of the placenta.

After birth, a complete revolution takes place in the circulation of the blood through the organs seated in the abdomen. By the action of the muscles of inspiration, and the consequent distension of the lungs, a new route is opened to the blood flowing from the right side of the heart; and the united and forcible exertion of both ventricles, which was required for the extensive circulation of blood through the body of the fœtus and through the fœtal part of the placenta, is now divided; and the pulsation of the chord, therefore, becomes weak, and the function of the placenta is lost. The system of the child now depends on its own powers, and the secondary effect of the change of the circulating system falls on the abdominal viscera.

The chief effect produced on this part of the system is the interruption of the supply of arterial blood to the liver by the umbilical vein; for now all the large venous vessels of the liver come to be entirely supplied by the returning blood of the intestines, by venous blood, and by

blood which moves languidly through the viscus, owing to the limited source, namely, the veins of the stomach, spleen, and intestines, and the great comparative size of the veins in the liver.

Now only is the circulation, which is peculiarly adapted to the liver, established; now it is that it performs its function, and that stimulating bile is secreted. The effect of this is the application of a new stimulus to the intestinal canal, and a consequent evacuation of the mæcum by this natural purgation.

That, during the foetal state, nature seems careful of maturing and giving importance to the liver, is evident from its great size, which is unnecessary, except as a provision for early childhood.

From this view of the system in infancy, the importance of the healthy action of the liver must be acknowledged, and the following Essay will illustrate the baneful effect of its disorders.

ESSAY II.  
ON THE  
BOWEL COMPLAINTS  
MORE IMMEDIATELY CONNECTED  
WITH THE  
BILIARY SECRETION,  
And particularly of  
ATROPHIA ABLACTATORUM.

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WHETHER the introductory statement and physical connection will fully explain the sympathy between the liver and the intestinal canal, is a curious question; but it is sufficient for my purpose, that this sympathy does exist, and is so great, that the one organ cannot be disordered without a corresponding derangement being produced in the other. It is, therefore, a material object, in considering the intestinal diseases of children, to point out how far the liver is concerned in producing these diseases, in aggravating them, or in assisting in their cure.

The liver shows its healthy or diseased state, by the nature and effects of the bile which it secretes. To adopt the arrangement of Bianchi, this secretion, in a morbid state, may be redundant, diminished or altogether obstructed, or depraved. In the diseases, of which I am about to treat, it will be found in all these states. In the disease, which I have termed the *Atrophia Ablactatorum*, in the first place, it will be found superabundant, and eventually it will appear to be possessed of unusual acrimony. In the *Icterus Infantum*, there is often a complete obstruction to the passage of the bile.

Taking these diseases in the order of time in which they occur, I shall first mention that species of jaundice which attacks infants a few days after birth. This is always an alarming disease; for when infants do recover, it is with great difficulty. It generally comes on about the third day after birth; for it is necessary that this time should elapse before the complete absorption, and subsequent deposition of the bile into the blood, can take place. It is attended with languor, flatulence, and bilious urine, and continues many days, or even weeks: Sometimes it goes gradually away, but generally ends in a fatal marasmus.

When this disease is fatal, it, in all probability, is so from an original malconformation in the liver; for we do not find, upon dissection,



that it is a disease of the hepatic or of the common ducts, which, though somewhat contracted, from the thickening of their coats, are always pervious. The malconformation is probably an impermeable thickening of the beginnings of the hepatic duct, or, as they are called, the Pori Biliarii.

This disease has been supposed to arise from an obstruction of the biliary ducts forcing the bile back upon the liver; the obstruction being occasioned either by meconium, by mucus, or by viscid matter clogging the ductus communis; or by the milk coagulated in the stomach or duodenum<sup>1</sup>, distending them so as to make them press upon the duct. On such slight causes may perhaps depend that species of jaundice described by authors<sup>2</sup>, which disappears in a few

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<sup>1</sup> Dr. Heberden, whose opinion is always entitled to the utmost deference, says, "That it has been supposed that an infarction of the duodenum may be great enough to hinder the efflux of the bile; but this may be questioned, if we reflect, that the duodenum has seldom any solid contents in it, and that if it should be so plugged up by them, or compressed by the other intestines, as to hinder the passing of the bile, it would, for the same reason, be incapable of admitting any thing into it from the stomach, which is a supposition hardly countenanced by experience." *Medical Transactions by the College of Physicians of London*, Vol. II. p. 129.

<sup>2</sup> "L'observation demontre qu'il existe une difference remarquable chez les divers enfans attaqués de la jaunisse apres la naissance. Quand elle est legere, elle se dissipe d'elle-meme,"

days, without hurting the child. But the faſaf jaundice, ſuch as is deſcribed below <sup>3</sup>, is not to

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&c. *Chambon*, Tom. I. p. 272. No doubt there is a flight ſpecies of jaundice which goes off in a few days; but then the ſkin is of a reddiſh and not very deep yellow; but when it is of a deep ſaffron colour, we ſhould be prepared for a very obſtinate diſeaſe.

### <sup>3</sup> CASE I.

MAY 10.

G—— H——'s daughter, five days old, was remarkably ſtout and healthy, when born; but, on the third day after birth, her ſkin became jaundiced. She took the breafſt very well before laſt night, when, from uneaſineſs, ſhe ceaſed to fuck; but ſhe has returned to the breafſt again. She appears to be very well in every reſpect, but that her colour is jaundiced, and ſhe has occaſional fits of pain.

MAY 18.

The ſkin continues fully as deep as it was, and the child is becoming ſoft and emaciated; her ſtools are white, and like putty, with ſome ſtreaks of bile in them; her bowels have been kept open by a weak infuſion of fenna; her urine ſtains the linen very deeply. She fucks freely.

MAY 21.

There is no change in the jaundice; her ſtools and urine are much like what they were. Laſt night ſhe had a flight bleeding from the umbilicus, and ſhe is plainly getting weaker.

MAY 22.

Although the ligature fell off on the ſixth day from birth, there was a great hæmorrhage from the umbilicus, and the child died this morning in conſequence of it.

Plate V.



Drawn by Charles Bell

Engr'd by J. Stewart

be removed by emetics, gentle purgatives, and the warm bath, the natural remedies for an obstruction in the ducts. I believe it to be an original and incurable malconformation in the li-

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#### DISSECTION.

Upon opening the body, the first thing done was to examine the state of the vessels of the umbilical chord, as I thought in this case that it was not improbable, that the liver being affected, the bleeding might have proceeded from the vein; but I found it empty of blood; and although there seemed to be no obstruction to the probe from the navel into the vein, it did not appear that the bleeding had come from this source. I traced the grumous blood from the centre of the navel along the arteries, which were also open.

The intestines had no degree of transparency, but were of a milky colour, tinged with a delicate yellow, from the bile in their coats, not in their cavity. The stomach was very much distended. The glands of the mesentery were larger than they should be, and white, compared with those of adults.

The liver was full and firm, and of a dark green earthy colour. The gall-bladder was quite empty and contracted, so that it had sunk into the fissure of the liver, and only a small part of its fundus appeared. Within it there was a small soft mass, of a dark colour, and of the size of a grain of barley. The ducts also were contracted, firm, white, and like an artery, and, although pervious, contained no bile. The opening into the gut was perfectly free to the probe.

When the substance of the liver was cut into, this appearance of firmness of the ducts was still discernible.

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The bleeding proceeded from the unhealthy change produced in the blood by the reception of the bile into the mass of fluids.

ver. It is a disease peculiar to some families. I have known in one family two children successively die of this disease; and there is a striking confirmation of this remark in a history related by Mr. Pearson, where ten of eleven children died of this species of jaundice, the eleventh having died of jaundice at six years of age <sup>4</sup>.

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## EXPLANATION

OF

### *PLATE VI.*

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- A A A, The INTEGUMENTS of the BELLY laid back.  
 B B, The STOMACH very much distended.  
 C, The DUODENUM.  
 D, The COLON.  
 E, The MASS of SMALL INTESTINES.  
 F, The LEFT LOBE of the LIVER, which, in the Fœtus, lies much in the LEFT HYPOCHONDRIUM.  
 G, The LOWER SURFACE of the RIGHT LOBE.  
 H, The LOBULUS SPEGELII.  
 I, A SMALL PART of the FUNDUS of the GALL-BLADDER projecting from the FISSURE of the LIVER.  
 K, The DUCTUS HEPATICUS.  
 L, The DUCTUS CYSTICUS. These two Ducts are not particularly small, but they are thick, white, and firm in their coats.

<sup>4</sup> “ Mrs. J. had been the mother of eleven children, on “ nine of which the jaundice appeared a few days after they

As an infant cannot express his peculiar feelings of uneasiness, it is only by the deep colour

“ were born, and they all died within the period of a month  
 “ after their birth. The tenth child lived six years, was then  
 “ afflicted with the jaundice, and died. In May 1796, Mrs.  
 “ J. was delivered of her eleventh child; on the third day  
 “ after its birth, the skin became yellow, and the child was at  
 “ the same time remarkably torpid and sleepy, and seemed to  
 “ be slightly convulsed. On the following days, the colour of  
 “ the skin often varied, being sometimes of a deeper yellow,  
 “ and at others regaining its natural colour. The child conti-  
 “ nued, however, in the same languid and almost insensible  
 “ state, but received nourishment, and sucked the breast of its  
 “ mother, till within a few days of death, which took place on  
 “ the ninth day. I opened the body of this child the day after  
 “ death, and shall now describe the appearances on dissection.

“ The skin had nearly lost its yellow colour, and the child  
 “ did not appear at all reduced by the disease.

“ The liver was almost twice its natural size; the whole  
 “ concave surface of the right lobe had a livid appearance; but  
 “ this dark colour did not penetrate above a line or two, and  
 “ the internal surface was found and healthy. The convex  
 “ part of the liver was of the natural colour and firmness, ex-  
 “ cept on the margin of both the lobes; there the thin edge  
 “ exhibited a highly injected appearance; the redness was,  
 “ however, less vivid and remarkable on the left lobe than on  
 “ the right. There was a slight adhesion of the lower part of  
 “ the right lobe to the peritoneum. The gall-bladder was  
 “ nearly filled with bile of a deep yellow colour, and its ducts  
 “ were permeable. The heart seemed to be larger than com-  
 “ mon, and the blood-vessels on its surface were remarkably  
 “ turgid. The right auricle was distended with blood, and  
 “ the pericardium contained about a table-spoonful of water,”

&c.

of the skin and of the urine, the continuance of the illness, and the appearance of decay, that we can judge of the violence of this disease. I doubt much whether any thing beyond assisting the breast-milk by a gently laxative medicine ought to be attempted; or perhaps frictions of the belly might be useful. At all events, these things, together with an emetic, are suited to the milder kind of jaundice, and are never to be neglected, when there is reason to suspect an interruption to the free passage of the bile.

The liver appears also in the early months of childhood to be exposed to another derangement of function, which shows itself in a discharge chiefly bilious. When this discharge is merely a purging, it is called by the nurses *The Green Scour*; but it is still the same disease when accompanied with vomiting. When the cause of it is violent, or the child of a very irritable constitution, it is often ushered in by convulsions<sup>s</sup>, and, during the fit, the child generally

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<sup>s</sup> In March and April last, many young children were attacked with pulmonary inflammation. It was so prevalent, that I attended above fifty cases. In many, convulsions were the first symptom. This would not happen once in a thousand instances of the same disease in the adult system. In a fever which was epidemical among the children at Hampstead in August and September 1776, Dr. Armstrong observes, that most of the children who took the fever were threatened with fits, and some had slight convulsions. The convulsions, which

passes a quantity of green excrement. There is always a great deal of fever, with convulsive startings; a twisting of the limbs from gripes, and screaming. In the interval between the convulsions, there are partial spasms of the face, about the eyes and mouth; and I have not a doubt that children are often carried off in these paroxysms. But this disease, sometimes so violent, begins at other times more mildly; and it is the milder attack which in general is the more tedious. It becomes a chronic diarrhœa, with the same kind of dejections, green, and frequently sour and curdy, and accompanied with a retching, irregular fever and wasting of the body.

This disease is occasioned either by the child's diet being offensive to the stomach, or by cold. Panada, with too much sugar, the milk of a bad and negligent nurse, who indulges in heating liquors or high seasoned dishes, or of a nurse who has had a sudden fright, or who has menstruated, are very frequent sources of this

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often arise from slight derangements in the intestines, and at the beginning of acute diseases, mark a greater degree of irritability, which is the chief difference between the infantile and adult constitution, and show the former to be what M. Baumes calls *Un melange singulier de spasme et de debilité*. Before the various animal functions are established in their regular series by habit, the constitution is susceptible of every impression, and hence arises the irritability so peculiar to infancy.



disease. It appears so immediately after the application of the cause, that it bears considerable resemblance to the cholera crapulosa in adults; for in both diseases the correspondence between the stomach and liver gives rise to the first step in the cure, assisting to expel the noxious matter, by adding to its stimulus that of an increased quantity of bile, which, as it has been observed, is probably better fitted to be a stimulus to the intestines, from its hurried and imperfect secretion.

A disease similar to this I have seen in England, occasioned by improper food given to children brought up by the hand. It is very destructive; but it is not to be met with in Scotland, where fortunately this unnatural practice does not prevail.

This disease is, in the violent attacks, to be cured by the warm bath, by vomits and cathartics, especially cathartic glysters; and should the disease, or any symptom of it denoting great irritation, continue after the full operation of these medicines, we must have recourse to opiates and testaceous powders; but we must be cautious in giving opiates, until the purgative

#### ‘ CASE II.

JUNE 12.

Mr. S——’s child, nine months old, the night before last took a violent purging, was restless and very fretful, and would

medicines have operated. This observation may be supported by the authority of Harris, whose opinions are generally founded on experience. "Diarrhœa infantum ab orgasmo humorum in intestina delabentium, vel a turgescencia illic bilis cum acido prædominium habente semper profluens, neque astringentibus proprie dictis, neque narcoticis est cohibenda." *Harris de Morbis Acutis Infantum*, P. 30.

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not sleep. Last night, the mother, to alleviate these symptoms, and lull the child, gave her a large dose of syrup of poppies, which not only set her asleep, but stopped the purging. The child slept till mid-day. Upon awaking, she vomited a great quantity of bile, and soon went to sleep again; but she awoke now and then sick, and the vomiting continued quite bilious. She is easily disturbed, and has frequent startings, and a great deal of fever.

The mother, intending to wean this child, had fed her the day before yesterday with a quantity of strong beef-tea, and then had allowed her to suck the nurse in the evening, which she did very greedily. Moreover, the nurse had menstruated a day or two before. The child was in a fair way of recovering from this mismanagement, had the purging been allowed to continue for a little while longer; but, instead of this, the purging was stopped, and the bile poured into the intestinal canal, until the accumulation of it brought on the sickness and fever.

JUNE 14.

This child was relieved by an emetic of ipecacuan wine and a purgative glyster, and to-day, by continuing to take a weak infusion of fenna, she is nearly recovered.

THE disease which I am now to consider, and which is the chief object of the present paper, is somewhat allied to the last in its nature, and is vulgarly denominated in this part of Scotland THE WEANING BRASH<sup>7</sup>. It is one of the most fatal of the diseases of children, and, as far as I know, it is overlooked by those physicians who have made these diseases their study.

It is an atrophy, the consequence of weaning children too suddenly at an unfavourable season of the year.

This disease sometimes comes on two or three days after weaning; frequently not for three or four weeks; sometimes not before five or six weeks have elapsed.

The first symptom is a purging, with griping pain, in which the dejections are usually of a green colour. When this purging is neglected, and, after continuing for some time, there is added a retching, with or without vomiting;

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<sup>7</sup> It is hoped that the nosological name which I have given to weaning brash (viz. *Atrophia Ablactatorum*), as a literal translation of the vulgar one, and as placing this disease under the genus *Atrophia*, which, I presume, is its natural situation, will be deemed unexceptionable. *Atrophia* is the second genus of the third class of Cullen, who defines it, " *Marcor et atthenia, sine pyrexia hectica.*" By Sauvages, in whose very useful and comprehensive system of nosology it will be found as the third genus of the tenth class, it had been defined, " *Macies sine febre.*"

when accompanied by vomiting, the matter brought up is frequently coloured with bile.

These increased and painful actions of the alimentary canal, produce a loathing of every kind of food, and naturally are attended with emaciation and softness of the flesh, with restlessness, thirst, and fever.

After some weeks, I have often observed a hectic blush on the cheek; but the most characteristic symptom of this disease, is a constant peevishness, the effect of unceasing griping pain, expressed by the whine of the child, but especially by the settled discontent of his features; and this expression of discontent is strengthened towards the conclusion of the disease, when the countenance has shared in the emaciation of the body.

In the progress of the disease, the evacuations from the belly show very different actions of the intestines, and great changes in the biliary secretion; for they are sometimes of a natural colour, at other times slimy and ash coloured, and sometimes lienteric.

Towards the end of the disease, the extremities swell, and the child becomes exceedingly drowsy; but these I rather conceive to arise from debility, than to be pathognomic symptoms. It is remarkable, in the advanced stages of the disease, that the purging sometimes ceases for a day or two, but without any amelioration

of the bad symptoms ; nay, I think that children decay even faster than when the purging is most violent.

The disease seldom proves fatal before the sixth or seventh week ; and in this short time I have seen the finest children miserably wasted. I have seen, though rarely, a child recovered after the disease had continued three or four months ; and again, I have seen the disease cut short by death, in the second, third, or fourth week, before it had reached the acme ; the sudden termination having been occasioned by an incessant vomiting and purging, or by convulsions, from the immense irritation in the bowels.

The disease is more frequent in children who have been weaned before the eighth or ninth month, and in particular, in those who, in consequence of some accident happening to the nurse, have been weaned abruptly.

I have not been able to determine what temperament is most peculiarly liable to this disease ; but, without meaning to insinuate any necessary relation, I think it appears most frequently in those children of a lax fibre, whose constitutions, at a more advanced stage of life, might be supposed liable to the attack of strumous disorders.

This is a disease of the autumnal months. I seldom, comparatively speaking, have seen it

commence before the solstice, nor after the end of the year; and I suspect that it is most general in sultry seasons.

As it will presently be shown, this disease gives origin to a great change in the glandular system of the mesentery, and this explains how it should happen, that after it has been removed, either by medicine, or by a proper regimen, and the healthful exertions of a good constitution, it is very apt, after slight errors in diet, or from cold, to return, even after the lapse of months. A person who knows this disease, will often be able to recognise it in the very obstinate and baffling complaints of the bowels, which children have from the beginning of the second to the end of the third year.

At the time when weaning brash comes on, the teeth are usually appearing; and, from a common notion, that a flux is wholesome during teething, the disease is sometimes allowed to make an irremediable impression on the constitution, before the physician is called.

My attention was very early directed to this disease<sup>s</sup>, from finding that it had an appropri-

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<sup>s</sup> It may be asked, How happens it that a disease which occurs so frequently should not have been frequently described? It is because we have not been favoured by writers on the diseases of children, with individual histories, or cases, as they are called. In my opinion, these constitute the most important

ate name among the vulgar, and yet that it was not known to those physicians whom I consulted respecting its nature. Some of them had observed a purging as a very common consequence of weaning; but they supposed that it arose from teething: Others told me, that it arose from a mesenteric enlargement in scrophulous children: And until I could satisfy myself by dissection, I rested on this latter supposition.

I was the more inclined to this opinion, in consequence of having observed a scrophulous enlargement of the lymphatic glands in the neck, and a scrophulous suppuration in the

part of illustration, in explaining the nature of a disease; for I have always found it more satisfactory to read a case, well and clinically taken, than the most elaborate general history of the symptoms of a disease; a detail which, however accurate, does not fix the attention, and is useful only after the disease in question is understood, from having seen or read of examples of it. The obscurity and difficulty attending the diagnostics and treatment of the diseases of children, proceed from this more than from any thing, that the writers on these diseases have hardly one case from the beginning of their books to the end. Surely the infancy of the patient does not prevent an accurate and full case from being taken? Should the student wish to attain an early knowledge of this branch of his profession, he will find nothing so useful as the keeping of case books for the insertion of every important variety of disease.

There are indeed some notices of weaning brash; but they do not identify it as a particular disease; at least, I should not have discovered them as such, had I not been reading expressly for the subject.

back, in two children who at the same time had wearing brash.

The safest foundation for reasoning on the nature of diseases, is laid by anatomical investigation<sup>o</sup>, and, with little exception, it is the only one upon which I shall rest in these dissertations. It was adopted first of all by Glisson, in his excellent history of rickets; and it is much to be wished that succeeding physicians had followed him more closely, not only in treating of the diseases of children, but in treating of all diseases which have in their beginning increased actions of the circulatory system. With this conviction, I resolved not to indulge in any speculation upon the proximate cause, until I could procure a dissection, wherein might be displayed the morbid effects of this disease; and, in the mean time, I was satisfied with observing and making out a history of the symp-

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<sup>o</sup> Had it been more fully adopted, Cowper, the anatomist, would have had less occasion to exclaim, with so much indignation and justice, "That the advancement of true knowledge is sadly retarded, by the general opinion, that the senses are mean and ignoble, and that abstracted contemplations are the perfections of human nature; and so it comes to pass, that mens minds are fed with shadows and chimeras, instead of substantial knowledge, which is only from the physical examination of things by sense and experiment."

"Rien n'intéresse que ce qui est vrai, et rien en médecine, n'est vrai que ce qui a l'expérience et l'observation pour base."



toms, as they appeared in a variety of cases which I attended in the years 1799 and 1800.

The first dissection which I had an opportunity of making of a child who had died of weaning brash, did not instruct me in the true nature of the disease; for the mesenteric glands were considerably enlarged and inflamed, and I still imagined that their affection might have occasioned the purging and marasmus. But in prosecuting my research, I was convinced, that the disease was an undescribed one; and that although there might, in some instances, be mesenteric obstruction, it was not necessary to the disease; that it was the effect, and not the cause of it.

I observed, in every instance, that the intestinal canal, from the stomach downward, abounded with singular contractions, and had in its course one or more intus-susceptions; that the liver was exceedingly firm, larger than natural, and of a bright red colour, and that the enlarged gall-bladder contained a dark green bile. In some dissections, the mesenteric glands were swelled and inflamed; in others, however, they were scarcely enlarged, and had no appearance of inflammation.

These contractions and intus-susceptions

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\* Strangulated intus-susception is a very fatal disease to infants on the breast, which is proved by the many preparations of this nature found in every extensive anatomical museum.

were entirely of a spasmodic nature, as in the latter the contained part of the gut was easily disengaged from that which formed its sac; and in no part of the entanglement was there adhesion, or even the mark of inflammation; and the contracted portions of the intestine were again permanently dilated, by pushing the finger into them.

These appearances lead me to imagine, that the weaning brash, in its confirmed state, is imputable to an increased secretion of acrid bile, or rather to the morbid state of the liver, which occasions this; of which, however, I am afraid to attempt the explanation. It is proved,

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It is often found, in the dissection of infants who die convulsed, or in great pain, that there are those temporary intussusceptions, the effect of spasm, which I have described as constantly occurring in weaning brash; and it may be inferred, that they are by no means rare in many disordered states of the bowels. Should the irritation in the bowels be so great, as to occasion any inflammation at the time when this temporary intussusception exists, it is highly probable that the continued stimulus of improper aliment acting upon the inflamed intestine, may, by increasing the irritation, assist in converting this occasional intussusception into a permanent and fatal volvulus. It has always appeared to me, upon this view, that the cathartic medicines usually given by the mouth in iliac passion, as stimulating the upper or contained part of the gut, must be attended with the worst effects, by increasing this inflammation, and confirming, instead of removing, the strangulation; yet I have known it to be the first thing done, to give brisk, or, as they are called, drastic purgatives, which were continued during the whole progress of the disease.

that there is an increased quantity of bile in the intestines, by the green dejections which are frequent in the beginning of the disease, and by the bilious vomiting.

Perhaps the affection of the liver may be explained in this way. The breast milk is a mild food, adapted to the powers of the child; I shall not say to the weak powers of digestion in the child, but rather to the peculiar powers and properties of the secretions. When the child is weaned abruptly, and put upon common food, this becomes too violent a stimulus to the intestines. Between the liver and intestines there is the most intimate relation. This excited state of the intestines causes a discharge of bile into them, which increases the stimulus, and assists in maintaining a purging. Had the original cause been accidental and transitory, the bile, like the operation of a smart purge, would have thrown out the offensive matter, and cured the complaint; but crude unfit food being still poured into the stomach, the disease must proceed. It is probable, therefore, that, in the first instance, a redundant secretion of the bile, which may also be an acrid and imperfect one<sup>2</sup>,

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<sup>2</sup> In treating of cholera morbus, Dr. Saunders says, "It seems probable, from the quantity secreted, and the rapid manner in which it is poured into the duodenum, that there is not time sufficient for a perfect secretion. The varied

originating from an irritation of the stomach, is a salutary exertion of the constitution, to remove the cause of the irritation from the intestinal canal. But I think it likewise probable, that the frequent repetition of this effort brings the liver into such a state, that it cannot return to the performance of its ordinary or natural function, when the demand for its unusual action ceases; and it is in this manner that the disease may continue, after the original stimuli have been removed, by again putting the child upon a proper diet. It may arise partly from the remissness of the nurse, and from a relaxation in that care which perhaps prevented the weaning brash from coming on sooner, that this disease is produced even many weeks after weaning.

The dejections are sometimes okery, or even clay coloured, which does not seem to favour the idea of a redundant secretion of bile. However, they continue pale only for a short time, and soon resume the thin consistence, with their dark colour. The explanation of this I presume to be, that, during this interval,

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“ and increased action of a gland has much influence in determining the nature of a fluid secreted. In some cases, bile is discharged of a green colour, and extremely acrid, not possessing the qualities of healthy bile.” *A Treatise on the Liver*, p. 147.

the spastic contraction may have seized the duodenum, at that part where the common duct empties the bile into the intestines. And farther, I presume that the intestines have now become so irritable, that they are stimulated to inordinate action by the aliment, even at the time when, from the supposed stricture of the duct, the bile may be deficient; and hence the griping pain still continues.

But it may, and most probably is, in the ducts, that the explanation of this irregularity, in a great measure, is to be looked for. I have, on dissection, found the bile collected in such



quantity in the gall-bladder, that this detention became the cause of the confinement of the bile; for then the natural curve which the cystic duct takes becomes so acute, and the distended bladder presses so much upon it, that the bile is prevented from flowing, or flows in very small quantity. By this retention, the bile becomes more concentrated, and thence perhaps more acrid. And finally, by some action of the stomach or duodenum, by which the very enlarged gall-bladder is compressed, part of its contents is forced out, the distended ducts are relieved, and the intestinal canal is inundated with bile.

That the whole abdominal viscera are in an extremely irritable state, is evident from the symptoms. When it is observed, during dissection, that the liver is affected; that the gall-bladder and ducts are sometimes unusually distended, at another time empty, and yet empty as if recently overcharged; when, again, it is found that no aliment is contained in the canal, but, on the contrary, that the intestines are empty and pellucid, and in some parts violently contracted, it cannot be doubted that the secretion of the liver is the principal cause of the irritation, and of the distressing symptoms.

The mesenteric glands are enlarged, nay, in some instances, inflamed. May not this proceed from the acrid nature of the alimentary

matter to which their absorbing mouths are exposed<sup>3</sup>?

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<sup>3</sup> May not the tabes mesenterica often arise in this way? The glands of the mesentery and mesocolon in adults are often enlarged and indurated from dysenteric attacks. (*Lempriere, Diseases in Jamaica*, Vol. II. p. 207. *Cruikshanks, Absorbent System*, &c.) And in scrophulous children, where a carious tooth, a running from behind the ears, or a scratch on the chin, will produce tumor in the neighbouring lymphatic glands of the neck, it is not improbable that a continued absorption from a mass of irritating aliment, will occasion incurable obstructions of the mesenteric glands. I was led to this opinion by the following case of a girl fourteen months old, whom I saw on the 30th of May last.

### CASE III.

This girl is quite wasted in flesh, with a very large and prominent belly, hard, and somewhat irregular, and the liver is plainly much enlarged. Several of the lymphatic glands in both groins are swelled, and she has all the appearance of a scrophulous child. Her eye is quick, her complexion fallow, and her face and body are covered with an eruption of small and distinctly florid pimples. Her breathing is laborious, and there appears to be a considerable secretion in the trachea. Her tongue is white and furred, her gums look perfectly healthy, and she has cut five teeth.

She evidently labours under two diseases, one in the abdomen, the other of the lungs.

At four months old, she was seized with a green purging, and vomiting of sour and bilious matter. The bowel complaint was so violent, that it was attended with convulsions, and reduced her to extreme weakness, from which she never reco-

This disease, too, chiefly arises in the autumn, a season in which scrophula is not apt to be-

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vered. At this time, the eruption first appeared, and, while it kept out, she was always better, and seemed recovering, until, by some unfortunate circumstance, it disappeared for a time, and then she became hectic. Two or three months after the attack of the bowel complaint, her belly became plainly fuller than natural; but her purging had now stopped, and she took her victuals well, even greedily; and therefore the fullness was not much attended to, until it was accompanied with thirst and hectic sweatings. The sweatings were always most profuse when the eruption was absent. Her father being a common soldier, little was done for her, and her complaints were allowed to run their course.

Three weeks ago, she took the inflammation, which, as I have mentioned in note 5. p. 12. was then epidemical, and still she was neglected, until I saw her by accident. She has now a cough, which not unfrequently brings on distressing fits of vomiting.

Since the swelling of her belly came on, she has been quite regular in her bowels. Her urine generally is high coloured, and she has had considerable thirst and fever. She is still sucking her mother.

The gradual cahexy and swelling of the belly, with the general stumous appearance of the child, leave me in little doubt as to the mesenteric obstruction; and surely, without straining a point, I may trace the disease to the original bowel complaint, which was of many weeks duration.

How matters may have stood soon after the violence of the primary disease ceased, may be learned from the following short case from *Smellie's Midwifery*, Vol. III. p. 369. "I was called in  
" to a child four months old, who had been for three weeks  
" afflicted with curdled green stools, and at last was brought  
" very low by a thin watery purging. The loofenss frequent-  
" ly returned, and all methods of cure had been unsuccessfully



come active in the constitution. It arises after a material change in diet <sup>4</sup>, from a diet less ir-

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“ tried. The child being opened soon after it expired, I  
 “ found all the glands of the mesentery swelled, and in hard  
 “ knots.”

JUNE 13.

The soldier's child died yesterday, and, upon opening the body, I found, as I expected, the mesenteric glands inflamed and enlarged; the liver nearly twice its natural size, firm and pale; the gall-bladder containing a straw-coloured liquor, scarcely resembling bile; the intestines full of flatulency. In the left side of the cavity of the chest, a considerable effusion showed that this side of the lungs had been chiefly affected.

A French physician, M. Baumes, who treats of the mesenteric disease, says, “ Parmi les maladies dont le carreau est, le plus souvent, la suite, je compte la diarrhée opiniâtre.” *Mémoire, &c. par M. Baumes.*

<sup>4</sup> My learned friend Dr. Girdlestone, in his account of hepatitis and spasmodic complaints in India, p. 24, has some important observations on the effects of great changes in diet, which I shall transcribe.

“ Every change of diet, from a long continued one, seems to act as a stimulus on the biliary ducts.

“ The officers and men who were prisoners in chains with Tippoo Sahib, in the East Indies, were allowed only rice, water and capsicum, for the many months they were with him.

“ When they were released, the animal food of every kind which they attempted to eat, purged them so violently, that they could take it only in the smallest quantities for a considerable time.

“ The British fleet not appearing with the store ships, the army was reduced to the necessity of living almost entirely

irritating to one more so, and at a season when, to use the words of Dr. Saunders, “ The hepatic  
 “ system in this country is more irritable than  
 “ at any other, and when the diseases which  
 “ prevail are obviously connected with the state  
 “ of the biliary secretion, and approach in  
 “ their nature to those which occur in warm  
 “ climates.”

Children in this country are weaned generally from the seventh to the sixteenth month; and nurses, and all those who are unacquainted with the profession of medicine, whose reasonings upon it are either without any foundation, or rest on the most absurd analogies, imagine that the weaning brash arises from some morbid change in the bowels, occasioned by the process of dentition, which is going on at the same time.

I shall here observe, that notwithstanding my

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“ on animal food. The natives of the army, whose customary diet is chiefly rice, were all purged by this change.

“ The like happens both to men and officers, after living some months at sea on the same diet. On making a port, the vegetables always produce such copious secretions of bile, as oblige them to be moderate in their use.

“ The patent dried cabbage was laid in for the use of the 101st regiment. They had none of it for the first month of the voyage; but as soon as they began to eat it, they were all purged.

“ From fish also the same effects have been seen.”

most diligent inquiries, I have feldom been able to deduce any of the derangements of the infantine system from teething<sup>5</sup>; and I have been inclined to think, that those physicians who have represented this function as teeming with dan-

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<sup>5</sup> The gentleman from whom the following quotation is taken, writes from great experience: "In paucis casibus, semitam deviam natura nonnunquam tenet, et violentia excitantur symptomata. Exempli gratia, Si dentis radix vel radices citius quam corpus ipsum crescit, vasa gingivæ membranæque investienti propria excitari in abnormem actionem et inflammari possint. Exempla hujusmodi tamen rarissima esse æstimo, neque judico hunc naturalem corporis processum inter quem nulla animalia, si hominem excipias, vel minimum molestiæ pati videntur, pro morbo haberi oportere." *Blake, Disputatio Medica de Dentium Formatione, p. 137.*

In a page or two after, he gives the opinion of Dr. Hudson, which I shall likewise transcribe, respecting scarifying the gums, which is often made a cruel operation; and when it is so, it is always an unnecessary one; "Concerning your question about lancing the gums of children, I have avoided making it a source of revenue to myself, convinced from experience of its futility, except in inflammatory cases, and where the teeth are near the surface. In such cases, the lancet gave relief; and I believe feldom or never on other occasions. Where I have operated by the advice of the attending physician, it is true, many children have recovered after the operation; but I could never fairly say, that the recovery was in consequence thereof." *p. 141.*

When the gum of an infant is inflamed at the base, at the same time that there is a soft whitish spot on the ridge of it, it may be right to scarify slightly; but I shall never think this necessary at any other time, nor can I imagine any danger in teething, where no increased action appears in the gums.

ger, have not accustomed themselves to that careful investigation, without which these diseases cannot be understood. The weaning brash, I have the strongest reason to believe, has no connection with teething, farther than that they sometimes meet in the same child. I have known this disease, in many instances, where the gums were neither swelled, nor indurated, nor inflamed, and where there was no salivation, nor any appearance of pain in the mouth. I have seen it where children were cutting their teeth easily; and where many of them have come without difficulty before weaning; still the disease has supervened. But perhaps the strongest argument that can be used, would arise from the observation which I have frequently made, that this disease occurs in children of three months; and I have often known it several months before teething came on.

The history of the disease instructs us in the precautions to be used for providing against it. If the observation which I have made be just, that it happens much oftener in the autumn than at any other time of the year, it will be readily agreed, that delicate children should, at that season, be kept a month or two longer on the breast than might be thought necessary at any other, rather than be exposed to the aches

and hazards which never fail to accompany this distemper.

And although I do not admit, that this disease is in any degree to be attributed to teething, yet I should certainly recommend it as a general rule, not to wean children before they have two teeth in each jaw; for this seems to be the natural period at which the food of infants should be changed; and, if I am not deceived, I have observed that those children who are late in cutting their teeth, are very much exposed to the attacks of weaning brash.

The exciting cause of this disease I consider to be, too sudden an alteration of the diet of a child at an unfit season; and if this opinion be just, it follows of course, that children ought at all times, but more particularly in the autumn, to be weaned gradually, and well accustomed to the food on which they are afterwards to subsist, before they are finally taken from the breast<sup>6</sup>. When the children of affluent parents are deprived of their nurse in the early months of infancy, no time is to be lost in procuring ano-

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<sup>6</sup> Breast milk is the proper food for infants under six months; but, after that period, I think that they should be accustomed to bread and milk, eggs and weak broths, once a day, and thus gradually weaned from the breast. This will be less likely to produce violent effects on the constitution, than weaning all at once, which is sometimes recommended.

ther, with milk fuitable to the age and condition of the child.

That an accidental diarrhœa, in an infant leaving off the breast, may, especially in the autumn, soon degenerate into this disease, is not improbable. To provide against this, attention should be given to the cause of the diarrhœa. It should be carefully observed, whether it arose from cold, and in consequence of the sympathy which the intestines, and more particularly the hepatic system, have with the skin, or with the extremities; or whether it was not occasioned by improper food. In the former case, no remedy proves so useful as flannel worn nearest to the skin; and with regard to the latter, I must here refer to the directions for diet which I shall have occasion to deliver in treating of the cure of the disease.

Before I had formed the opinion of the disease which I now hold, I limited my attempts to the alleviating of the more urgent symptoms, endeavouring sometimes to restrain the purging by opiates, and at others anxious and happy to restore it again. I therefore used opiates in all ways, with aromatics; then the testaceous powders, with occasional doses of rhubarb. I tried laxatives in the beginning of the disease, and I think that they were useful. Then imagining the disease to be dysenteric, I gave ipecacuan, both as an emetic, and in small doses, mixed with prepared

chalk, as an antispasmodic, to restrain the irregular action of the bowels, and certainly with some effect. Although I had some success from these remedies in the early stages of the disease, I found invariably, that when the disease had taken a firm root, it frustrated all my exertions.

In the beginning of the disease, and even at all periods of it, when the attack is slight, I should certainly recommend a dose or two of rhubarb, to the extent of five or six grains, at the interval of two days between each dose; and that, in the mean time, the child should take half or a third part of a grain of ipecacuan powder, mixed with six or eight grains of prepared chalk, and a small portion of some aromatic powder, as cassia, every four or five hours. Should there be much griping along with the purging, a glyster of mucilage of starch, with five or six drops of laudanum in it, administered at bed-time, will be attended with much advantage.

The success of these remedies will depend upon a strict attention to diet. An animal diet produces less irritation than one which is solely composed of vegetable matter. Eggs, the finer kind of light ship biscuit, or arrow root, custard, the juice of lean meat, plain animal jellies, and broths freed from their oily part, and milk, are the chief articles of nourishment which I have ordered: The last is often the on-

ly one which children will take. I have wished for an opportunity of restoring the breast milk to a child, as I am convinced that it would be useful<sup>7</sup>, more particularly where children have

<sup>7</sup> This opinion is strengthened by the following history. It is a description of the disease in question, pretty accurately represented, although the author from whom it is taken does not appear conscious that he is describing a frequent and specific disease. His object is to prove, that breast milk is the proper and only food for infants; a proposition which no one will deny.

“ The little infant alluded to was very healthy when it was three months old, and was then weaned, on account of the sickness of the wet nurse, but soon afterwards ceased to thrive, and had continual bowel complaints. At the age of nine months, I was requested to visit it, and was informed that it slept very little, was almost incessantly crying, and had for many days brought up nearly all its food; was become very rickety, and had the appearance of an infant nearly starved. Trial had been made of almost every kind of food, except the breast; and the child had been many weeks under the care of an experienced apothecary, was constantly in a state of purging, and seemed to be kept alive by art.

“ On the first sight of the child, and on the face of this account, it was very evident that this infant was not nourished by the food it received, and that the complaint lay wholly in the first passages. But reduced as it was, I had little expectation from medicines, and therefore gave it as my opinion, that either the child still pined for the breast, in which case I doubted not that it would take it, though it had now been weaned six months; or that it ought to be carried immediately into the country, and supported for some time up-



been prematurely weaned ; but I never yet had it in my power. Thin rice, or barley water, mixed with a small proportion of skim milk, is a very proper drink for children under this disease. Vegetables of all sorts, particularly fruits, acids, and compositions of which sugar or butter form a part, and fermented liquors of every kind, have been strictly prohibited.

Every one is aware of the bad effects of cold feet to those whose stomachs and intestines are irritable. I have, therefore, always recommended woollen stockings, and every precaution against cold irregularly applied ; and I have added to the flannel which is worn nearest to the skin, a broad bandage, tied firmly round the loins. To take off the continual spasms, I have generally ordered that fomentations, and the warm bath, should be frequently used.

But I found that the utmost attention to regimen and medicine failed in the advanced stage of weaning brash. After having, with the great-

“ on asses milk only, or perhaps be fed now and then with a little good broth.

“ My advice being taken, a good breast was procured, which the infant seized the moment it was put to it, and, after sucking sufficiently, soon fell asleep for several hours, waked without screaming, and took the breast again. It is sufficient to add, that the child ceased to puke or be purged, and recovered from that hour, and, after sucking eight or nine months longer, became in the end a fine healthy child.”

est mortification, witnessed, in one season, the death of seven children, I thought myself warranted in changing the medicines, which I had used, for others which might have a greater effect on the liver, and produce a change in the biliary secretion.

From the powerful influence of calomel on the body, and more particularly on the system of the liver, and from observing that, in many diseases and constitutions, after the first or second dose, it ceases to exercise its cathartic powers<sup>b</sup>; and, lastly, from considering it as a less violent medicine with children than adults, I was led to the trial of it in this disease. I began with a child who had been ill for some months, and who appeared not likely, under the common treatment, to survive long. She was the second of a family, and, I may almost say, she was predisposed to the disease; for her elder sister had been very ill, and had with difficulty recovered from weaning breath. She had

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<sup>b</sup> In one child, who, in three days, took between forty and fifty grains of calomel, in croup, I found that the bowels became exceedingly slow, and at length I was obliged to excite them by a dose of jalap. It happens with the use of other laxative medicines, that the bowels become costive. "After Wyatt had long taken an ounce of cream of tartar a-day, she even became costive with that dose, and required the use of gamboge." *Ferriar, Medical History and Reflections*, Vol. I. p. 90.

unfortunately been weaned in her fourth month, as her mother was deprived of her milk by a fever; so that likewise, in the exciting cause, every thing was unfavourable. She had half a grain of calomel evening and morning; and although the other directions which I had given, I had reason to believe, were disregarded, yet under this medicine she was in a fortnight perfectly restored.

Since this case, I have had the usefulness of calomel evinced by many additional cases, and now I have the firmest belief, that it will prove effectual, at a stage of the disease, when no other medicine that I am acquainted with, would be attended with any permanent benefit.

As, however, it must be a day or two before the calomel has any effect upon the liver, it may be proper, in the mean time, to prevent the disease from debilitating the child by a continued griping, purging, or vomiting. This can often be done, in a certain degree, by glysters containing a few drops of laudanum. I have seldom, of late, ventured to give laudanum by the mouth; for I think that no accident connected with the disease, can account for the changes which I have seen take place after laudanum and large doses of absorbents have thus been given.

The success which I have had with calo-

mel has induced me to give it in diarrhœas<sup>9</sup> of children. Wherever I have suspected a morbid state of the bile, which is one of the most common causes, I have used it with great success. I have, by half a grain of calomel evening and morning, or by giving a grain every evening for a week or ten days, removed diarrhœas, even when the medicine was administered under the most unpromising appearances. I have also found it a most effectual medicine in the chronic state of the bilious diarrhœa of children at the breast.

After the third or fourth dose of calomel,

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<sup>9</sup> Calomel is recommended both by Drs. Armstrong and Underwood, in different diseases of children. The former prescribes it in what he calls the *The Hætic Fever*, during the time of teething, and in *The Tooth Rash*. The latter, in the fourth edition of his treatise, which I saw only a few days ago, in some very desultory remarks upon diarrhœa, recommends calomel. "In a certain disordered state of the bowels, which frequently occurs, and is disposed to continue for a long time, during which infants, though not precisely ill, do not thrive, nor look well." The species of diarrhœa which he alludes to, I suspect is weaning brash, from what follows: "The stools are said to be always bad, being sometimes of a green colour, at others of a pastey consistence; sometimes very numerous, and at others, infants are for several days costive." He recommends calomel in the following vague terms: "In this as well as in other bowel affections before described, when laxative, alkaline, and absorbent medicines have been found to procure no permanent good effect, calomel often proves a sovereign remedy." *Article Diarrhœa.*

there is generally a great change in the colour of the alvine discharge. It becomes of a dark mahogany colour, and is in general more noisome. When this change takes place, it promises a favourable crisis in the disorder. Soon afterwards, the children become free from fever, more placid, and in a day or two after their appetite returns, with their former complexion, and every other demonstration of health. I never found, in the many cases in which I have given calomel, that it produced salivation, or any other unpleasant effect; and I am now convinced, that it is not only one of the most general and active medicines in the pharmacopœia, but that it is likewise one of the least hurtful.

C A S E S  
OF  
WEANING BRASH.

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I NEED scarcely mention, that the first four cases which I am to detail, occurred before I had tried the effects of calomel.

## CASE IV.

OCTOBER 5.

P—— S——'s child, twelve months old, blue eyes. A month ago this child was weaned. Nearly a week after the weaning, a purging commenced, frequent, but particularly so during the night. The stools were very liquid; and generally green. The evacuation was attended with griping pains, and the child, who was healthy before, became pale and weak. After the purging had continued a fortnight, a vomiting came on, with which the child was frequently seized. He had scarcely any appetite for food, but a very great thirst; he was intolerably fretful, and was becoming emaciated. He had little intermission from fever; and this febrile state had been encouraged, by small quantities of ardent spirits, which his parents ignorantly were frequently giving him. He was very fond of this kind of medicine, and was in some degree continually intoxicated.

About eight days ago this was the state of the boy. I then put him on the following diet: Boiled skim milk and bread for breakfast, and, to be taken occasionally, the yolk of an egg, or a little weak beef tea, for dinner; a small pro-

portion of milk, in thin rice gruel, as his usual drink ; and, when griped, a tea spoonful of prepared chalk stirred up in it.

He had a small dose of rhubarb, and next day I began to give him a third of a grain of ipecacuan every three hours. Under this medicine, which has been continued since, the frequency of the purging has gradually abated, and now he is recovered from every thing but weakness.



## CASE V.

OCTOBER 10.

Benjamin H———n's child, near thirteen months old.

She was weaned at eleven months, and about a fortnight after, a purging came on. This lasted about a month. Her stools were in general green, and four smelling, and the disease was slowly gaining ground. About a week ago, the purging was checked by testaceous powders; and whether from this, or from a sudden change in the disease, the day after the purging stopped she was seized with slight but general convulsions, which daily increased, until yesterday morning, when they carried her off. When the spasms commenced, the return of the purging was procured by laxative medicines; then she had anodyne injections given, and every imaginable antispasmodic, without the smallest effect.

The day after the purging was checked, I observed an eruption all over her skin, which, upon examination, proved to be the *strophulus candidus* '.

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See the first number of Dr. Willan's excellent book on eruptive diseases.

In this child, the original disease had by no means arrived at so great a height as I have seen it. The emaciation was not so great as is usual, nor the purging nor derangement in the alimentary canal so determined. I had permission to examine the abdomen.

#### DISSECTION.

Upon opening the belly, the intestines appeared peculiarly white and free from blood, unless on some places on the mesentery, where there were some small congeries of turgid veins, but which were far from being inflammations.

In several parts of the intestinal canal, there were remarkable contractions of the diameter of the gut, even to the dimensions of a common earth worm; and of these contractions, at least five or six were apparent, without deranging the natural situation of the viscera.

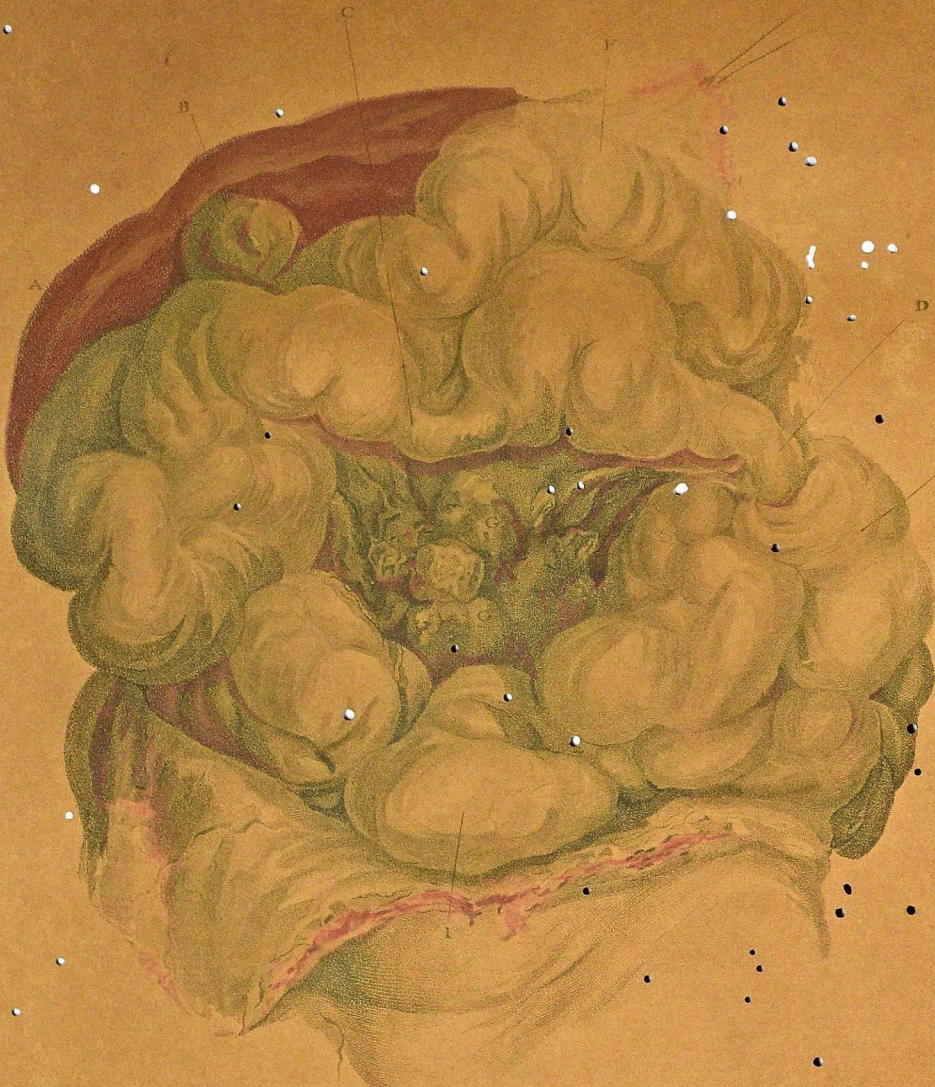
This was exactly the state of the intestines, which should have led me to expect intussusception of some portion of them; and accordingly, upon turning up some of the convolutions of the ilium, I observed a perfect intussusception of a few inches of the gut, but without inflammation or adhesion of the inclosed portion.

Upon spreading out the mesentery, some of

the lacteal glands were observed much enlarged, and considerably inflamed.

The liver was enlarged and firm, and the gall-bladder, and the hepatic and cystic duct, were gorged, and greatly distended, with a light green-coloured bile.

Plate VII.



J. Wall del.

J. Mitchell sculp.

## EXPLANATION

OF

## PLATE VIII.

A, The LIVER.

B, The GALL-BLADDER considerably distended, with Bile.

C, A Remarkable Contraction in the SMALL INTESTINES, of which there were several concealed by the Convolution of the INTESTINES.

D, A Portion of the SMALL INTESTINES contracted and drawn into the Lower Portion, so as to form an INTUS-SUSCEPTION.

E, The Containing Portion of the INTUS-SUSCEPTION.

F, The COLON held out by the OMENTUM.

G G, The GLANDS in the ROOT of the MESENTERY much enlarged.

H, The MASS of the SMALL INTESTINES fallen over the SIDE.

I, The BLADDER of URINE.

## CASE VI.

DECEMBER 11.

William B——'s child, thirteen months old.

In this child, the weaning brash was seen in its last stage. He was weaned at eleven months, and was at that age healthy.

Three days after he was taken from the breast, he was attacked with a purging, which was neglected, and allowed to become habitual, the stools, however, varying very much. After the purging had continued five weeks, and emaciated and weakened the child, it became less frequent, but his health did not improve; he took little sustenance, and had a constant fever, with colic pains. The purging was suspended in frequency only; for the stools were still loose and clay-coloured, or rather okery; but, instead of troubling him incessantly during the night, they only occurred once in thirty-six hours. After a week passed in this way, the purging returned, and it was so confirmed, that his mother observed that he purged within three or four minutes after taking drink of any sort. At the end of the seventh week, his extremities swelled, and were with difficulty kept in heat;

his purging was again repressed, but still he continued declining. He has been ill now for two months; he has constant fever, thirst, and fretfulness. His limbs are swelled, but he is quite flabby and wasted in flesh; he sleeps very little, and requires to be kept constantly in motion in his mother's arms; he has much of that peevish expression which appears to be the effect of the irritation of constant pain; his urine is scanty and high coloured, like the urine of a jaundiced person. Round the anus there is a considerable excoriation, from the acrimony of the dejections. His breath has a heavy, sour, and singularly disagreeable smell; his tongue is foul and sore, and, together with the rest of his mouth, is threatened with aphthæ. I do not recollect that he was troubled with the vomiting which so often attends this complaint. His mother remarked to me, that when the purging comes on after the costive state of the bowels, the excrement is greener than when the stools are less frequent. In this boy, the tunica albigena has lost its beautiful transparent colour, and is of a dead yellowish hue.

DECEMBER 18.

This boy died yesterday.

#### DISSECTION.

The intestines, floating in a considerable quantity of deep yellow fluid, appeared white,

H ij

and almost pellucid. In several parts, there were the same straitenings, from spasmodic stricture, as in the preceding case. I reckoned seven such contractions in the course of the canal: The most remarkable was a contraction of the sigmoid flexure and rectum, which at first seemed impervious; and at one part of the canal there was an intus-susception.

The mesenteric glands were somewhat enlarged and inflamed, but so slightly, that I was in doubt whether I should note this deviation.

The gall-bladder was greatly distended; inasmuch, that from the acute turn which the cystic duct took, it required such pressure of the gall-bladder betwixt the fingers, as I feared should have burst it, in order to force the dark bile from the common duct into the duodenum.

The liver was large, firm, and of a deep red colour. The bladder was so much distended, as to rise from the pelvis, and its fundus reached the umbilicus. The ureters were likewise enlarged, and the kidneys felt small and hard.



## CASE VII.

I did not see the child who is the subject of this case, until within a few days of his death. The disease came on soon after weaning, and he had been ill many weeks. The appearances of the stools were various; but the purging gradually wasted him. The purging had abated before he died; but its effects were fatal. His limbs were swelled, and his feet, almost to bursting; and in each of his hams there was a large discoloured spot, of a copper colour. His pain was often very great. Towards the end of his illness, his stools were paler than before. He had always been subject to diarrhœa, from the slightest causes.

## DISSECTION.

In this case, the whole of the intestinal canal was not so pale nor transparent as I have seen it, but it was so in many parts. The arch of the colon was so much distended, as to fill the upper part of the abdomen.

The small intestines were very irregularly contracted. This was observable in all the contractions, that they were firm and solid to the feeling, but, when fingered or distended, the

thickness and solidity entirely vanished, and they were in no way distinguishable from the other portions of the gut. Again, when a portion of the gut, thus contracted, was lifted up, it was not round, but irregular, as if moulded by the surrounding intestines. In one of the contracted portions, there was an intussusception. The gut had slipped in but a very little way, and was easily withdrawn; and, from the degree of stiffness which remained, it appeared as if the gut had been doubled before it was drawn in. The stomach was much contracted.

The liver was large, firm, and of a bright red colour. The gall-bladder was large and empty, at least it appeared so, although there was a large spoonful of bile contained in it. The bile was of a dark green colour, and had flakes floating in it.

## CASE VIII.

JULY 12.

Mr. L——'s daughter was weaned at six months, when she was fed upon panada chiefly, and weak broths. Three weeks after and about a fortnight ago, the disease began. The stools were slimy and sour smelling, and the disease was reducing her very fast. A severe vomiting came on the day before yesterday, and has been constant ever since. Yesterday the purging was suspended, but it returned in the night, and is very severe. Her urine is high coloured; the child is alarmingly weak; she has great thirst; her tongue is very foul, and she has a hectic glow upon the cheek.

JULY 13.

She died last night, quite exhausted by the vomiting and purging.

The dissection was not allowed.

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In this case, no attempt had been made either by medicine or change of diet to check

the progress of this disease, and the rapid termination of it is to be ascribed to the stimuli, which had primarily occasioned it, continuing to act upon the highly irritable intestines.

## CASE IX.

FEBRUARY 12.

Mr. T——'s child, eight months old.

This child was weaned between her fourth and fifth month, from her mother having been deprived of her milk by an epidemic fever about the beginning of November. About eight days after weaning, she took a purging, which has never left her since. She is now constantly fretful; her sleep is unrefreshing, and her appetite is much depraved; her countenance is alternately of a fallow paleness and flushed. She has a considerable heat of skin, and thirst, and her urine is scanty and high coloured, dyeing linen cloths of a deep yellow; her stools are quite watery, very frequent, and of a brownish colour. She generally vomits every thing which she takes at her meals; and sometimes the aliment thus rejected is mixed with bile.

With strict attention to be paid to her diet, I ordered her to have half a grain of calomel, mixed with six grains of prepared chalk, and four grains of powdered cassia, night and morning, and a flannel dress.

## FEBRUARY 13.

She was last night no better; her purging was rather more frequent.

## FEBRUARY 14.

Last night much as before; her purging not quite so frequent; the dejections are changed to a dark brown colour.

## FEBRUARY 15.

Her mother declared, that since this child was weaned, she has not had so good a night, which she attributes entirely to the powders. She had only two stools in the last twelve hours, which were very dark and fetid; her thirst and fever are somewhat abated.

## FEBRUARY 17.

Her stools are exceedingly dark. She continues to recover her health. And now I have an additional proof that the calomel has had the principal effect in her amendment; for the flannel which her mother was desired to apply, had been neglected or withheld.

## FEBRUARY 24.

The looks of this girl are much improved, and I consider her as rapidly recovering. All the febrile symptoms are gone. She has not more than two stools in the twenty-four hours, and they are of a more natural appearance, although it does not appear from them as if the nutritive process were as yet perfect, as part of her diet passes crude and unconcocted.

FEBRUARY 26.

This child continues very well. Upon examining the mouth to-day, I observed the first tooth about to pierce the under gum.

In summing up this case, I am naturally led to compare it with the sixth case. The children seemed to me, when I first saw them, to be very much in the same state. The course and termination of the cases will suggest a useful lesson.

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In the beginning of April, the same little girl had a return of the purging, which was again removed by a short course of calomel.

## CASE X.

MAY 6.

Mr. N———'s child, eleven months old, had been remarkably healthy and cheerful, and had never taken any thing but breast milk, until the day she was weaned. Her mother, from having had an attack of acute rheumatism, was forced, without preparation, to wean her exactly five weeks ago. On the day after weaning, she was taken with a purging, which has been violent ever since. The dejections were green at first, and attended with tenesmus, which made her complain violently before each stool. Her stools have varied much—yesterday they were quite watery, so that the linen looked as if it had been stained by the matter of a gonorrhœa; and by their acrimony they have occasioned some excoriation. Her urine is high coloured and hot, her tongue is white, and her breath is heavy smelling. As usual, she has become ill tempered, particularly during the night; she has lost her former rosy complexion; and there is rather a looseness in the muscles, than an absolute emaciation.

She has great thirst. The drink she takes



is chiefly milk and water, and, for these two days she has vomited it curdled. Before she was weaned, she had two teeth in each jaw, which came without any difficulty. About a fortnight ago, two more came through in the upper jaw; but the disease has been more violent since. The gums are perfectly healthy, and there is, for the present, no appearance of any more teeth coming forward.

MAY 7.

She had an anodyne glyster last night, which she kept a good many hours. She had half a grain of calomel, which is to be repeated every night and morning.

MAY 8.

She has had four doses of calomel, and her belly is already more regular. The stools appear of a very brown colour.

MAY 11.

Since bed-time last night, she has had only one motion. Her looks are improved, and her thirst has left her. She is in every respect better.

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In this child, the disease was increasing. It had not, however, arrived to such a height as to make it improbable that it should yield to the

remedies which I used before I thought of calomel. But I had observed, that children so immediately recover their appetite upon the administration of calomel, that I thought it proper to give the medicine which would most speedily restore the patient to perfect health.

## CASE XI.

SEPTEMBER 9.

C———, A———, two years three months old, has a frequent purging, which began four days ago, and which arose from the carelessness of his attendant, in having permitted him to eat some potatoes. The excretions from the intestines are greenish and slimy. The child is so much reduced by them, that he totters as he walks, and is quite pale and sickly. He has considerable thirst; his appetite, however, is not much impaired; his skin is hot, and his pulse is quickened by the least exertion.

This child has been, all his life, liable to diarrhoea, from the slightest causes. He had it frequently while on the breast; and, upon being weaned, he had a severe attack of weaning brash; since which time, from the least deviation in the regimen or diet which is pointed out for him, he invariably suffers in his bowels. He has had several attacks similar to the present; and indeed, to a certain degree, he has had a habitual looseness, which has kept him a pale and puny child. He has afforded several proofs of the efficacy of calomel in removing

these complaints; for he has always recovered in a few days after the administration of it.

SEPTEMBER 15.

I ordered for this child, previously to giving him the powders with calomel, a dose of eight grains of rhubarb, from thinking that the irritation might be kept up by some indigested food lodging in the bowels (a thing which I have known to take place many days after it had been taken); and after the rhubarb had produced a considerable effect upon the bowels, I recommended that a dose of calomel should be given twice a-day. The child very soon recovered from the purging, and is again restored to his usual state of health.

## CASE XII.

SATURDAY, SEPTEMBER 19. 1801.

To-day I was again sent for, to visit the child whose case is related in p. 15. I had not seen her since the 16th of June; but I understand that she has never been altogether well, that she has, ever since, had a looseness, although to no very great extent. About three weeks ago, she was sent to the country, in the expectation that she would benefit by change of air; but, being thus removed from the more immediate observation of her mother, she was not so well attended to in her diet; in particular, she was allowed constantly to swallow down new milk. This nourishment proved too heavy for her stomach, and aggravated the purging, and brought away great quantities of slime, mixed with green feces. She was brought home some days ago much worse, and on Thursday her mouth was observed to be sore. To-day her friends were much alarmed at the appearance of it, and at the state of her bowels.

On her tongue there are several ulcers, each about the size of a herring scale, with inflamed edges, and, judging from the expression of the child when any dry food is put into the mouth,

very painful. The lips resemble the dry and chopped lips of a person in typhus, smeared with fordes, and with the ragged cuticle hanging from them in shreds. She has just got one double tooth in the upper jaw; and, judging from the breadth of the gums of the under jaw, there are double teeth about to free themselves on each side. The excretion from the belly is slimy, frequent, and sour. The child sleeps none, has considerable thirst, would take sustenance, but is almost convulsed with pain when any thing is put into her mouth.

Hab. Pulv. Rhei, gr. vi.

SEPTEMBER 22.

She has had half a grain of calomel morning and evening since the 19th. The looseness is somewhat checked in frequency; the apthous state of her mouth is not worse; the child is still in considerable pain, and does not sleep at night. The diet has been particularly attended to, and no drink allowed, but rice gruel, with a little milk in it.

℞ Mucil. Amyl. ℥ ij,  
Tinct. Kin. ℥ ℞.  
Theb. gr. v. M.  
f. Enem. Injic. h. f.

SEPTEMBER 25.

The prescribed plan has been adhered to, and the child is strikingly relieved. The glyster.

has procured regular sleep for the child, and the ulcers in the mouth are skinned over. The dejections are much less frequent; and, although it will require a longer course of the calomel to effect a complete restoration, yet they are much more of a healthy and concocted nature.

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FROM my Notes, I could add a great many cases more which have been fortunately treated by calomel; but I think it unnecessary to multiply the proofs, as those which I have adduced will demonstrate its usefulness. The examples which I have already given, are quite sufficient to illustrate the symptoms of this disease, which indeed admits of less variety than might be imagined.

## ERRATA.

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- Page 10. line 20. *For Spegelii read Spigelii.*  
26. 10. *After may insert be.*  
27. 1. *For detention read accumula-  
tion.*  
39. penult. *For History read Histories.*

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It may not be amiss to state the error in the genera morborum, which gave rise to this diagnostic.

As synonymous to CYNANCHE TRACHEALIS, Dr. Cullen (*Synop. Nos. Meth. G. X.*) mentions, SUFFOCATIO STRIDULA, *Scotis* THE CROUP, *Cl. Home* on the Croup.

ASTHMA INFANTUM, *Millar* on the Asthma and Croup.

ASTHMA INFANTUM SPASMODICUM, *Russ*, Dissertation, London, 1770.

CYNANCHE STRIDULA, *Crawford*, Dissert. Inaug. Edinb. 1771.

The first and last of these dissertations treat of Croup, the intermediate two of the Asthma Infantum, the disease which occurred to the fisherman's boy.

Dr. Cullen, by departing from his usual accuracy and discrimination, has obliged me, in the first paragraph of the Essay, to state precisely the nature of the disease of which I was about to treat, a thing in the present instance of the last importance in a practical point of view, and to define it from the morbid organic condition, rather than from the symptoms, which, in a regular book of nosology, is unquestionably the preferable mode. My definition, therefore, is to be considered rather as an enunciation of the subject; for had I not been compelled by

this mistake, I should not have thought it necessary to give any definition of a disease, which is particularly described in the next page. The advocates for the operation of bronchotomy, which, I find, is still recommended, will do well to attend to the distinction between the two diseases. I imagine I need hardly say, that in the asthma infantum there is no inflammatory membrane.

In the present state of surgery, I scarcely thought it necessary to add much in support of my opinion as to the unfitness of the operation of bronchotomy: But as I have been blamed for rejecting this operation in the cure of croup, I shall consider it in another point of view. At the same time I should hope, that what I have already said will have influence with most physicians.

Although in some instances, where the membrane has been formed and expectorated, and the child in consequence has recovered, the affection appears not to have extended much beyond the larynx<sup>4</sup>, yet I am convinced, that in nine cases of ten, the immediate cause of death is not so much the narrowing and obstruction of the stream of air occasioned by the

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<sup>4</sup> This too must in a great measure be the case in the peculiarity explained in p. 22.

membrane <sup>s</sup>, as the puriform fluid with which the bronchiæ are filled ; for in most of my dissections, the puriform fluid has been found so completely to gorge the lungs, that the air would have been met by this fluid, and prevented from finding its way into the air cells, even had it passed the larynx easily, or had the membranous effusion which lines the larynx been removed. This puriform fluid I conceive to be a mixture of the lymphatic effusion of the minute branches of the trachea, of the natural exhalation of the lungs, and of mucus. He who imagines that the disease is always confined to the larynx, takes a limited view of croup ; for by continuous sympathy, or from the exciting cause acting as violently there as at the larynx, the inflammation often, perhaps always in some degree, extends to the more minute branches of the windpipe ; and I have actually seen the membrane regularly formed in branches, not a line in diameter, which proves that inflammation had subsisted as violently in these branches, as it usually does in the larynx.

Suppose, then, in performing this operation,

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<sup>s</sup> In Case VIII. there was no mechanical obstruction in the trachea. It was indeed inflamed ; but the immediate cause of death might be sought in the effusion of the lungs, and the general affection.

that the thyroid veins, and all the neighbouring blood-vessels, could be so commanded, that not one drop of blood should be poured out to embarrass the operator; that the membrane, as it lines the larynx, were extracted; and, to avoid any difficulty from the spasm of the larynx, that a tube were introduced into the trachea, and that the child were breathing through this tube, By what means could we promote the expectoration of the puriform matter which so generally fills the lungs?

Is it a consideration entirely to be overlooked, that the operation is to be performed upon an organ in a state perhaps of high inflammation?

It is alleged, that one child did escape from this operation<sup>6</sup>. When the surgeons of former

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<sup>6</sup> *Burferius*, Vol. V. § ccccxxxvii. *Inſt. Med. Præſ.* Burferius, like every other ſyſtem-maker, muſt depend upon the obſervations of other men for the greater part of the intelligence which he is to communicate; and accordingly he follows Michaelis (ſequar Cl. Chriſt. Frider. Michaelium, qui hujusce morbi hiftoriam præ aliis accuratiſſime conſcripfit, § ccccxxiv.), who has in ſome meaſure made up for his want of experience in this diſeaſe by his induſtry. The imperfect caſe which Burferius gives from his correſpondent Locatellius, cannot be admitted in evidence, until the hiſtory of the diſeaſe pre- viously to the operation be known. That the impreſſion made by this operation upon the mind of Burferius himſelf was very faint, may be inferred from the manner in which he propoſes bron- chotomy. “In extremo ſuffocationis periculo, ſola tracheo- tomia, reliquis irritis ſpem aliquam facit quanquam nec ab omnibus probetur.” *L. c.*



times were performing operations for iliac passion, there may perhaps be an instance on record, where the patient has survived. But surely this would not be reason enough, why such an attempt should again be made. I must still maintain, that it becomes the surgeon, for the credit of his profession, to decline an operation so improbable, and which proceeds from a mechanical and contracted view of the disease.

Dr. Rollo's case, although in an adult, does not invalidate my opinion, that debility of the trachea predisposes to croup; for in his patient, the upper part of the trachea was previously reduced to a state of debility, by a severe attack of catarrh, a precursor to croup, which is daily observable in children.

Before concluding, I may observe, that, in

Were it judged right to perform this operation, a more hopeless way of doing it (so far as I recollect, for I have not the book by me), could not have been thought on. There was a transverse incision made between the second and third ring, and another between the fourth and fifth. Then there were two longitudinal incisions made, one on each side of the trachea, which joining the transverse ones at right angles, freed a quadrangular piece of cartilage two rings in length, and in all probability at least a third of the circumference of the trachea in breadth, which was removed.

I have known this operation performed in two instances, both of which were fatal, one of them under the most favourable circumstances, for the patient was an adult.

the second stage of croup, I have had no success in administering calomel, which I have done in many instances since the foregoing Essay was written; that my opinion of its virtues is diminished by an extended experience of its effects<sup>7</sup>. During the first stage, in violent at-

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<sup>7</sup> The praise given by some physicians to calomel was at a loss to explain, when I found it accounted for in a paper on Croup, by Dr. Ferriar of Manchester (*Medical Histories and Reflections*, Vol. III.), which I lately read with more satisfaction than any thing that I have seen upon the subject. He observes, that "children who are liable to attacks of the croup, are sometimes seized with the deep barking cough, which will increase to such a degree, as to excite much alarm, about the usual time of the dangerous exacerbation; yet it will decrease again, and at length go entirely off, without any remedies but common demulcents. Cases of this kind, I suspect, have been described as genuine paroxysms of croup, and very trifling methods of cure have been recommended, in consequence of their apparent efficacy in the spurious croup, which always cures itself." The spurious croup is that croupy cough which I have mentioned, p. 18.

The only expectation from calomel which occurs to me, is, that it will occasion a new action in the trachea, and thus prevent the disease from running its fatal course to effusion. In this view, calomel can be of no use in the second stage, where the inflammatory action is completed, and where our sole hope is from expectorants. In the first stage, I have given it as my opinion, that the way to succeed, is to endeavour to obtain a resolution of the inflammation; and indeed where there is nothing peculiar in an inflammation, this is a preferable design to that of inducing a new action in a part. The physician whom I have already quoted in this note, says, that the disease will

tacks, I should think myself criminal, were I to neglect blood-letting and the antiphlogistic regimen, in favour of any other measure; for I am more and more convinced, that previously to the formation of the membrane, the disease is certainly to be cured by the means <sup>8</sup> which I

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generally be fatal, if the alarming symptoms be not mitigated within the first six hours. To this I do not accede; for I have more than once relieved children, where croup had come on alarmingly, by bleeding, on the morning after. But I may venture to affirm, that the disease, if not within the twelve or sixteen hours from the invasion of the alarming symptoms, will not be cured at all; and this, doubtless, allows too limited a period for the influence of calomel, which, it is a common observation, is even more tardy in affecting the system of children, than that of grown people. However, should calomel be proposed on any other principle, I shall willingly give it every farther consideration. For the present, I must decline using it, unless in such a variety as is mentioned *p.* 28. *note* 6.

<sup>8</sup> It was stated to me as a serious objection to the foregoing Essay, that, in the cure of Croup, I had brought forward nothing new. This it was not my intention to do. I found the practice unfix'd, when I first enter'd on the consideration of this disease; and my object, in the first place, was to determine, for my own satisfaction, what course I should follow, under circumstances which occurred so frequently. My opinion is established, that this is an inflammatory disease, which, in the first stage, is to be treated by a strict antiphlogistic regimen, by emetics, and the warm bath: When violent, by blisters, large bleedings, and other evacuations, *p.* 24. *et seq.* In the second stage, by emetics, expectorants, and blisters; and that, while we have agents so powerful, we should neither trust to calomel, asafoetida, nor any other drug which has been hitherto

have recommended. But when, by the paleness of the visage, the lividity of the lips, and the ghastliness of the eyes; by the cough evidently becoming more stridulous, although less sonorous<sup>o</sup>; and by the changes which I have pointed out, we discover that the inflammatory stage is over; I have no objection to offer against calomel; so that it does not preclude the use of expectorants, among which I may rank medicated vapours; but I particularly allude to emetics, which I prefer to all other remedies in the complete stage of croup.

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offered as a specific for croup. Should I have been successful in bringing other physicians to think that these are fair conclusions, my object is gained in its fullest extent, and my time has been as usefully employed, as if I had been experimenting in order to produce a new remedy, which, as is shown by daily experience, however excellent in the sense of the innovator, is generally found only to involve the physician in fresh doubts.

<sup>o</sup> A hoarse, deep, barking cough is not so alarming as a shrilly crowing and stridulous one. The latter always characterises the second stage.