tissues with gentleness, yet firmness, neither scratching like a domestic fowl on a dust-heap nor mangling anatomy like the carnivora.

I trust that these few remarks may help forward the plea, not for less science, but for a more thorough training in the art of surgery.

CHRONIC INTESTINAL STASIS IN CHILDREN.*

BY

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CHRONIC intestinal stasis is apt to be regarded as a condition affecting maturity because it is generally after this stage of life has been reached that patients present themselves for treatment, but only a few, if carefully questioned, fail to give a history which leads to the suspicion that their condition started in childhood or early infancy.

Chronic intestinal stasis in children produces ill effects in several ways. In the first place, from autointoxication—the introduction of poisons into the blood stream through the intestinal mucous membrane affecting harmfully all the tissues of the body. These toxins are produced normally during digestion by the micro-organisms naturally present in the lumen of the bowel, and often in addition by other micro-organisms which are able to establish themselves only in the presence of stasis. The mucous membrane of the intestine loses its function of absorbing only those products of digestion needed by the body and allows the absorption of these poisons, which in the natural state are prevented from passing through. In the second place, it produces ill effects by bringing about a condition that leads frequently to infection of the sterile gall bladder and pancreas, and of the appendix, which cannot be claimed to be sterile. In the third place, it produces ill effects in the bowel itself.

The portion of the intestine in which stasis occurs is dilated, and from the constant weight of its contents that part of its mesentery is lengthened, and a loop is formed which tends to gravitate towards the pelvis. Ulcerative processes, often tuberculous, are common, and by many cancer of the bowel is regarded as the end result of stasis.

So great is the misery produced in later life that if, as a result of its study in children, the condition can in some cases be prevented, in some cured, and in others improved, a great advance will be made, and we shall see fewer of those chronic invalids—dyspeptic, neurasthenic, incapable of performing useful work or enjoying active pleasures, with a distaste for food and an abhorrence of sexual intercourse. The earlier this condition is recognized the easier it is to effect a cure, and in some cases in which an operation is called for it is one of less severity than in later years; in far the greater number of cases at an early age an operation is not necessary—other treatment will prevent the progress of stasis and ultimately overcome it.

At no age than that at which the tissues are developing is it more important that they should be supplied with blood free from contamination with these toxins, which are probably absorbed where the stasis occurs in the bowel; the part where absorption is most evident is in the last foot or so of the small intestine. It is usually held that the function of the large intestine is the absorption of water from our digested food, and is purposely designed to promote a certain delay to allow time for this purpose. A great deal of support is given to this by those cases in women where the bowels only act once in every two or three weeks, and in cases of megacolon (Hirschsprung's disease), in neither of which are any symptoms of auto-intoxication similar to those of chronic intestinal stasis found. It is certainly often the case that controls in the large bowel may lead to back pressure in the small, either causing the ileo-caecal valve to be incompetent, or by producing a kink in this position by the drag of a caecum which has descended into the pelvis; in these cases the stasis in the ileum is secondary and not primary.

Chronic intestinal stasis may be classified as:

1. Congenital.

At some point in the bowel there is a shortness of mesentery relative to the rest, producing a kink most marked in the upright position, that portion of bowel being held up by this short mesentery at a higher level than the rest. This kink forms a control to the easy passage of intestinal contents. These congenital cases are most frequently caused by the mesentery of the appendix taking its origin higher up, and preventing the full descent of the caecum from its position under the liver in early life; they may also be due to the mesentery of the appendix arising from an attachment more towards the middle line and controlling the last few inches of the ileum.

2. Acquired.

The kink here producing the control is caused by the formation of bands or membranes. These acquired bands are often developed in conjunction with the congenital variety.

3. Neuropathic.

As this condition does not come within the scope of this paper a short reference to it only is necessary. It is marked by great lengthening of the mesentery and dropping of the bowel, the transverse colon often lying in the pelvis. The length of the transverse and the pelvic colon is increased. Its cause is probably some faulty development of the nerve supply, probably at the point where the splanchnic gives place to the systemic. These cases are those in which the large bowel is functionless, and often calls for colectomy.

In acquired chronic intestinal stasis and in many cases of congenital there are to be found certain bands or membranes connecting the parietal peritoneum which lines the abdominal wall with the visceral peritoneum covering the bowel and its mesentery. These have been described by Lane and attributed to the crystallization of lines of resistance to downward displacement, and at first they perform a useful function by the support they give to the bowel; but later, by the contraction to which all fibrous tissue is prone, they produce a harmful effect by kinking and obstructing the lumen of the bowel. These bands are to be found connecting the parietal to the visceral peritoneum in the following positions: On the outside surface of the caecum, ascending colon, hepatic and splenic flexures, and descending colon; on the under surface of duodeno-jejunal junction, terminal loop of ileum, transverse colon, and sigmoid, and binding together the proximal and distal arms of the hepatic and splenic flexures.

In appearance and consistency they vary; the band may be a thin, transparent, colourless membrane like the areolar tissue found in suet, and, when divided, leave the two surfaces of peritoneum unaltered in appearance and free from bleeding; or it may be a more opaque fibrous membrane with small capillary vessels ramifying in its substance, which on division shows the peritoneum to have lost some of its glistening polish with a few points oozing a small drop of blood; later the bands may contain vessels which require ligature on division.

The formation of these membranes and bands leads first to an obliteration of the original angle at the deflection of the peritoneum from the abdominal wall to the base of the mesentery, until gradually the whole surface of the mesentery and the posterior wall of bowel becomes attached to the posterior abdominal wall, and later this attachment creeps up the side of the bowel until that part which is opposite to its mesentery becomes fixed. At this stage a half-torsion of the bowel is produced. The kinking is thus due to the descent, when in the upright position, of the bowel, which at this point is held up by the shortening of its mesentery and the half-torsion just referred to.

In well advanced cases the extent to which the intestine can be drawn up to an incision through the anterior abdominal wall is dependent on the amount of mobility allowed by the subperitoneal fat to the parietal peritoneum of the posterior abdominal wall and the white line of peritoneal demarcation is seen close to or attached to the wall of the bowel. Careful division of the attaching membrane at this line of demarcation allows this fold of peritoneum, which seemingly is mesentery itself, to retract, and the true mesentery may be dissected out to its original length. The loop of the bowel, which could

* A paper read at the annual meeting of the Kent Branch of the British Medical Association.

only be brought up to the operation wound, may now be drawn several inches out of that wound.

In the under surface of the mesentery of the last few inches of the ileum, and in the same position at the sigmoid flexure, are often to be found in relation to those bands and membranes two conditions which I have not observed in other positions: (1) The controlling membrane near its centre has a flat mass of white fibrous tissue irregularly stellate in shape, with fibrous lines radiating from its many processes in the substance of the more transparent membrane; (2) often when dividing the controlling membrane distinct spaces lined with peritoneum are to be seen sometimes communicating with the general peritoneal cavity by a small opening like a diminutive lesser peritoneal sac, and in some cases a closed space and no communication can be demonstrated. These two conditions, unlike the bands elsewhere, do not lend themselves to the explanation that they are formed by the crystallization of lines of force to prevent descent. They are not to be found in every case—either or both may be present, and always in conjunction with bands as originally described.

The function of a serous membrane is to allow movement between two surfaces and to reduce friction to a minimum. If for any reason the function of a tissue is not performed, atrophy of that tissue occurs and fibrous tissue takes its place. In the case of the peritoneum, the endothelium is lost, and its place is taken by fibrous tissue, and when peritoneum is in contact with peritoneum without movement between its apposed surfaces, fibrous tissues will bridge the potential space.

The functions of the peritoneum are brought into action by the respiratory movements, movement of the bowel by its own muscular action, and movement of the body itself.

Respiratory movements are continuous, and for this reason the most important for our consideration. In inspiration the upper half of the abdominal cavity is increased in cubic capacity, because the downward obliquity of the ribs is diminished and they assume a more horizontal direction; the lower half of the abdomen is correspondingly diminished, the anterior muscular wall below the umbilicus becoming less prominent. The diminishing effect to this increase in the upper half produced by the diaphragm assuming a flatter line during inspiration is relatively small. In every complete inspiration the movable small and large intestine is displaced upwards, and in expiration moves down again. In diaphragmatic breathing pure and simple, without any costal breathing, the opposite occurs. During inspiration the upper half of the abdomen is diminished in size from descent of the diaphragm, and the lower half increases owing to the muscular wall being pushed out, and there is in inspiration a downward movement of intestine, with a slight tendency to an upward movement in expiration. The result is that those segments of bowel lying in contact with the floor and sides of the false pelvis lie stagnant. It is here that these two conditions of stellate fibrous patches and enclosed peritoneal spaces are found.

In a large proportion of cases of chronic intestinal stasis in children it will be observed that their carriage of body is that which is so aptly described by Lane as the symmetrical posture of rest. It is the attitude assumed during temporary tiredness of the trunk muscles, and during permanent weakness or loss of tone. The lumbar curve is diminished and the dorsal increased. The lower ribs are less prominent and their downward obliquity is so pronounced that laterally the rib margins approach the iliac crests and the xiphisternal notch is narrow and long. The upper half of the abdomen is constricted and the lower protuberant. During rest breathing is to all intents and purposes diaphragmatic, and only during exertion does costal breathing come into action to a small extent.

I feel sure that the assumption of this attitude in infancy or childhood lays the foundation of the conditions found causing chronic intestinal stasis, and that its course is progressive, unless means are taken to rectify the faulty posture. Assuming the adoption of this attitude in a child for any appreciable length of time, the intestines, large and small, tend to lie at the lowest point possible, pushed down by the descent of the diaphragm to the extent allowed by the stretching of the lower abdominal wall, and returning on relaxation of the diaphragm by the elasticity of that wall. They lack the greater range of movement imparted upwards by the suction force produced by costal inspiration and downwards by the impulse

of the muscles attached to the ribs during expiration. The effect of this is that the bowel tends to be continually forced down and to drag on its mesentery; where the lines of force are produced, fibrous bands are formed, and in those places where two peritoneal layers are deprived of movement between their apposed surfaces—namely, the under surface of the mesentery of the terminal loop of the ileum with the parietal peritoneum covering the iliacus and psoas muscle on the right side and the under surface of the mesentery of the sigmoid and corresponding peritoneum on the left side—there the peritoneal endothelium will atrophy from disuse of its function and will be replaced by fibrous tissue which will bridge the potential space between the two layers of peritoneum and account for the two conditions—stellate glistening patches and trapped peritoneal spaces.

The difference between nasal and oral breathing is simply one of resistance. If a child breathing through the nose be watched it will be noticed that the chest expands during inspiration by the action of the muscles attached to the chest wall and the abdomen retracts in its lower part. When a child is breathing through its open mouth the chest does not expand, or very slightly, but assumes the position of full expiration. The abdomen protrudes during inspiration as the diaphragm contracts and in expiration retracts. The alteration in the shape of the abdominal cavity and the change in position of its freely movable contents are reversed in the two forms of breathing. This is due to the resistance to the passage of air through the nasal passage being cut out in oral breathing; the action of the diaphragm by itself is sufficient to overcome the lessened resistance. Strictly speaking, costal breathing is always accompanied by diaphragmatic, but the range of movement of the former is so much larger that the latter exerts little diminishing effect. Diaphragmatic breathing may exist without costal.

Mouth breathing in children seems to have a considerable influence in the formation of the controlling bands and membranes of stasis. Nasal obstruction from such causes as hypertrophy of the tonsils, post-nasal adenoids, deflected nasal septum, and syphilitic necrosis, are the most common causes. Of these, enlarged tonsils (with which adenoid growths are generally associated) far outnumber the latter two, and I am strongly of the opinion that they in the first place are not the causes of mouth-breathing, but are themselves caused by mouth-breathing.

Perhaps the earliest cause in a child's life is the use of handkerchiefs for the purpose of cleanliness. A young baby with his first cold in the head fights bravely to keep breathing through his nose, and even when cyanosed from deficient aëration does not adopt the easy alternative of breathing through his mouth. His nose is roughly seized in a handkerchief and squeezed with the object of expelling the mucus, to his great discomfort and annoyance. A little later, when he is beginning to understand things, and put two and two together, another cold in the head comes; again the handkerchief and antagonism. He then learns that mucus expelled by his natural efforts means physical discomfort by its being wiped away with a handkerchief, and learns to retain the mucus by the simple means of breathing through his mouth and allowing the nasal passages to fill up.

Loss of muscular tone is certainly a frequent cause of mouth-breathing, and occurs after some acute febrile illness, rapid growth, and the result of sitting in faulty positions for long periods during lessons, etc. Rickets, anaemia, and similar conditions also produce the same effect. When muscular tone is lowered the muscles of the trunk which actuate chest breathing are tired, and not only does the child hold himself badly, but he learns that it requires less effort to breath through the mouth.

The tonsils are probably designed to deal with micro-organisms in the mouth, and not with those borne by the air. Their follicles become infected when constantly subjected to infections from the air and hypertrophy follows, pushing up the soft palate and obstructing the posterior nares. Adenoid growth develops when the normal ventilation of the nasal passages is lacking, and infection from the tonsils spreads to the posterior nares.

The symptoms of chronic intestinal stasis are many and varied in different individuals. This is not surprising when we consider that the symptoms are due to auto-intoxication, and that the toxins formed in digestion probably differ somewhat in individuals, not only from the

class of food eaten, but according to the length of delay in the bowel proximal to the controls, allowing fermentative changes to proceed to a further stage. Also in others, owing to the delay in the effluent, micro-organisms other than those usually found are enabled to flourish. The site of absorption may exert an influence on the nature of the toxin. With evidence that the toxin absorbed differs, it follows that the symptoms will vary according to the tissue most affected by the particular toxin absorbed. There is one type of individual markedly tolerant to the action of intestinal poisons, and in whom a great degree of auto-intoxication may exist without any of the cardinal symptoms being apparent. These people have red or fair hair, and in them the loss of fat, the skin changes, and the mental disturbances are slight, but the circulatory are in evidence. Persons with dark hair go to the other extreme and exhibit little resistance to this toxæmia.

By far the greatest number of symptoms are due to the auto-intoxication, and the first four mentioned below are so generally found together that they may almost be called the cardinal manifestations of intestinal poisoning.

1. Skin Changes.

Generally the skin will be found to be thin, loose, and to have lost its elasticity; when two points are approximated by pressure between the finger and thumb a peculiar morocco-leather-like wrinkling is produced. There is pigmentation, especially of the exposed face and neck, and on the body most marked where pigmentation is natural. There is often a noticeable growth of down-like hair over the whole surface of the body. The skin is often clammy, and the sweat offensive and objectionable in odour.

2. Loss of Fat.

There is a great deficiency of fat in the whole body. This is especially marked in children and in women. The subcutaneous fat may even be non-existent, and that in the position of the buttocks, breasts, and pubis very deficient. The peritoneal, mesenteric, and pelvic fat disappears and allows the kidneys, intestines, and pelvic organs to be displaced downwards, the intestinal displacement accentuating any kinks existing.

3. Impairment of Circulation.

There seem to be two types corresponding to the effect the toxæmia has produced in the muscular wall of the heart: in the one the hands and feet are cold and white, and the pulse is high tension; in the other the hands and feet are livid and blue, and the pulse tension low. In the latter case there is cyanosis, produced by the breaking down of the red blood corpuscles. Periods of clamminess often supervene. Chilblains are common.

4. Nervous Manifestations.

In children there are periods of moodiness or depression, when they often avoid the society of other children, alternating with excitability; the child is said to be highly strung. Headaches in the form of migraine with vomiting are common. The children are bad sleepers and when they sleep soundly always wake the worse of it. Later in life the diagnosis generally made is "neurasthenia." The depression takes the form of the feeling that everything must go wrong in the future, and becomes melancholia; suicidal mania and imbecility may supervene.

The effect of auto-intoxication on the muscular tissues is that the muscles are soft and flabby and there is a feeling of tiredness and disinclination for any exertion. It is due to this that the symmetrical posture of rest is assumed, which very likely later may become asymmetrical owing to lateral curvatures, etc. As a result of muscular weakness there is produced a condition of loose joints, the range of movements of joints being greater than normal; this is very noticeable in hyperextension of the elbow and lateral flexion of the knees. In children the heart muscle is soft and flabby and the pulse tension low. Slight exertion induces breathlessness and palpitation with irregular heart-beat. Later in life this condition is more confined to women; in men hypertrophy of the heart muscles with high-tension pulse is found. The thyroid gland is affected in adults, and probably in children also; this is shown by the deficiency in growth so often met with.

Another set of symptoms is due to the mechanical effect of the stasis itself. The common forms of indigestion—

flatulence, heartburn, hiccup, pain—are all due to retention of food in the stomach and duodenum, consequent on their refusing to pass their contents on before the small intestine has emptied itself. The constant retention of food in the duodenum leads to dilatation, and large congestive hæmorrhages occur. Hæmatemesis of large amount is nearly always a congestive hæmorrhage and not due to duodenal or gastric ulcer.

Frequency of micturition is a common symptom in children, and is, I think, due to the terminal loop of ileum sagging into the pelvis behind the bladder; the repeated peristaltic waves of this congested portion of bowel endeavouring to empty its contents into the caecum cause a sympathetic contraction of the bladder. These are the cases in which there is no evidence of cystitis.

Complications.

Complications are produced by the spread or advent of micro-organisms to different parts of the body, either due directly to the stasis or to the lowering of resistance caused by the auto-intoxication.

Pyorrhoea.—It is very doubtful if this can exist except as the result of stasis, and when we consider how a single indigestible meal will be the cause of a dirty tongue and foul mouth it is not surprising that a condition like stasis will cause this micro-organismal invasion between the gums and alveolar processes. By removal of the affected teeth a secondary source of infection is removed and the balance may be restored, a great improvement in health taking place, but the primary condition of stasis remains to break down the restored balance later.

Infection of the gall bladder and its duct, leading later to gall stones. In children this is generally termed catarrhal jaundice.

Infection of the pancreas probably occurs and gives rise to its particular symptoms of indigestion.

Infection of the appendix is perhaps the commonest. First, catarrhal attacks (appendical colic), and later spread of infection to the muscular wall and covering peritoneum (true appendicitis). The majority of cases of appendicitis are associated with stasis and may arise in one of several ways: As a result of a spread of infection to its lumen in the presence of stasis, or the entrance of a foreign body or faecal matter into a patulous appendix produced by such infection. As a result of a kink in the appendix owing to its mesentery being so attached that should any enteroptosis develop a flexure is formed in the appendix by suspension on its tight mesentery, the distal part of the appendix becomes filled with its secretion, which leads first to catarrhal changes, and later to more deep-seated inflammation. Torsion of the mesentery of the appendix may produce gangrene from interference with its blood vessels in much the same condition of mesenteric attachment as the former. In the last two conditions, the short appendical mesentery associated with enteroptosis will have also formed a control in the last few inches of the ileum. The removal of an appendix without recognizing that the appendicitis is but a secondary condition, although one of immediate danger to life, often saves life, which is at the best one of misery, whereas attention at the same time to the primary condition would have rectified this.

Mucous colitis is a very common complication in children.

Another group of complications arises from the resistance of the body being lowered to other infectious micro-organisms, such as staphylococcal infections of the skin in boils and acne; infection by *Staphylococcus citreus* in Still's disease; osteo-arthritis of the joints; tuberculous lesions of every form; infections of kidney and bladder by *Bacillus coli*.

Diagnosis.

Inspection of the abdomen in typical cases will show that it is narrow, flat above and protuberant in its lower part. One or two permanent transverse wrinkles of the skin above the umbilicus are often to be seen, and one, rarely two, half-moon shaped wrinkles, with the concavity looking upwards, below the umbilicus. I have seen these wrinkles in a few cases of cystitis, and their formation is doubtless due to a tonic contraction of the muscles of the anterior abdominal wall, due to some constant tenderness of the intestine or bladder, such as the congested loop in stasis, or the tender bladder in cystitis. The contraction of the anterior muscular wall lessens the distance between

the lower ribs and pubis, and the skin is thus thrown into transverse folds.

The right side of the abdomen is more resistant than the left, and there is some muscular rigidity in the right iliac fossa guarding the tender appendix and terminal loop of the ileum. There will be marked tenderness on deep pressure one or two inches below and internal to MacBurney's point over the congested loop of ileum, and, if the appendix be inflamed, also at MacBurney's point. There is often tenderness over the duodenum.

There is one method of examination by which not only can the existence of stasis be confirmed, but the period of time occupied by the passage of food through any particular portion of the bowel ascertained, together with a good deal of information concerning the condition of the appendix and amount of fixation of the intestines at the kink, and also the state of the mucous membrane and patency of the ileo-caecal valve to backward pressure. This is by means of a bismuth or barium meal with x-ray examination.

Treatment.

In children prevention should be our first aim. The maintenance of the correct posture comes before all else. Should there be at any time from any cause a tendency for the symmetrical posture of rest to be assumed it must be checked. Rest, physical exercises, tonics, change of air, must all have their appropriate use. It is important to impress on the child's mind how to hold himself properly; it is not sufficient to tell him to sit up straight or to put his shoulders back, because in attempting to follow either of these two instructions his mind will be concentrated on one action which does not necessarily produce the correct balance of the trunk. If, however, he be taught to hold the lower rib margins prominent to such a degree that if he accidentally collides with a half-open door that is the part he strikes and not his head, the natural curves of the spine are assumed and everything falls into line. Any sign of mouth-breathing should be investigated and the cause removed, as by enucleation of tonsils and removal of adenoids.

When stasis already exists, and the symptoms of auto-intoxication are recognized, should careful examination point to a congenital cause, such as an appendical control, an operation is called for. The appendix should be removed with its mesentery in such a way that the control is relieved. There should be no delay; the earlier it is done the less will development be interfered with by the toxæmia, the less risk will there be of an acute attack of appendicitis intervening prior to the operation, the more easy will it be to break the habit of absorbing poison which the bowel has acquired, and the fewer adventitious bands and membranes will have formed in conjunction with this form of control.

In the acquired form operative interference should be avoided if possible, but each case must be judged on its merits. There is no disease in which vicious circles within vicious circles are more evident, and the problem of the correct point at which the circle should be broken is not always an easy one. Perhaps the original cause of one case was the loss of muscular tone produced by some acute specific fever which led to the child adopting mouth-breathing and using the diaphragm only; infection of the follicles of the tonsils from air-borne micro-organisms followed, causing hypertrophy of those organs, and post-nasal adenoids, which in their turn permanently established the mouth-breathing. This state existing over a length of time leads to adventitious bands and membranes, producing kinks in the intestine directly producing stasis and auto-intoxication. The auto-intoxication produces certain muscular degenerations which set the seal on the chance of recovery of the muscular tone. It is not sufficient here to break the circle at one place and remedy the stasis; the obstruction to nasal breathing must be relieved as well.

Nasal obstruction must be dealt with, and a free airway established through the nose. Liquid paraffin should be given before each meal to act as a lubricant and render the passage of the food more easy. Opening medicine, in the form of aperients, purgatives, cathartics, etc., should be avoided, except in the form of an occasional dose for some special reason. Their action in stasis is like flogging a tired horse—the loop is stimulated by irritation to a special effort, and left more paralysed than it was before.

The objections raised to paraffin are the frequent actions sometimes produced, the leakage of oil by itself soiling the clothes, and the flatulence provoked. It is as well to impress on the parents that frequency of action due to paraffin does not weaken like diarrhoea, and that the remedy for all these discomforts is to increase the amount or number of doses. Two big loose motions a day should be aimed at, one in the morning, and one towards evening.

Agar-agar mixed with semi-solid food is useful when the point of stasis originates at the sigmoid, and is most marked there. It acts by its affinity for water producing a jelly which, intimately mixed with the faeces, forms a bulky soft motion easily passed through the large bowel.

An abdominal support which keeps out of the pelvis the sagged portions of the bowel in which stasis exists is of the greatest use. Most children themselves recognize its value, and refuse to be without it once they have learned to put it on properly, and even face the ridicule of their schoolfellows rather than give it up.

An hour's rest in the recumbent position in the middle of the day will often help in a wonderful manner. A kink is always accentuated in the upright position, and lying down in the middle of the day breaks the long day in which the trunk is vertical and allows the loop to empty its contents, whereas in the ordinary routine the loop would not empty itself until the recumbent position was resumed at night, and many hours of absorption are thus prevented.

Should these means fail or not suffice after due trial, operative measures will be necessary. The abdomen should be opened and the condition dealt with as found. In dealing with and removing the cause of the kinking, the experience, knowledge, and adaptability of the surgeon becomes the main factor, and it is useless to attempt to describe any set operation for this. The onset of any complication, such as arthritis, tuberculosis, bacilluria, jaundice, is generally an indication for operative measures.

It should be very clearly understood that after an operation for stasis has been performed, however successfully the bowel has been freed from all controls, means must be taken to prevent the original cause or causes from becoming operative again.

Attention must be paid to the non-operative treatment where indicated, and always paraffin should be given for six months to a year. Those portions of the bowel where stasis existed will tolerate delay from custom, and, having acquired the habit of absorption, both the custom and the habit have to be broken; in the same way after the enucleation of tonsils and removal of adenoids, it is necessary to break the habit of mouth-breathing, and unless that is done nasal breathing will not be resumed although the airway is patent.

HEALTH RESORTS FOR THE DIAGNOSIS AND TREATMENT OF CHRONIC AND FUNCTIONAL DISEASES.*

BY

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In discussing the function of health resorts there is both their use for the poorer classes and their use for the well-to-do and leisured classes to be considered. Whether there should or should not be any differences in the employment of health resorts for the two classes I cannot discuss here; the differences exist, and must be accepted for practical purposes. I shall deal with the subject only in respect of the well-to-do classes, and as far as possible I will avoid discussing the important points clearly and ably put forward by Dr. C. W. Buckley in his paper before this Society on March 6th of the present year.¹ Some of my ideas may perhaps be at once relegated by my colleagues to the realm of any good or bad "Upoté"† or "Utopia."

* A paper read before the Balneological and Climatological Section of the Royal Society of Medicine.

† An "Upoté," or, as the learned Erasmus suggested, an "Ondé-poté," means a Never Never Land, practically, of course, the same as a *Nowhere Land*, that is, "Utopia" of Sir Thomas More. "Erewhon" of Samuel Butler.