a good summary

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A Dissertation on

Dysentery by Edwd. Hogan.

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Dysentery.

Dysentery is one of those diseases the pathology of which has remained involved in so much obscurity - and even in the present day remains a problem still to be solved. It seems remarkably strange to think that those who ought to have been the very ones to have enlightened the medical world concerning its pathology viz the medical men of the tropics; have instead of this only thrown more obscurity upon it, for instead of combining their different experiences & thus coming to correct conclusions, each one has set goose quill to paper and described his own individual cases & would have every one to believe his was the correct idea, and that the disease exists everywhere else in the same form as it does in his own limited sphere of action. It can be readily conceived that to come to the correct knowledge much of its pathology must be

Sweeping attack

anything but an easy matter seeing that it varies so much in different countries and localities, as for instance the sporadic cases which occur in our towns, differ widely from Epidemic attacks, and these again even more so from that which exist in tropical climates. The mortality from dysentery exceeds that from any other disease in warm climates. It is it which for ages has been the distinction from time to time of the flower of our armies and fleets in foreign stations. It followed the armies which traversed Europe during the continental wars of the past 200 years. It was it which partly distroyed the English troops in Holland in 1793, and the French, Prussian & Austrian armies in 1792. Various other instances of its ravages might be enumerated, but this will suffice at present to show the distructive nature of the malady. Sir Ranald Martin remarks concerning this disease in the following words "it is the disease of the famished garrisons of besieged towns, of barren encampments and of fleets navigating tropical seas, when fruits & vegetables cannot be procured. During the peninsular wars, the first Burmese war and the late war with Russia, dysentery was one of the most prevalent & fatal diseases which reduced the strength of the armies." About 200 years ago dysentery was one of the most-

formidable disease existing in London, but since the year 1852 the mortality from it has diminished greatly. But although the disease has diminished as regards its frequency of occurrence yet those cases which do still occur from time to time do not differ in character from those discribed by Sydenham 150 years ago. Seeing then it has existed for so long a time, it seems the more strange how such a variety of opinions have been and are held by medical men as to its pathology so much so indeed that Dr Hardy remarks that in the various discriptions given by them, they scarcely agree in any one point Excepting in the name. Cullen has discribed it as the following—
"Pyrexia contagiosa dejectiones frequentes mucosae vel sanguinolentae retentis plerumque facibus alvinis, tormina, tenesmus"— This definition has been however objected to by many writers, particularly the first part— Ballingal denies the propriety of calling it "contagiosa" so do also Johnson, John Hunter, Zimmerman and many others who are entitled from their Experience and eminence to some consideration & Credit, while on the other hand it has been supported on the authority of Sydenham, Van Swieten, Degner and many others Equally eminent physicians, who have maintained "that dysentery in its very essence possesses a specific contagion."

Lascombe in his treatise upon the health of soldiers remarks "I have seen dysentery attack great numbers at its first appearance" this statement we feel very much inclined to think argues some other cause than mere contagion — Again in Somers medical suggestions for the treatment of dysentery he says "the almosphere of a crowded hospital unless very frequently changed and renovated by ventilation soon becomes loaded with human effluvia and generates the contagion of typhus. The patients labouring with dysentery are highly predisposed and susceptible of infection under such circumstances and often fall a sacrifice to the double infliction". The presumption then seems to be in favour of its not being contagious although in the case of armies encamped in the neighbourhood of low marshy grounds where noxious exhalations and vapours exert their malign influence or where unwholesome food or bad water are only attainable, it has been known to prevail epidemically — Indeed wherever it makes its appearance in such or similar circumstances where large bodies of persons are crowded together its ravages are sometimes so tremendous, its victims so numerous, that they may well justify or account for the belief of its contagious properties — Also when we look into the history of the disease and its different lesions, to its appearance amongst ourselves in this country from time to time having

the same character it had 200 years ago, there seems to be a strong reason for believing that there is something specific in the nature of the dysenteric poison just as in Typhus or Typhoid fever - Annesly mentions that within the space of 5 years no less than 4000 persons were attacked during the hot season in Bengal; and during the seven months stay of the 30th Regiment in India 490 men were seized. In the year 1807 the madras army lost 5715 men, similar Epidemics to these happening in different parts of Europe have been mentioned by Curtin, Morton, Pringle and many others whom we might quote - Dewar in refering to the Epidemics occurring in hot climates and military campaigns says "that this fact of itself does not argue that dysentery is propagated by contagion" for the prevalence may be accounted for partly by the application of the same causes of disease to a number of individuals together - This writer seems to entertain no doubts as to its contagious properties for he says in another part of his book "Patients and attendants may be seized with bowel complaints from a pollution of the air, caused by wounds, bad ventilation and other causes distinct from dysenteric effluvia, but that the effluvia of both "diarrhoea and dysentery" certainly have a peculiar tendency to produce a morbid affection of the bowels." Dewar though believing in the doctrine of contagion, denies

that the contagion is contained in the perspiration or is propagated by being absorbed by the Skin, as Zimmerman would have it; but rather believes that the specific poison is contained in the faeculent stools and operates in the form of Exhalations which affect the mucous membrane of the anus and rectum or the organs of Smell and taste; he also believes that it may be partly due to the air expired by the lungs and the eructations of gas from the stomach. Having thus briefly considered the word contagiosa, we come next to the word "Pyrexia" which begins Cullens definition. The propriety of calling dysentery a pyrexia has also been much questioned, but the only resolution to the difficult problems we believe to be as Dr. Hosty has declared viz "that genuine and simple dysentery is unattended by idiopathic fever and is never of itself contagious, every other form of the disease when Epidemic is a combination of the simple dysentery either with intermittent, remittent or Typhus fever of which the last mentioned fever is alone contagious. Ballingal seems to be very much of the same opinion, for he remarks "that the disease as it occurs in India very often makes rapid progress & Executes serious and irreparable injuries to the intestinal canal before any symptoms (urgent) of pyrexia become either distressing to the patient or conspicous to the medical attendant."

Therefore from what has been just stated it would appear that simple dysentery is not necessarily attended by any pyrexia. We shall next proceed to consider the causes of dysentery. The predisposing and exciting causes are generally enough known, but as to the proximate cause it is more difficult to arrive at a decision - By some authors it has been assigned to an inflammation of the mucous membrane of the intestines; by others again to stictures in the colon or some other part of the intestinal canal, conclusions arrived at from observing post mortem appearances, but which ought properly to be recognized as effects and not causes - Arkenside and others call it a "Rheumatism of the bowels" and Sydenham a "febris controversa" an Explanation which certainly might be more Explicit - Johnson assigns it to an equilibrium in the balance of the circulation and explains it thus "the superficial vessels becoming torpid or contracted, the volume of blood is directed to the interior, it meets a further check on arriving at the Liver where the extreme or secreting vessels are in a corresponding state of torpor - The effect of this is that plethora in the cæliac and mesenteric circles is now greatly augmented and febrile symptoms ensue - The perspiration being stopped a vicarious discharge of mucus and acrid serum is thrown from the extremities of the turgid mesenteric vessels upon the internal surface

of the intestines, which by this time is a state of irritability- It now says he, that nature attempts to restore by reaction- Thus we sometimes see a partial ill conditioned sweat upon the surface which is productive of no benefit, which from the liver an occasional secretion of vitiated bile throws the irritable intestines into painful contortions and then the tormina and tenesmus are insufferable"- Zimmerman as we have mentioned above attributed all the tormina and ulcerations, which occur to the vitiated bile and consequently fixes upon this as the proximate cause. We may here remark that the want of copious liquid stools and the severity of the tormina and tenesmus besides other features serve to distinguish dysentiry from diarrhoea with which when very severe it is often confounded- while the first of these symptoms and the absence of vomiting clearly distinguish it from Cholera for which it has also been mistaken-

Before enumerating the exciting and predisposing causes it is necessary to state that it is of the utmost importance that the difference between an exciting & predisposing cause be distinctly understood, as neglect of this precaution has led to much confusion regarding the etiology of this disease-

I "Exciting Causes." The most frequent exciting causes are those states of the surrounding atmosphere by which the temperature of the surface of the body is apt to become

suddenly and to too great an extent suppressed - These atmospheric states consist of lowness of the temperature of the air, and also on account of it containing much moisture. Of course these states may be are much favoured by the person or persons exposing themselves imprudently. Again excesses in diet and the use of unwholesome food both render individuals more susceptible of the disease - Annesley places amongst the exciting causes faecal accumulation in the large intestine, the presence of which he says is very often the means of exciting the malady - From this assertion Dr Morehead & Mc Kinnon differ, indeed so much so, that they doubt the frequency of faecal accumulation as a pathological state in India - Dr Morehead is also very desirous that investigations should be made as to this point, for he says the idea of faecal accumulation has been the cause of much injury, by practioners giving to their patients large doses of Mercury and other purgatives for the purpose of clearing out the intestinal canal and thus getting rid of the offensive material -

II "Predisposing Causes" It is evident that before we can rightly appreciate the exciting causes, we must first inquire into the habit and constitution of our patients previous to their attack. The European for instance who for first time lands in a tropical country, experiences the great difference between the temperate climate of his native land

and that of the one he has just adopted. His constitution is not as yet adapted to the warm climate and consequently he must suffer much from the exhausting effects of Elevated temperature or from the want of adaptation of food and habit to the altered assimilation and elimination of the climate. All cachectic states predispose to the disease and when this is strong the exciting cause may be very slight indeed in its nature - The most frequent form of cachexia is that which is brought on by having lived much in malarious districts and from having suffered from malarious fevers. Various other causes (predisposing) may be enumerated such as excesses in the use of wine, spirituous liquors or tobacco. The use of impure water, fatigue and privation and diseases of the Liver and Spleen - When therefore these causes are taken into account it can be easily imagined how soldiers on actual service and in their everyday life being exposed to such injurious influences suffer so much from this "de facto" army disease -

"Symptoms" In whatever way Acute dysentery or as Ballingal terms it Colonitis may be excited it generally commences with symptoms somewhat similar to a common diarrhoea - These however vary according to the part of the intestine affected by the inflammation but in the severer forms the entire canal almost is implicated - It generally commences with a relaxed state of the bowels, their faeculent stools accompanied by severe griping pains and uneasiness in the region of the abdomen -

At this stage it is generally supposed that the intestinal mucous membrane is only slightly increased in vascularity and as this goes on increasing the symptoms of the acute disease begin to show themselves more distinctly - The frequent calls to stool attended with loose discharges produce in the unfortunate sufferer a most uncomfortable feeling - The pain which before was only griping becomes now very severe and of a shooting or cutting character accompanied by a sense of heat about the rectum and pain extending up into the hypogastrium. These symptoms all increase towards night and early in the morning, leaving behind the sensation as if there still remained something more to be expelled - The faeculent stools present various appearances and differ much as to their consistence consisting sometimes merely of clear mucus more or less tinged with blood; at other times mixed with these bloody mucus discharges there is more or less faeculent matter which is generally thin and of various colours, being sometimes natural and at other times greenish and of a gelatinous appearance - Again we may have them assuming the appearance of a slimy oil paint which are of different colours, greenish, yellowish, and streaked with small patches of blood. The latter kind of stools are passed without much tenesmus - Dr Morehead seems to lay great stress upon the diagnostic value of these different kinds of stools, for he says "they all indicate that the inflammation has

not passed on to its advanced stages." He adds further that if the evacuations are of the first-mentioned kind viz if the stools consist of thin mucus tinged with blood and are passed with much tenesmus, then they proceed from the lining membrane of the rectum and lower part of the bowel, and is wholly unconnected with the small intestines. But if the stools be copious and mixed with thin faeculent matter and passed with little tenesmus, then it shows that the greater extent of the large gut is affected, because along with these discharges more or less of the natural excretion is passed. With regard to the greenish gelatinous stools mentioned by various authors, he seems to view them more in the light that they are caused by the excessive use of Eliminants them being the true symptoms of the disease— While here discussing the subject of stools, we may as well mention a very common, if not invariable characteristic of the dysentery of this country viz the occurrence of Scybala. The feature contrasts the dysentery of this country, very remarkably with that of the tropics— Ballingal and others have stated its rare occurrence in tropical dysentery— When Scybalae do occur says Morehead it is only in that form of the disease in which the bowels are at first constipated and then become relaxed, and when there is a feeling of fulness in the course of the large intestine followed by mucus and scanty evacuations— The pain in the region of the

Colon which has been mentioned is generally present when the tormina and tenesmus are violent - Practioners ought to be very careful in diagnosing the proper nature of this pain as it may be due either to partial or true peritonitis, the former resulting from inflammation of some neighbouring tissue or organ - The latter indicating that the case is one of very great danger, and most probably arising from a sloughy condition of the mucus membrane of the bowel which may finally terminate in perforation - Sooner or later the evacuations become more frequent and less copious and consist chiefly of mucus and blood which the soldier terms "bloody slime" - Morehead declares these symptoms may be true enough when the sigmoid flexure and rectum are affected, but when the inflammation is situated higher up then this, as in the case of Indian dysentery, these symptoms are not so prominent - The more general symptoms commence with a whitish coating on the tongue, which when the disease advances becomes very red and glazed - In the early stage the heat of skin or symptomatic fever is but very slight or altogether absent even when the disease is in its acutest form - In other cases again we may have the occurrence of chills and in a short time the skin becomes parching hot or covered with profuse clammy sweats; the pulse being sometimes only very slightly quickened is full bounding and gives a peculiar thrilling sensation to the finger applied over it - The evacuations are now frequently passed involuntarily and have

a peculiar intolerable fœtor, also having the appearance as if mixed with shreds of mucus membrane and quantities of purulent matter - Dysuria and retention of urine are very frequent concomitants of the acute form, and may be either due to the irritation going on in the rectum or from inflammation of the serous covering of the bladder causing paralysis of its muscular walls - In some cases Prolapsus Ani takes place, and more rarely portions of the mucus membrane of the intestines (to the extent of several inches) have been thrown off in a state of mortification. Recoveries have been known to take place even after the disease had advanced to this stage, but more frequently the pulse begins to sink, pain ceases, delirium sets in along with distressing vomiting and hiccough, and at length death closes the scene and relieves the sufferer from his wretched Existence. These then are the general symptoms, but of course they vary according to the treatment and other circumstances such as age, constitution, season, habits and the force of primary causes - When the disease is accompanied with high fever this affords a strong presumption that it is not simple, but complicated with some of the malarious fevers more especially the remittent form - When the evacuations contain large quantities of dark coloured bloody matter, they constitute that form of the disease to which authors have given the name of Hæmorrhagic - This form generally coexists with a gangrenous state of the bowels or with disease of the Liver, especially Cirrhosis -

Haemorhage may and does exist without ulceration whence it appears to be exuded through the walls of the congested bloodvessels of the intestines – What has already been said regarding the circumstances which regulate the severity or mildness of the symptoms applies Equally to the duration of this disease – It may terminate either in perfect health or in death in from 3 to 15 days, sometimes in from 9 to 15 and again it may be twice as long but this very rarely – When death takes place rapidly says Morehead we may assume that the inflammation has been Erysipelatous in character and has led to extensive gangrene of the mucous membrane, while on the other hand in those by whom these several stages have been passed through more slowly, we may infer that the morbid state has been thickening, exudation, gangrene and sloughing of the transverse or other shaped patches of membrane –

Having now given a short and imperfect sketch of the acute form, we come next to consider the Chronic –

"Chronic Dysentery" or as it has been called by Ballingal and others the "Hepatic Flux" may be either the result of an acute attack or be chronic from the commencement –

This form (says the author just mentioned) is peculiarly incident to men who have lived for some time in a warm climate, and who from habit and constitution are less liable to inflammatory attacks or diseases, but are more prone to irregular and dis –

rdered secretions of the bile - Europeans returning home after a long sojourn under a tropical sun, are very often the victims of this form of the disease, which proves itself to be one of a most intractable and unmanageable nature - This like the acute commences like diarrhoea, the other symptoms only varying in degree from those of the acute -

"The sufferer says William Ferguson presents a spectacle of distress of as pitiable a kind as can be found in the history of human misery" -

After the Diarrhoea is characterized itself by frequent and severe fits of griping resembling colic pains, near the umbilical region, each attack of which is succeeded by a call to stool -

The Evacuations from the very commencement are generally of an unnatural colour varying from the darkest inky hue to the different shades of green and yellow sometimes these colours appear alternately - The stools may also present a frothy appearance, when this is the case the discharging of them is accompanied by the passing of a copious quantity of flatus attended by a sensation of scalding about the anus - After each call the patient feels considerably relieved and hopes to enjoy a long interval of repose, but alas the recurrence of the griping and rolling of gas in the intestines (the latter being quite audible) succeeded by an other summons to stool give the unhappy patient but little respite - So very distressing are these incessant calls that Ballingal states that it is anything but uncommon for the soldiers who are

attacked by this complaint to carry a mat with them to the water closet and to pass the night there instead of running backwards and forwards to the barrack room - From the commencement the patient complains of a more or less squeamishness, loss of appetite with great thirst and bad taste in the mouth. Tongue furred and occassionally covered with a yellowish mucus crust. Pulse quick and the skin parched and hot - After these symptoms have lasted a day or two the stools become whitish in colour and mingled with portions of half undigested food and are passed with great straining, this is what the soldier calls "white flux". The griping pains still continue with permanent oppression about the Epigastrium - The nausea and loathing for food accompanied by hiccup and bilious vomiting are very troublesome - This constant retching and vomiting are very annoying as generally food and medicines are ejected almost immediately after they have been swallowed - Thirst becomes urgent - The weakness and languor increase - Pulse quick and the skin becomes of a peculiar greasy feel - Under these symptoms more or less modified by constitution and local situation, the patient may continue to labour for weeks and months, and if they do not directly prove fatal, they at all events irreparably injure the constitution and waste the remaining strength by its long duration - When it proves fatal, it generally does so by the formation of an hepatic abscess or by ulceration and mortification in the course of the colon -

Ulceration is an untoward event and therefore great vigilance is required in order to watch the approach of its symptoms, a task anything but easy to perform seeing that the symptoms are not at all well marked. The occurrence of mortification may be diagnosed by blood being in the stools and other symptoms of Colonitis which have been already mentioned. From this brief account of Chronic dysentery it will be observed that appearance and character of the stools and the slight degree of pain in comparison to that which occurs in acute D. as also its long continuance are the means by which the Chronic is distinguished from the acute.

"Morbid Anatomy" It is a curious fact and one concerning which nearly all authors agree, that though the dysentery of this country varies so much from that of India as far as symptoms are concerned, yet that the morbid changes are very similar. Chomel and his disciples believed the local lision to consist in simple congestion and tumefaction of the mucus membrane, Especially in patches of some extent so as to form ~~patches of some extent~~ pimple or red prominences from the surface of which the epithelium was detached. Cruveilhier again believed to consist of an erythematous inflammation of the large intestine which was speedily followed by Sphacelus, and he denies that the follicles and solitary glands have anything to do with the disease as he says "It is not a follicular inflammation". Rokitansky includes both of these forms as being Essential, and that the disease as described

by those writers who have been mentioned, is looked upon as a process of rapid inflammation which being at first superficial leads on to suppuration and mortification sooner or later but is unattended by any special lesion of the solitary glands. Rokitansky also states "that even in the very slightest variety of dysentery the mucous membrane is red and swollen and may be removed in the form of a pulp from beneath the superficial and vesicular epithelium - In the after stages and in the severer forms the mucous membrane becomes gelatinous and is easily separable or it passes into a state of sphacelus black friable and offensive." These different statements are anything but satisfactory and it is to be feared that things would have remained long in this state, had it not been for the careful observations of Dr. Parkes contained in his treatise on the dysentery and hepatitis of India - The observer pointed out that the glandular apparatus of the large intestine was very early implicated in the disease, and that though ulcerations occur very rapidly, yet a case never presents true dysenteric symptoms unless ulceration is present - After investigating in 1843-44, 500 cases of dysentery in Europeans and 20 in Asiatics he arrived at the following conclusions -

1. That certain alterations in the glands of the mucous membrane of the large intestine, and sometimes in the Ileum constitute the earliest lesion in dysentery -

2. That in all cases when to far advanced, the mucous membrane presented the appearance of numerous whitish round elevations of a size varying from that of a millet seed to that so minute that a lens can only show the lesion. The elevations were hard and being pierced gave forth a white syrelion, many of these had a black speck in the centre and were surrounded by a vascular circle.
3. That the exudation sometimes occurred in point beneath the mucous membrane, that such points had a whitish appearance with contents like those of the solitary glands. When the mucous membrane was removed an ulcer remained. The roundish elevations seen by Dr. Parkes have been confirmed by others such as Dr. Craigie, Cheyne and Abercrombie, as also the softened state of the mucous membrane and ulcers which seem to be nothing more or less than the result of inflammation of the solitary glands, and which appear after the sloughs have separated. Sir John Pringle and Broussais describe the same appearances seen in the dysentery which occurred during the continental wars, and they have no doubt but that the ulcers of the large intestine originated in the solitary glands. Munro, Watson, Baker, Clark, Hunter, Baillie &c all subscribe their testimony to the existence of these minute points, tubercles or pustules (as they have been variously designated) in all their post mortem Examinations —

These tubercules were not seen however in the camp dysentery of 1743, but in nearly every case of the London dysentery - The hard pustules seem to be (as before mentioned) the muciparous follicles enlarged and indurated and hypertrophied by inflammation - Hunter in his observations made in Jamaica makes out that these pustules are true pustules although they contain no purulent matter - He describes them as seated under the villous coat, and that each pustule is at first small red and roundish and about the $\frac{1}{10}^{th}$ of an inch in diameter, and that it generally enlarges gradually until it attains the diameter of a $\frac{1}{4}$ of an inch - At this stage a small crack with a slight depression appears on the top and gradually enlarges - The contents seem now to be cheese like, as the opening enlarges the edges become more prominent and matter tinged with blood oozes out from it - Such is the progress of one pustule, but numbers are aggregated together so that they coallesce and form an extensive ulcerated surface - The general appearances found are the following; On opening the Abdomen very often a quantity of serum will be found collected within the cavity, but this depends upon whether there has been peritonitis or not, a lesion very seldom absent especially when ulceration has gone on to perforation - The omentum becomes greatly diminished in size, frequently however it is much thickened and interspersed with numerous vessels turgid with blood of a dark venous colour, and is very readily torn - In cases of a Chronic nature it is found thick and

transparent and totally devoid of fat - Sometimes it adheres with great firmness to portions of the intestines being the means occassionally of closing up ulcers - Folds of intestines are also found frequently agglutinated to one another and sometimes to the Liver and Bladder - In many cases however the small intestines are perfectly healthy and in others again there may be small inflammatory patches, but perhaps this inflammatory appearance may have proceeded from serous Extravasation rather from any actively excited state of the vascular system - In slitting up the small intestines great collections of Lumbrici have been found, but this circumstance is so very common in many diseases, that it cannot be looked upon as forming a part of the morbid changes found in dysentry - The Duodenum has been found on some occassions to have its inner coat covered with a viscid glairy semifluid substance of a yellowish or greenish colour - The Ileum often contains small quantities of fæcal matter of a bright yellowish colour and having a certain degree of consistence - Sometimes the lining coat is very red and the peritoneal one black, the Cæcum is generally distended with air, and the whole Colon and Rectum contracted as may be seen from the cases recorded by Baker, Charleston & Wollaston -
Though these are the general changes presented by the small intestines yet authors are agreed that the large and not the small intestines are the true site of the disease - This therefore

in the Colon and Rectum that we may expect to find the most striking deviation from the normal state - Some portions of the Colon may frequently exhibit externally a slight inflammatory redness, while the other parts are only marked by the highest degree of lividity - In the Epidemic which occurred at Dublin in 1825 the mucous membrane of the Colon was very commonly covered by large masses of lymph, ulcerations were also very common and serous fluid generally effused into the peritoneal cavity - The Colon generally never contains any faecal matter or scybalae, but is coated over internally very frequently by bloody looking mucus, on the removal of which may be seen the numerous hard tuberculae which have been mentioned. These tuberculae being in some places small round and red and in other places broad fungous and elevated - The Rectum according to Bremen is in old standing cases much inflamed and sometimes greatly gangrenous and also possessing tuberculae - The same author also describes the Colon and Rectum as being occassionally covered with black or livid spots of various sizes which were caused by the extravasation of black blood into the cellular membrane and that generally in the midst of each spot there was more or less erosion of the villous coat, and that the villous coat on the spot looked fine transparent and firm, though the cellular membrane was black and inky - In the small intestines none of these erosions were seen but only here and there red spots of inflammation - Hunter on the other hand

Mostly dimes that erosion ever occurs as also mortification of the villous coat: The black colour described by Pringle as being due to Extravasated blood, he (Hunter) attributes it to commencing gangrene. The large intestines when handled feel thick hardened & fleshy. In addition to this Maximillan Stoll says "the colon, especially the transverse part of the arch and the rectum were of a livid or dull red hue, the mucous membrane being of a foul or dingy red colour with blood neither removable by washing or sponging and the mesentery tinged with a tenacious redness. This redness of the mesentery Dr Craigie thinks to be due to the progress of Elementary decomposition and indicates the commencement of gangrene - The same author remarks that gangrene of the mucus membrane of the rectum may occur in the acute form of dysentery but that it happens very rarely - The appearances which have been just described are evidently the effects of inflammation of the mucus membrane of the colon and to a small extent of the rectum and also slightly of the small intestines - There is seldom any alteration in the appearance or structure of the stomach - At one time it used to be an universal opinion that dysentery was always connected with a vitiated state of the Bile or with actual disease of the Liver itself - This opinion was held by Zimmerman and others - Nevertheless while the diseased appearances are so remarkable in the intestinal canal, yet the Liver is frequently found healthy or perhaps sometimes slightly altered in colour without any

change of structure - Abscesses are sometimes met with, but these are concomittants of the disease - The Gall Bladder has its coats occasionally thickened and the Bile itself is slightly inspissated - The conclusion we may arrive at from the foregoing remarks is that there are two kinds of inflammation which may affect the intestinal mucus membrane - The one being spreading or continuous attacks the mucus membrane in general, is very acute and gives rise to thickenings and ulceration - From this the acute form originates and not from the hepatic derangement as formerly thought. The other kind of inflammation is more chiefly confined to the muciparous follicles of the Colon and forms the Chronic dysentery -
We come next to the consideration of how we are to combat with this terrible enemy of the European of the tropics - This part of the physicians duty is one of anything but an easy nature, but indeed one which will both tax his wits and test his professional knowledge. "Ut Alimenta sanis corporibus, Agricultura sic sanitatem aegris medicinae promittit" says Celsus and we find that in this disease less than any other is there room for the favourable operation of what is technically called the "vis Medicatrix naturae" - It is very seldom indeed that her unassisted efforts to create a reaction are successful but on the contrary an increase in the severity of the symptoms is the result, as has been already shown in a former part of my paper - knowing then that this is the case it is the duty of the Medical

attendant to be prompt in the appliance of those remedies which his art has placed at his disposal - Many practioners have their own individual cures for different diseases, which they use in every case without varying, looking upon them as Specifics - In order to avoid this pitfall of routine practice it becomes physicians as scientific men to treat diseases systimatically and by assisting nature rather than by ignoring her assistance - Let us not employ all the modes of treatment which many practioners perhaps deducing from false premises have employed, such as the constant Exhibition of purgatives, emetics, diaphoretics, mercurials &c not that we would pretend to condemn any one of them as improper, but we believe when one of these plans exclusively is followed, made an unvarying rule, a fixed principle to go by, they more frequently result in failures partial or complete, than in producing any beneficial result - Johnson proposes as his principle "the restoration of healthy perspiration and biliary secretion with an equilibrium of the circulation and excitability" Our own view we would put thus to restore the Equilibrium of the circulation and Excitability by the diminution of local inflammation, this ought to be done in the acute form - In the Chronic strive to restore healthy perspiration and biliary secretion, at the same time not neglecting the tendency to local or visceral disease - The treatment must however necessarily vary according to the stage in which the disease is seen, and the constitution of the patient we have

to deal with. The sucess in treatment will depend much on these circumstances - Morehead very judiciously says "that in the early stage the indication is to prevent the reddened and turgescent membrane from passing into one of organic thickening, ulceration or gangarene" - we must bear in mind that the remedies used in this stage are very injurious when used when the tissues begin to disorganize, in such cases the cure can only be effected by processes of Repair - Therefore the means we must employ are those which will effect this purpose - It must be also remembered that the treatment of the dysentery of this country is different from that employed for tropical dysentery. The various remedies which have been recommended and adopted are the following - I. Bloodletting, general and local. II Mercurials III Purgatives. IV Ipecacuanha. V Astringents. VI Tonics VII Alteratives. VIII Opium -

I. Bloodletting. This remedy is mentioned first and foremost by every author as being the most important measure to be employed - Our practice must however be regulated in this respect by the condition of our patient, for cases have occurred where it has been carried to excess - Indeed it often happens that when the disease has gone on to an advanced stage, patients will sink under an amount of depletion, which had been performed earlier would have been productive of the greatest benefit - It has been recommended by many writers that copious venesections should be had recourse to as early as possible in the robust and plethoric,

while leeches should be applied in the broken down and debilitated. Cheyne remarks that the withdrawal of about 18 ounces of blood (often by cupping) often renders the abdomen less tender to the touch, and immediately alters the character of the stools, (and what is interesting) after purgatives have failed, the patient perhaps for days having had nothing but mucosanguinolent stools, a large faeculent stool was not unfrequently passed – It is the opinion of Dr. Martin that a sufficient abstraction of blood by venesection practised at the very onset of the symptoms will simplify and render easy the subsequent stages of cure – He recommends moderate depletion from the arm to be followed by a full dose of Calomel and James Powder, with a hot bath or warm fomentations to the abdomen at bed time – An aperient in the morning to be followed during the day by enonifics conjoined with diuretics, the only sustinance allowed being demulcent drinks – This course he says will bring about convalescence in a few days –
Important though bloodletting may be when used discriminately it must not be inferred by any means that it ought to be employed in every case, for there are many cases of simple dysentery which are quite curable by more lenient means such as rest, gentle laxatives, opiates and abstinence – The warm bath also seems to be in great repute as it not only allays pain and procures sleep and rest, but along with opiate injections alleviates the distressing dysuria – Counterirritation to the abdomen may also be had recourse to either by means of blisters or by the application of hot spirits of Turpentine –

McComack remarks that flannel wrung out of boiling water and sprinkled with Turpentine or camphorated spirits and applied peeking hot to the whole abdominal surface has proved Extremely useful. To this McIntosh adds "the attendants should be particularly cautioned to watch the heat of the Extremities and to apply hot bottles to the feet when necessary."
Strychnine, Acetate of lead and Sulphate of Copper have all been recommended, the former having been said to have proved Excessively beneficial even in cases where there were most Extensive ulcerations in the intestines and after every other remedy had failed.
II Mercury This drug has been recommended in the treatment of dysentery with the same eulogiums as it has been in every disease to which flesh is heir to, but of course some speak more highly of it than others. Ballingal speaks of it thus "however highly I may be disposed to think of this remedy in the Chronic or advanced stages of this disease, I have never been able to see the benefit of its Exhibition in the acute inflammatory affection of the colon." Its use was thought advisable under the impression that dysentery was dependant on morbid conditions of the Liver, but as we have seen this is not the case it would be decidedly wrong to prescribe it, at least in those enormous doses which used to be so common. For instance it was not uncommon for an individual to swallow 300 grains of Calomel before he died, but this is a mere trifle compared to the doses that have been known to have been

administered viz such quantities as from 500 to 900 grains - Such practice as this may truly be termed an abuse - Johnson declares the exhibition of the submuriate of Mercury in scruple doses twice or thrice daily without any other medicine to be unproductive of griping or hypercatharsis, but on the contrary invariably relieved the tormina and tenesmus and lessened the desire to go to stool, bringing on salivation sooner than any other plan of smaller or less frequent doses - Such practice as this by producing salivation might possibly have some benefit on the inflammation of the mucous membrane, but its actions are too obscure besides being doubtful to be relied upon - Even these doses often fail to produce salivation and when they do produce it the patient frequently dies in consequence as may be readily imagined - Others again continue this medicine in small doses until salivation occurs and when it has occurred it is to be kept up if possible until the natural secretions return and the stools assume a healthy colour - Morehead condemns this kind of treatment and declares that as a general method, Calomel is altogether unappropriate and most commonly injurious - He further adds that this drug is seldom required in the treatment of Indian dysentery - Ballingal also remarks that he never heard any good reason assigned for the profuse salivation which many suppose to be necessary, while the relaxation and debility of the patient partly induced by the medicine, and partly by its rendering him unable to take the little sustinance to which he might otherwise be inclined, seem

very strong objection to the practice of salivation - Yet we have the testimony of many Experienced and trust worthy writers of its success, a testimony indeed which we cannot altogether reject. These same authors however as Ballingal states are unable to explain its modus operandi at least in a manner sufficiently satisfactory to an enlightened modern practioner - For those who put their trust in Mercury the saying "Causa latet res est notissima" is the easiest way of getting out of the difficulty of giving an Explanation of its action - For those on the other hand who prefer to tread upon sure and known ground the best plan I think would be to leave Mercury as a "dernier ressort" Except in the shape of small doses of Calomel combined with Opium which plan has been strongly advocated by Martin and others - This method we should however prefer in cases where the dysentery was accompanied by hepatic derangement. It may be proper in some cases to give an emetic though not required on account of nausea or loaded state of the stomach, for this combination perhaps with other remedies may serve the purpose either of clearing out the intestines or of promoting diaphoresis -

III "Ipecacuanha" is generally prefered by all as an emetic, but some use Potash and Tart-of-Antimony, but the Ipecacuanha being milder and more agreable and less sedative ought to employed in preference. This drug is one of the most important along with Opium which we possess in the treatment of dysentery - It was first brought from the Brazils by Piso towards the end of the 17th Century and was

used by him in this disease in the form of an infusion given in 3j doses. Sir John Pringle gave it sometimes in scruple and at other times in 5 grain doses at intervals of 2 or 3 hours. Has also combined it with Calomel. The efficacy of Ipecacuanha is thought by some to be due to its nauseant and diaphoretic effects, others such as Sir John Pringle think it due to its laxative and purgative properties. Combined with opium it has been of great service in the early stages. Morehead prescribes it along with Blue pill or Extract of Gentian, this he says has been productive often of the greatest benefit in advanced and cachectic cases. It is a curious fact that Ipecacuanha has seldom to be given up on account of its nauseant effects as the system seems to have a tolerance for it in dysentery. The administration of it ought to be followed in the morning by a purgative such as Castor oil, which must be repeated every 3rd or 4th day as natural faeces seldom if ever pass down unless by such artificial means.

IV "Purgatives" in every form of the disease are essential for a cure although this implies to some cases more than others. Great care must be taken however that their use be not carried too far, else mischief will be the result. The object to be held in view in employing purgatives ought to be to produce and keep up a full and free discharge from the intestines, but at the same time causing as little irritation as possible; and should irritation be set up it ought to be checked at once by hot fomentations, cataplasms and opiates &c. Emollient clysters may also assist in relieving the tormina

but there are objections to their use for if too frequently employed increased pain, languor and exhaustion, results, besides they are seldom of any service - Our next endeavors must be to prevent a return of the tormina and tenesmus and to determine the circulation to the surface of the body, by giving small doses of some diaphoretic mixture which may be administered every 3 or 4 hours so as to produce and keep up gentle perspiration without exciting much nausea - The best medicine for accomplishing this end is the antimonial powder combined with Opium - By the employment of such remedies the progress of the disease may be arrested, and by careful regulation of the diet of the patient will soon be restored to health - ~~Also~~ the dysentery of the tropics varies from that of this country in nature and symptoms, so the treatment must be different - Mercury is more used abroad than here although some have praised it highly. Ipecacuanha has been preferred by some to Opium - Dr Thomson says in regard to it; that by its anodyne and gentle laxative properties it seems a medicine well adapted for this disease and it may be employed when Opium is inadmissable - Warm baths, hot fomentations and depletion are all used but not so much as they ought to be - In Chronic dysentery Opium is nearly always necessary - It cannot however be deemed an infallible remedy, for perhaps strict attention to diet, the warm bath and the common rules of hygiene will do more towards a cure than all the drugs of the Pharmacopeia. Mc Intosh advises that small quantities of

light digestible food should be allowed at each meal and that the patient should not eat oftener than once in 5 or 6 hours. This method he says proves successful. He recommends also mutton suet boiled in milk which is to be strained immediately after being taken from the fire, sugar and rice being added to make it more palatable, of this 3iv may be given once or twice daily if the patients stomach will bear it. Ainsley relies upon blisters, and nitro muriatic lotions, with opiate enemata, and and Dovers powder & Nitric acid internally. Sulphur and Charcoal have been tried, but neither of them have been of any use. Nitric acid in 3ij doses per diem in barley water has been praised in some cases, this may be followed by Quassia, Calumba, Cusparia or other tonics. With respect to diet, ripe fruits will be necessary in the early stage, but should be avoided in the more advanced stages, especially if any morbid acidity of the stomach seems to prevail. Every sort of food which readily leads or rather tends to putrifaction ought to be avoided throughout the whole course of the disease. Fermented or spirituous drinks should be forbidden, but when the patient is in a state of convalescence, port wine or even a moderate allowance of Brandy diluted with water may be given. To support the patients strength preparations of Barley, Rice, Sago, Flour or Arrow-root boiled in milk are the most proper means, they may be varied sometimes by substituting gelatinous soups.
Sir G. Baker says he found nothing of so much advantage in the

decline of the disease as the preparation of cows milk boiled with flour such to which some starch had been added, he also observes that melted butter is a remedy which has been long employed by the Irish for dysentery and is therefore probably not without its advantage. There is an important remark which ought to be made here, and in the words of Johnson himself viz "When convalescence takes place the appetite too often outstrips digestion, and so do chylification and sanguification exceed the various secretions so as to occasion a dangerous equilibrium between assimilation and secretion, the consequence of which is that the weakest viscus or that which has suffered most during the previous illness becomes overpowered and a relapse ensues" He adds "this is the great error of inexperience and it is generally seen too late" after this it is scarcely necessary to say that the precautions of being warmly clothed (wearing flannel next the skin especially) guarding from exposure to cold, wet damp air or sudden changes of temperature, it will be in the highest degree necessary to pay the most scrupulous attention to diet. Persons recovering from dysentery should always exercise the greatest precaution & regularity in their mode of living. There is another circumstance which requires notice and likewise remarked by Johnson viz "as little else than mucus and blood come away at stool in 4 out of 5 Efforts we should endeavour as much as possible to stifle the desire to pass faeces and we shall certainly very often succeed" For the feculent faeces off in a few

seconds and by these means we escape the painful tenesmus which continues so long after every fruitless indiavour to evacuate- If obedience be paid to every call of nature the straining which ensues is highly detrimental and in many cases augments the discharge of blood- Every motion of the body indeed increases the desire to go to stool. Like most other diseases, dysentery is often forming complications which require modification in its treatment and sometimes creating difficulty in its diagnosis - we shall however only briefly enumerate the more important complications - The chief disease we find it associated with are Remittent & Intermittent fevers. It is this complication (as before mentioned) which led authors to term dysentery a "Pyrexia" mistaking the complication for a symptom of the actual disease - when it assumes the Intermittent form the symptoms of dysentery appear in paroxysms, and disappear or are much alleviated when it goes off; when of the Remittent type the dysenteric symptoms increase and abate with every Exacerbation and remission - Rollo says "when the disease terminates early in death, the fever has not disappeared but assists in producing the fatal result" In other cases he says the departure of the fever is evidently marked, generally in 14 to 20 days leaving the dysentery uncomplicated behind it" - Annlie observes that an intimate connection exists between these disorders, the one frequently changing into the other, and both often complicated with various degrees of violence - The pulse is often 100 in the morning, increas

towards the evening, face flushed, the Extremities cold and the pain periodically aggravated - This fever generally goes off in about 8 or 10 days, if the case does not terminate fatally before that - If the complication be with Intermittent fever the dysentery must be attended to first and vice versa if with Remittent - Venesection purgatives, opiates and fomentations are to applied in the former to be followed by tonics such as Quinine &c and cordials - In the latter viz (with Remittent) if we use Cinchona the fever will be removed, but the flux will remain unaltered, in such cases we must treat it the same as simple acute dysentery, copious drinking of warm water or whey and the use of ripe fruits seem to be serviceable - The regimen says Clark ought to be much the same as in Remittent fever and when the disease is accompanied by putrid symptoms nothing will be found so useful as ripe fruits. The combination with Typhus is by far the most important and dangerous form of the disease, it is the true "Pyrexia contagiosa" of Cullen but described by him as simple dysentery - It may be recognized by the symptoms of Typhus i.e. fever, rigors, nausea, vomiting, great prostration &c. Its pathognomonic signs says Zimmerman, are the quick approach of more than natural weakness, great anxiety about the pit of the stomach, a heaviness in the head, a wild and at the same deathlike look, spirits extremely depressed, frequent convulsions, weak voice, often fainting fits, a miliary eruption, petechiae and a very feeble pulse - The account given of it by Clarke who met with it in Bengal is in the following words -

"It sets in for the most part with lassitude, slight rigors, disordered stomach along with bilious vomiting, at first exactly resembling the simple fever, but the paroxysms did not run so high, and the patients were not so apt to rave - In a day or two sometimes latter the dysenteric symptoms made their appearance and were attended by the greatest prostration of strength & spirits - If there had been any remission in the fever, they now disappeared. The skin continued hot, pulse quick and feeble, tongue very foul and frequent hiccup - If the disease was not speedily checked, the symptoms were daily aggravated, the tongue became black and the teeth covered with a black tenacious slime - The great frequency of the stools induced excessive weakness and the countenance was ghastly. On mortification setting in the usual symptoms occurred in all the patients, at this period subsultus tindinum, tremors, delirium were added - Some had pustules on various parts filled with ichorous matter which degenerated into black putrid sores - The disease was often fatal in a few days". He goes on further to remark that the dysentery seemed rather a symptom of the fever than the original disease - As before mentioned this seems to be the only form of dysentery where contagion exists, and this property does not result from any virus specific to dysentery, but merely from the fever - The treatment required is identical to that used in malignant fever - Venesection is of course inadmissable and diaphoretics, purgatives & mercurials are of no advantage - Above all things

pure air and cleanliness are necessary, without this all other remedies are useless- Warm baths and fomentations may possibly do good, but with regard to the latter Dr. Currie says "I tried the lepid effusion in a few cases and though with abatement of heat- yet with no lasting benefit"- The patient complained of the fatigue of moving and of the chilling effect of the remedy, which was therefore abandoned- Bark, Serpentaria and other corroborants are remedies likely to prove highly serviceable, and this form of dysentiry is peculiar in as much as it requires the free Exhibition of various cordials, tonics &c- The remarks on this complication may be concluded by refering to Zimmerman's statement that "when the patients pulse sinks, his strength brought low, and he himself oppressed and anxious, the disorder then requires all the remedies which are necessary in malignant fever"-
Dysentiry may sometimes be complicated with Arachnitis, Encephalitis, Gastro enteritis &c- under these circumstances the treatment must be modified according to the predominance of one or other of these affections-

Edwd- McEwan.