

D. F. & G.

1853

On Dysentery.

A thesis written by

Arthur Dupuy
(of Mauritius).

« In hoc enim corporis affectu,
aliquod certe in medicinā opus est,
haud multum in Naturæ beneficio »
Sir. G. Baker.

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a thesis written by

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(of Mauritius)

For the Degree of M.D.

of the University of Edinburgh.

Miseris succurrere disco-
Virgil

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On Dysentery.

1.

... Miseris succurrere disco.

Virgil.

Of all the diseases which attack the human frame, none perhaps possesses more importance and interest to the Indian practitioner than Dysentery.

The melancholy importance which it enjoys, it derives from its formidable nature, the complex features which it sometimes exhibits; its, as yet, obscure pathology, and the variety of modes of treatment which have been put forth to be highly extolled and blindly adopted by some, and as obstinately rejected by others.

In considering this affection, it must ever be borne in mind that, as seen in the Tropics, it is a much more serious and fatal disease than that which is commonly met with in Europe. Thus Mr Swining says: "Dysentery may be generally looked on as a severe disease in India. In any given class of people, it is a much more rapid

and fatal disease, than what we designate by the same name in England.»

Dr Watson says: «Dysentery is one of the pests of hot climates.» And Dr Parkes, one of the latest writers on the subject, observes:

«Dysentery is probably the most common disease in India, and undoubtedly it is the most important, on account of its numerous alliances, and of the gravity of its consequences.» Indeed, when Dysentery is epidemic in tropical countries, it produces as much havoc as Asiatic Cholera.

Hence, it behoves every one who is likely to encounter this fearful foe to make himself as perfectly acquainted as possible with the circumstances which call it into existence, with its nature and progress, in order to oppose it effectually and guard against its ravages.

The subject of Dysentery presents many difficult points to elucidate; viz; its nature, its pathology, its relation to Hepatitis or the other diseases with which it is not unfrequently — com-

-plicated, the real value of Mercurials in its treatment &c. In order to be able to effect this, I shall take the liberty of meeting my subject in a different way, from that usually adopted. Thus I shall first enumerate the different views which have been held concerning the nature of this complaint by the most eminent authorities, and secondly describe the anatomical characters of it which are observed on death, to show whether they corroborate or discard those views. The first question that arises is to decide what relation Dysentery bears to Inflammation? and here, we have a variety of opinions broached on the subject.

Twining and R. W. Bampffield state that it is a simple inflammation of the general mucous tract of the Large Intestine; and Dr Watson seems to share in this statement by writing: "Dysentery consists essentially in inflammation of the mucous membrane of the Large Intestines."

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Andral says that inflammation is present, especially in the Large Intestine.* Others say that Dysentery is an inflammation combined with spasms, as Croup, and in its advanced stages, tending to ulceration; a third set of Authors believe that Dysentery may exist without Inflammation; but that the latter may coexist with, or follow closely upon, it. Thus Mr Annesley says: «the inflammation of the mucous coat of the large bowels in some cases is coeval with the dysenteric symptoms, or supervenes rapidly on them.» (Quoted by Dr Parkes). We find others who assert that Inflammation has no connexion with the production of the disease, and that it is the exception to the rule, when this is observed. Thus Dr James Johnson regards Inflammation «rather as a sequence than a cause of Dysentery; as a contingent effect, and not as a uniform result.» There are practitioners who look upon

* Pathologie Interne, Art. Dysenterie. Vol I.

Dysentery as an ulcerative disease, and set aside the idea of Inflammation as causing it. Others again consider it as closely allied to Enteritis; or as a stricture in the Colon or the Small Intestines; or as Hepatitis disguised; and lastly Sydenham regards Dysentery « as a fever turned in upon the Intestines.»

This enumeration of conflicting opinions will show one thing; viz; how undecided the nature of Dysentery has been to this time. Hence arose, I conceive, the difference in the treatment recommended by the various observers of this disease. The cause of all this, I think, to be the following: They did not endeavour to trace the earliest changes wrought in the body by the disease; or if they did so, they either failed in their attempt, or overlooked the importance of what they saw. Twining, indeed, and Copland mention the fact that the Large Intestines are inflamed and ulcerated; but they do not state what was the primary alteration in their condition leading to that amount of disor-

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-ganisation which they describe. This is an important point, however, in the history of Dysentery, as we shall presently see.

Anatomical characters
of Acute and chronic Simple Dysentery
Dr Watson says: « Inspection of the dead body discloses more or less ulceration, chiefly of the Large Intestine. The glands that lie scattered over its surface are enlarged and prominent, looking somewhat like small-pox pustules, for which indeed they have been mistaken. They probably form the foci of most of the ulcers &c »

According to Mr Forning, inflammation, ulceration and sometimes sloughing or mortification of the mucous membrane or of the inner coats of the Large Intestine are to be met with on examination after death, particularly in the Cæcum, Colon & Rectum. X
The Omentum, Mesentery & Mesocolon, are also more vascular; and the glands of the latter two are enlarged, inflamed, and sometimes (though seldom) suppurating, especially if the part of the Intestine

corresponding to them contains ulcers.

The ulcers are most numerous in the Cecum and Ascending Colon, and in the Sigmoid Flexure; but sometimes they are distributed over the whole mucous tract of the Large Intestine. Mr Swining states that he has found the last three or four inches of the Small Intestines covered with superficial roughness and ulceration; and observes that it is only in cases of protracted fevers, that ulceration of the Small Intestines exists.

But Dr Parkes who dissected carefully fifty cases of Acute Dysentery, and twenty-four of hepatic abscess, «in the majority of which Dysentery was present» tells us that «In all cases of Simple Dysentery the alterations in the canal are circumscribed by the Ileo-colic valve»; and this, I think, is important to recollect.

Andral merely states that ulcerations may be found in the Large Intestine, especially in the epidemic form of the disease. (On peut y trouver des ulcérations surtout dans les Dysenteries épidémiques.)

After having shown how loose the statements 8. concerning the morbid alterations produced by Dysentery in the Large Intestine, had been to this time, I shall endeavour to describe them after Dr Parkes who paid great attention to this disease, during his residence in India. But before I go further, I may perhaps be allowed to quote a passage from Dr Sharpey* in order to contrast more strongly the sound, with the morbid, state. He says: « There are scattered over the surface of the whole large Intestine numerous, rounded, whitish, glandular bodies, about one third or one-half of a line in diameter, and therefore much larger than the tubuli. These are follicular receptacles or crypts very simple in structure. Their orifice is narrowed, but it leads into a dilated cavity, having thin walls, closely surrounded by the small perpendicular tubuli. They are most abundant in the Caecum and in its vermiform appendix. » « But Dr Babington has shown that they have not always a permanent

* Elements of Anat. and Physiology. Struct. of muc. memb. of L. Intest.
P. 1044. Volume III.

opening, but are sometimes closed, resembling, 9.
in this respect the solitary glands of the
Small intestine.*

It will be seen in the course of these pages
what an important part these glands play
in Dysentery; and almost every practitioner
seemed to have overlooked the importance
of the changes occurring in them, until
Dr Parkes drew the attention of the Profession
to them more particularly, and proved that
in them originate the morbid alterations
observed in Dysentery, in the immense major-
-ity of cases. « They have been noticed,
he says, in Dysentery, by various observers....
but most of these writers appear, however,
to have regarded their existence as incidental,
and not to have proclaimed their relation
to dysenteric ulceration with sufficient ac-
-curacy and distinctness. » The same author
says: « when enlarged, they have some re-
-semblance to the solitary glands of the
Small Intestines. »

* Kirkes. Hand-book of Physiology, p 232.

Ballingall & Swining mistook them, when 10.
inflamed, for pustules, and Murray calls them
vesicles or pustules. Dr Parkes states that
Dysentery, in its uncomplicated form, attacks
the Large Intestine only, and that the other
portions of the Alimentary Canal are always
free from any trace of disease. Furthermore,
he says that the Solitary glands are the foci
and, in almost all cases, the primary centres
of ulceration, under those circumstances.

First Stage.— In what may be called the
first stage of Dysentery, those small glands
are found to be enlarged, rounded, and con-
-taining an opaque, thick, whitish substance,
looking somewhat like flour and water: in
fact, they are small prominent bodies. At an
early period of the disease, no distinct orifice
is generally seen; but sometimes, however,
a black spot is to be met with in the centre,
corresponding probably to it. The number
and size of these bodies vary in different
cases; they are more numerous in the
Cecum and the Ascending Colon; but are
also abundant in the Sigmoid Flexure

and the Rectum. After two or three days' 11.
duration of the disease, a minute vascular
ring, caused by enlarged blood-vessels, is
discovered around the crypt, and gradually
increases in diameter: the crypt, in the
mean time, becoming notably hard and
prominent.)

Second Stage: - This stage begins with
ulceration of these glands; and the latter
process may, in some cases, take place on
the very first day; but, in general, it does
not occur until the third day of the disease.
Ulceration first attacks the apices of the
crypts, then descends to their bases, and
subsequently extends to the mucous sur-
-face around; but sometimes, it may begin
in the mucous membrane intermediate
between the solitary follicles. Dr Parkes
states that the latter is not the ordinary
course of the ulceration; and that, when it
occurs, the crypts are also ulcerated in con-
-nection with the intermediate and sur-
-rounding mucous membrane. He saw
but one instance of this variety on

dissection, and says: « They (solitary glands) 12.
were enlarged, round and very hard to the touch,
and around them the mucous membrane
was ulcerated away for a distance of from
one to two lines.» Ulceration may also
begin in the intermediate mucous mem-
brane of the Large Intestine. For this to
occur, exudation matter is poured into the
submucous cellular tissue, and causes
the superjacent mucous membrane to
soften and ultimately ulcerate. And again,
Dr Parkes states that it is his opinion that
this is never seen unless ulceration is also
present in the solitary glands. He says:
« the effused matter is white or yellowish,
in points, or raising a piece of membrane
the size of a shilling, or even half a crown;
this membrane is softened, and when rubbed
off, an ulcer is left. I have never seen a
gland on this raised membrane.»

I must state that when the inflam-
-mation is not intense or rapid, the soli-
-tary glands have time, as it were, to
enlarge to their full extent, and are

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plump and well filled with their peculiar secretion. Then also the ulcerative process begins at the very apex of the enlarged crypt and gradually extends to its base and thence into the surrounding mucous membrane. In this case, too, the small ulcer formed, has rounded and raised edges. But, on the contrary, when the inflammatory action progresses rapidly and soon reaches the ulcerative stage, the solitary follicles become suddenly enlarged and prominent, cause pressure on, and ulceration of, the mucous membrane covering them, and discharge their contents at once; so that the spot which they occupied, now exhibits an ulcer, with flat edges. This ulcer, too, has a tendency to spread more rapidly, into the neighbouring texture. Once formed, an ulcer may assume different forms as it extends itself; it may be rounded, oblong or irregular. If small and round, its edges are generally raised, but if it is irregular, its edges are flat. The floor of an ulcer may consist of the muscular fibres of the intestine, of

its serous tunic or of a false membrane. 14.

But the important point to keep in mind is that the intermediate mucous membrane of the Large Intestine, is (before ulceration extends into it from the glands) generally in a sound state; except in cases of Scurvy, and Gastro-Enteritis complicating Dysentery, in which it is congested or inflamed. In the immense majority of instances, the disease first attacks the solitary glands.

It has been said that Dysentery may be of the sloughing character, gangrenous from the first, and not ulcerative: Dr Parke & Dr Walshe, however, think that this form of the disease must be very rare; although occasional sloughing of portions of mucous membrane may occur. Besides false membranes, resembling pieces of mucous membrane, may be mistaken for the latter, if the examination is made hastily.

If the case progresses towards cure, ulceration ceases, and attempts are immediately made by Nature to repair the ravages caused by the disease. This constitutes the

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Third Stage: - Effusion of coagulable lymph
takes place, and is deposited upon the ulcers,
or between the different tunics of the Intestine.
This exudation matter occurs in layers, nodules
or particles as saw-dust. Dr Parkes states
that it is not thrown out before ulceration
has occurred; but Dr Walsh is of opinion that
it is poured both upon the ulcerated and the
non-ulcerated spots. The lymph is at first
of a pale yellowish colour, and may remain
smooth and fibrous during cicatrization;
or cicatrization may occur by the puckering
process, and nodosities may be met with
at the edges of the ulcers: in fact, as in sim-
-ple chronic ulceration of the stomach.
It has been stated "by Sebastian and some
other German anatomists", says Dr Parkes,
that cicatrization, in Dysentery, may reproduce
mucous membrane; but although, after a
lapse of time, the cicatrix may be undistin-
-guishable with the naked eye from normal
mucous membrane, yet the microscope
might perhaps prove that it differs from
the latter in its minute structure.

Thus Dr Sharpey says: * The steps of the process 16.
have been examined with most care in the
healing of ulcers of the large intestine, and in
such cases, it has been found that the result-
ing cicatrix becomes covered with epithelium,
but that the tubular follicles are not reproduced ».

It is, in fact, what we should expect: thus
in the analogue of mucous membrane, the
skin, when a breach occurs, it is repaired by
a cicatrix; i.e. a structure of lower organiza-
-tion than itself, and consisting merely of
fibro-cellular tissue, and having neither pa-
-pille nor sweat-glands.

Cicatrization may take place very rapidly
in favorable cases. Thus an ulcer which to-
-day is spreading and bleeding, may to-
-morrow be covered with lymph, and be con-
-sidered cured, for it then pours out no blood.

It may be asked in such cases, whether
ulceration was really present? Dr Parkes
had an instance proving that it was present.
Fourth Stage: - But if the case does

* Elem. of Anat. & Phys. Regenerat. of muc. memb. Vol. iii.

not proceed towards cure, instead of the cicatrisation of the ulcers, we have the following changes. Lymph is invariably poured out after a few days, but cicatrisation does not take place, or not completely, and we have the chronic disease established. The exudation matter is thrown out in profuse quantity, either because the inflammation has been intense, or has not been vigorously combated, or lastly, from some unexplained cause. With this state of things, we may also detect ulcers spreading, beneath the exudation matter which occurs in masses of various shapes and sizes. The lymph at first yellowish, now changes to a dark, almost black colour, in some cases, and resembles somewhat the bark of a tree. Even at this period of the disease, the ulcers, it is said, may heal, so ready Nature always is to resist morbid action; but then great thickening, of the coats of the Intestines continues, and irregular puckerings or nodosities are met with. In some cases, Mr Twining, states, the coats of the Large Intestine are so much thickened by deposition of

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lymph upon the ulcers and between their coats, that they do not collapse on being cut, and resemble a "thick leathern tube." In other cases again, which he considers to have been more protracted, the Large Bowel is much reduced in size and like a chord; and its internal surface is covered with ulcers. The Omentum, too, is occasionally inflamed and contracts adhesion with the neighbouring parts, as with the glands of the Mesentery and Mesocolon; and thus forms bands or loops which may strangulate a portion of Intestine and cause death. Sometimes it becomes adherent with the Cecum, and gives rise to an uneasy and dragging Sensation in the right hypochondrium, when the patient stretches his body, or his Stomach or intestines are flaccid. These Symptoms, then, may mislead one into the belief, that the liver is diseased, & contains an abscess.

Occasionally the ulcerative process has made such extensive ravages, and the ensuing contraction has been so great, that

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constriction of the bowels has been produced, and has caused death, by giving rise to fatal ~~Peritonitis~~ obstruction. Lastly, sometimes, though very rarely, perforation has been produced and Peritonitis resulted.

The principal ~~principle~~ anatomical characters are, therefore, found in the Large Intestine; but according to Dr Walshe, the Small Intestine may also be affected in Simple Dysentery. Some authors consider this state as a secondary affection, or a complication or as an extension of the same disease from the Large Bowel. I have already stated Dr Parkes' opinion, that the morbid alterations are limited to the Large Intestine by the Ilio-Colic Valve, in Simple Dysentery. The mucous membrane of the Stomach is not affected, if the Dysentery is simple; but in the scorbutic complication, it suffers, as well as that of the ~~small~~ Intestines, especially of the Ileum. The lining membrane presents various shades of inflammation, the solitary glands are enlarged and sometimes ulcerated, and also a few

of Peyer's patches, but more rarely. In Eng- 20.
-land the latter do not seem to suffer in
Dysentery.†

In tropical Dysentery, it is very common
to meet with hepatic abscess: according to
Dr Parkes' computation, twenty one per cent
of patients labouring under Dysentery have
abscess in the liver. This is not seen in Eng-
-land. The liver may be pale, bloodless, slightly
granular and of the natural size; or pale,
bloodless, granular and enlarged, or contracted;
or this viscus may be enlarged, dark, highly
congested, hepatically and portally; or lastly

Note.† It may be asked whether in those cases,
Typhoid fever did not really complicate
the Dysentery? The answer is: if it is typhoid
fever that caused the ulceration of the
Peyer's patches, it must have attacked the
individual before the Dysentery came on,
for it never occurs in the course of an acute
disease (Walsh) Besides Indian practi-
-tioners do not mention Typhoid fever
as a complication of Dysentery.

it may be natural.

21.

Bile:— This fluid is, generally speaking moderate in quantity, thin, more or less transparent and reddish-brown, and may contain red particles like cayenne pepper; or it is dark, viscid,ropy—

The Pancreas is sometimes congested, reddish and soft; or pale and bloodless, or natural.

Dr Parkes states that in chronic cases, it often exhibits more marked changes and is indurated.

The kidneys offer nothing remarkable.

The Bladder may be acutely inflamed in some cases. Dr Parkes states: « I have known the bladder acutely inflamed during and subsequent to Dysentery, and have dissected one case in which Chronic Dysentery was at the end of the case complicated and rendered fatal by intense inflammation of the bladder, producing general thickening of its coats and ulceration and sloughing of the mucous membrane. »

The Thoracic and Cerebral organs offer nothing remarkable in Dysentery.

We, therefore, see that the morbid changes 22.
produced by Dysentery are characterised
by inflammation and ulceration; that
they are confined to the Large Bowel, in the
simple form of the disease; and that, in
the immense majority of cases, those altera-
tions begin in the solitary glands of that
portion of the Intestinal canal. The liver,
Spleen, Pancreas, &c may also be variously
affected, as we have already detailed.

Nature of Dysentery:— We have now
done with the consideration of the post-
mortem changes produced by Dysentery,
and are, I conceive, better enabled to frame
an opinion touching its nature. From
these alterations, I conclude:

- 1^o. that Dysentery is decidedly an inflam-
mation; for we find on death its usual
results, and some of which, such as exudation
of coagulable lymph, nothing else but
inflammation can produce;
- 2^o. That Dysentery is a specific inflamma-
tion: and its specific character is plainly
manifested by the rapidity with which

the Inflammation runs on to ulceration; 23.
by the peculiar part of element of the mucous
membrane which is so uniformly and cons-
-tantly attacked by the disease, and which,
therefore, cannot be the result of accident or
coincidence. For it may be asked, if Dys-
-entery is a simple or common inflam-
-mation, how is it that such severe local
alterations do not give rise to coordinate
symptomatic fever? Every one knows
what serious constitutional disturbance
would be produced by the same amount
of injury done to the skin (ex: gr by burns
or scalds), and the latter is perfectly ana-
-logous in structure to mucous membrane!
Again, if the ulceration which is observed
in Dysentery were the result of common
inflammation, the former should always
be in proportion to the intensity of the latter;
but this does not hold good, and we often
find it in "comparatively slight cases."
« Moreover, says Dr Parkes, the same amount
of inflammation exists every day in the
Stomach and Duodenum without being

followed by ulceration."

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Definition: - I would, therefore, define Dysentery to be an inflammation of a specific character, rapidly running on to ulceration, chiefly or almost entirely affecting, at the beginning, the solitary glands of the Large Intestine, in its uncomplicated form: These internal changes giving rise generally to pain, tenderness or both, over the right or Left Iliac fossa, and along the course of the transverse Colon, and to tormina, tenesmus and frequent, scanty, bloody, mucous or glairy stools.

Symptoms

10. Of acute Atheric Dysentery: - They may be suddenly or gradually developed: in the former case, the character of the disease is established at once, blood appears in the stools &c &c; in the latter case, the patient finds that his bowels are moved oftener than usual, and the stools are more copious and fluid. He next complains of uneasiness and griping pains in the course of the Colon, and generally, at first, there is no

tenderness on pressure in that region. At the 25.
same time, he experiences a sensation of bearing
down at the Anus and makes more efforts
to pass his stools. The latter are slimy, or
gelatinous, sometimes somewhat of a fecu-
-lent character still, and generally increased
in number. As yet they contain no blood,
for this appears in the evacuations only
after ulceration has taken place in the
bowels, (i.e. of what we have called the
second stage) and this our description ap-
-plies to the first stage of the disease.

But in severe cases, an ulceration is present
at a very early period, so we may likewise
find blood in the stools sooner than usual.
The blood may be met with in the form of
streaks; or it may be mixed with the eva-
-cuation; or it may present itself in its
pure state; and lastly, it may be clotted.
As the disease passes into the ulcerative
stage, we find more and more blood in the
evacuations, and the latter too become scanty,
mucous, lymphic or shreddy; or the stools
may be abundant, watery, muddy, sanious,

like the washings of raw meat. Later on, 26.
« the stools present an appearance something
like pus », according to Dr. Parkes; and Andral[†]
says: « Les évacuations très douloureuses
sont rougeâtres ou brunes, quelque fois puri-
-formes. »

When the stress of the disease falls upon the
Cecum or the Ascending Colon, there are fre-
-quently ^{an} intumescence and tenderness at
the Right Iliac Fossa, and the stools are
copious and bloody; and this has been called
"Dysenteric Diarrhea"; but when it falls
upon the descending Colon or Sigmoid, these
symptoms manifest themselves at the Left
Iliac Fossa, and the stools are mucous and
bloody, and contain no fecal matter: some-
times even they consist of pure dark blood only.
All authors seem to be agreed now that
scybala are very rarely (if ever) seen in
Tropical, as well as in, European Dysentery.
The essential character then of the stools
observed in Dysentery is to be scanty, mucous,

[†] Anatomie Pathologique. Dysenterie vol. i.

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or glairy, bloody and attended by tormina and
tenesmus. - Tormina are pains of a gripping
character, felt in the course of the Large
Intestines, and due to spasms of the bowel.
They come and go, and are met with especially
when the transverse Colon is affected. They
are probably caused by the irritation or in-
flammation propagated ~~to~~ the muscular
coat of the bowel by the ulcers which are
present in the mucous lining. Dr Parkes
states that tormina are sometimes absent;
but he does not say whether in that case, the
inflammation also spares the muscular
tunic of the Colon. I conjecture that in
those instances, the mucous coat alone is
inflamed or ulcerated, and the muscular
is not touched. Dr Johnson & McAnnesley
write that hardened feces, if present, are
arrested by these spasms of the bowel; but
it has been stated above that both in Euro-
pean and tropical Dysentery, scybala are
very rare: besides Dr Parkes rejects this
opinion.

Tenesmus consists in a sensation of spasm

about the Anus; and this is due to a spasm of the Sphincter Ani. It is met with especially when the Rectum is affected; when there may even be prolapsus ani in young subjects - It is owing to the same cause as *Formina*; for Andral makes the following statement: « Les ténésmes qui accompagnent la Dysenterie font présumer que la membrane muqueuse seule n'est pas altérée dans cette maladie, et que la membrane musculaire doit participer à cette altération. L'anatomie pathologique a démontré, en effet, que cette membrane présente souvent des traces d'inflammation.»

But, like *Formina*, tenesmus may be absent; and this may be attributed to the stage of the disease falling upon the Caecum.

If the Rectum be severely affected and be neglected, says Dr Parkes, « some portion of the mucous membrane speedily sloughs and protrudes from the Anus. Except in this variety, the occurrence of sloughing and discharge of the mucous membrane is not common.» Membranous excoriations

of fibrine) may be mistaken for portions of 29.
sloughing mucous membrane).

With the above train of symptoms, generally there are pain and tenderness, as already said, over the Caecum or Sigmoid flexure of the Colon, or over the whole tract of the Colon. These last two are more marked at the first two spots, because there the solitary follicles are more abundant, and consequently the morbid changes occurring in them are more clearly and strongly manifested. But both pain and tenderness may be absent at those spots even, although ulceration may be producing havoc internally; this may be owing to its having spared or not yet reached the muscular coat; for it is well known that mucous membranes are little sensitive, even when inflamed; since being lax, they yield to accommodate the results of the inflammation, and so escape the pain which is conceived to depend upon pressure on, or rigidity of, the inflamed texture. Hence, the nature of the stools, and not the pain or tenderness, should

guide us in our treatment.

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Sometimes the patient experiences a sensation of heat along the transverse Colon; and, it is said, this morbid feeling arises from an extension of the inflammation along the mucous coat of the Intestine, or from the inflammation of its serous tunic or of the mesenteric glands.

The urinary system participates somewhat in the disease: there is an uneasy sensation above the Pubis and pain is felt in the bladder. Micturition is frequent, difficult and painful; the urine is scanty, reddish-brown, scalding, and its sp. gr. averages from 1015 to 1025. It decomposes rapidly and becomes ammoniacal; but Dr Parker states that it does not contain Albumen. There may even be suppression of urine sometimes. These symptoms may arise from the irritation of the Large Intestine extending to the kidneys (for the ascending and descending divisions of the Colon come into contact with both kidneys), or « to the lower portion of the Intestine

contiguous with the fundus and back of
the bladder» (Twining). In the female, the
urethra is irritated and becomes painful,
either from sympathy or the frequent passage
of the stools.

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F.R. The tongue, in sthenic cases, is furred and white,
and at a later stage of the disease, it is general-
ly brown and dry. The appetite, however, is
not seriously impaired; and, in slight cases,
it is natural; but thirst is commonly urgent.
If Gastro-Enteritis be present, then you have
nausea and vomiting; but these symptoms
may be present in the simple disease; perhaps
from the contiguity of the transverse colon to
the stomach, and sympathy arising therefrom,
or from reflex action. Dr Parkes makes the
following remark concerning them: «I have
known vomiting of feces in three instances
in one year, and have seen a dark, coffee-like,
or black vomit, in ~~the~~ two cases, which after
death was found to have come from the colon»
The pulse, if increased in frequency, is in
proportion to the respiration: in sthenic cases,
it is hard, but never wiry, according to Dr Parkes.

There is generally no fever; or when fever is 32.
present, it is not of a serious character, and
there are no rigors, and no feeling of lassitude.
The skin is dry and harsh, sometimes even
furfuraceous, at an early period of the disease.

Mr Twining says: « Notwithstanding this
dreadful state of disease, there is often little
or no pyrexia, the tongue does not show much
sign of disorder, the pulse is frequently soft
and compressible, the skin cool and perspiring
freely; and pressure on the belly gives little
uneasiness &c &c »

When the calls to stool are very frequent,
the patient's sleep is broken and there is rest-
lessness, anxiety and great suffering; and
even the patient may call upon death to be
released from them. Dr James Johnson, who
suffered a severe attack of Dysentery in
India bears witness to this statement in
his book.

2^d. Of Acute asthenic Dysentery:— Dr Parkes
says: « I have not mentioned the adynamic
variety; because this is almost always
a case complicated with remittent fever,

or with typhus - I have never seen adynamic 33.
Symptoms apart from fever or Cholera."

But yet, as some authors maintain it may
be met with in uncomplicated Dysentery,
as for example, when the patient, on the seizure
of the disease, is weakened from any cause,
or when Dysentery is Epidemic, sometimes,
I may be allowed to say a few words con-
-cerning this State.

The Effential Symptoms are nearly the same,
but the breath is foul, the tongue and teeth
covered with black sordes, the skin is dusky,
and below its usual temperature, the stools
are reddish-brown or black, more copious than
in the sthenic form of the disease, and their
factor is extreme, and "like that of an Ana-
-tomist's macerating tub"; the pulse is
exceedingly frequent, and weak; there is utter
prostration of strength, great anxiety of
countenance; the features are shrunk
at a very early period and the patient is
very despondent, even from the first. Next
low and muttering delirium comes on,
with Subsultus tendinum and Somno =

= lence which generally passes into Coma 34.
and Death-

The asthenic variety of Dysentery may kill the patient in 36 hours; but it generally does so in from three to six days.

- Terminations and duration of ^{acute} Dysentery

This disease generally lasts from six to ten days and may terminate (1) in Recovery;

This fortunate event may take place very rapidly, as in three or four days sometimes. We are then naturally led to ask whether, in such a case, ulceration was present in the Large Bowel? The answer is, it may be present. Dr Parkes dissected a man who died of Coup-de-Soleil, and had a proof of this. But generally recovery takes place in from six to ten days, by the gradual subsidence of all the symptoms.

2^o. by Death (a) resulting from nervous collapse from the first; the skin being cool and the face livid; or (b) after about a fortnight; the stools going on unrestrained, the tenesmus [increasing in intensity, and the evacuations

in number, until at last completely in- 35.
-voluntary stools, with hiccup and cold ex-
-tremities come on and close the scene.

It is stated by some authors that even at this unfavorable period of the disease, recovery, may take place! Or lastly (c) death may result from perforation of the bowel and ex-
-travasation of its contents; thereby giving rise to fatal Peritonitis; but this mode of death is rare in Dysentery.

3.^o An Acute attack of Dysentery may lapse into the chronic state.

Causes of Dysentery:- They are said to be rapid alternations of very warm and cold temperatures; exposure to hot and moist weather; blood changes, putrid exhalations, the malarious poison, an "Epidemic consti-
-tution" of the atmosphere; eating unripe or acid fruit, bad wine, cyder, and water; acid materials in the bowels generated there or introduced from without &c. &c.

In England, it is said, the causes of Dysen-
-tery are the stimulating diet of the inha-

bitants, the bad water, the warmth of the day 36.
and the cold of the night. But Dr Walpole
thinks that a predisposition must exist in
the system for the above causes to give rise
to the disease. Thus putrid exhalations are
said to cause Dysentery, as they were also
held to produce typhus fever. If that were
the case medical students would undoubtedly
be liable to it; yet we find them only liable
to occasional Diarrhoea, and not to Dysentery.
With regard to the notion that Malaria causes
Dysentery, the following explanation may be
offered. The Malaria causes Ague, in which
the internal organs are congested, especially
the Spleen - Now if the Spleen is congested,
the Splenic Vein will be so and the parts, sup-
plied by its tributary branches; viz. the inferior
and Superior mesenteric veins, which return
the blood from the Large and Small Intestines.
And we know that a part labouring under
congestion lies open to the inroads of In-
flammation, and its consequences, ulcera-
tion &c. In this indirect way, we may say

that Malaria causes Dysentery. Perhaps sometimes the malarious poison also acts on the blood & thus causes Dysentery? But we often find people affected with ague who have no Dysentery, and *vice versa*, proving that Malaria is not a constant (if ever) cause of Dysentery.

Dr James Johnson attributes Dysentery to a derangement of the functions of the skin and liver. Perspiration, he says, is stopped; more blood is, therefore, sent to the internal organs, hence "plethora of the Celiac and mesenteric circles and febrile symptoms commence".

Perspiration being stopped, a vicarious discharge of mucus and acid serum is thrown out upon the internal surface of the intestines, which, by this time, is in a state of irritability. Hence uneasiness in the bowels, frequent desires to go to stool and mucous discharges &c. But how does Dr Johnson know that the serum effused is acid? it is a mere assumption on his part. He next goes on to say: "Nature attempts

a cure by perspiration; but this is partial 38.
and ill-conditioned; and by the secretion of
bile, but this is vitrated, and causes con-
- tortion of the Intestine and tenesmus and
termina. Neither does Dr Johnson state
by what test the vitrated or acrid condition
of the bile is made manifest. But let us
admit that it is so; how does it happen
that the irritating bile spares the long
tract of the Small Intestines (as we have
shown to be the case in the Anatomical
characters), and limits its injurious effects
only to the Large Bowel; nay, in the greater
number of cases, to its solitary follicles, at
first? Again, what produces the morbid
alterations met with in Dysentery, when no
bile passes into the intestinal tube? For
Dr Balfour, Copland & Parkes agree in
stating that this is observed sometimes;
and the latter says: "At any rate, it is
very evident that in many cases of Dy-
- sentery, the secreting function of the
liver is temporarily suspended, as no bile

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passes by the stools, and none is taken into
the circulation, otherwise it would be denoted
by Icterus. But what is still more sub-
versive of Dr Johnson's hypothesis is the
following quotation from Dr Parkes: « In some
cases, in which the secretion does appear to
be irritating, viz, by producing excoriation
round the anus, and scalding the patient
when he goes to stool, the mucous membrane
of the Colon, previously ulcerated in an ante-
cedent attack of Dysentery, has been found by
me healing rapidly. »

Besides Dysentery is also seen simulta-
neously with disease of the Spleen which
does not pour out any irritating secretion.
I, therefore, reject Dr Johnson's opinion.
I cannot help thinking too, that if bad
wine, cyder, unripe fruit &c can produce
Dysentery; substances more irritating still,
will also do so; but we do not find this
to be the case. Thus Sulphate of copper, in a
poisonous dose, produces inflammation
and sometimes perforation of the small
intestine, and gives rise to Diarrhoea but

not to Dysentery. And we know that in pure, 40
uncomplicated Dysentery, the small intes-
-tines are never affected (Parkes), and that
the stress of the disease falls upon the large
Intestine. Tartar Emetic, in an overdose,
causes inflammation throughout the intes-
-tinal Canal, and does not give rise to Dysentery.

Among the vegetable irritants, may be
mentioned Aloes, Colocynthis, Gamboge, Jalap

Scammony &c as the most active. When
either of the two first are taken poisonously,
« the most prominent symptom is excessive
diarrhoea, with the discharge of excessive
quantity of mucus.» on a post-mortem
examination « the mucous membrane
of the Small intestine was infected and
softened; and there was the appearance of
effused lymph upon it.*»

We find nothing here, either in the symptoms
or post-mortem changes similar to those
produced by Dysentery. We may also safely
conclude, I think, that the symptoms and

* Taylor's Medical Jurisprudence. p 130.

and morbid alterations produced by Gam- 41.
-boge, Jalap, Scammony &c are nearly the
same as the preceding—Even Croton oil, that
most powerful irritant purgative, produces
"in a large dose, severe diarrhoea" only; and
no mention is made by Dr Taylor of the
changes produced in the Intestines, which
could not, therefore, have been important.
There are, however, two substances, so far as
I know, which give rise to symptoms simi-
-lar to those of Dysentery; but on examining
the dead body, we find changes different from
those of the disease: I mean corrosive sublimate
and Cantharides. The first, when taken in
a poisonous dose, produces diarrhoea.
"If the individual should survive several
days, they (symptoms) are more like those
of Dysentery, tenesmus and mucous dis-
-charges mixed with blood being very fre-
-quently observed"† There is no denying that
these resemble the symptoms of the disease;
but on a post-mortem examination, we
find the following alterations:‡

† Idem. p. 89. ‡ Idem. p. 94.

« The coats of the Stomach are sometimes
 corroded, and so much softened that they can-
 not be removed from the body without lacer-
 ation: Similar appearances have been met
 with in the SMALL intestines and LARGE in-
testines, especially the Cæcum.» In a case
 of Dr Herapath "the Cæcum had been the
 seat of the most violent inflammation,
 the whole surface being of a deep black-red
 colour, and there were patches of sloughing
 in the coats.» We shall find nearly the
 same account given of poisoning by Can-
 tharides: « Dianthæa supervenes; but this
 is not always observed: - the matters discharged
 from the bowels are mixed with blood and
mucus.» p. 135. On inspecting the body
 after death, it was found that « the whole of the
alimentary canal, from the mouth downward,
was in a state of inflammation» p. 136.
 We, therefore, find that, if the symptoms
 produced by poisonous doses of corrosive
 Sublimate and Cantharides are similar
 to those of Dysentery, there is a wide difference
 in the morbid alterations observed after

death. Thus in the case of poisoning by these substances, the whole of the mucous membrane of the small and large intestines was inflamed and sometimes corroded; whereas in the disease, when uncomplicated, the morbid changes are limited to the Large Intestine; and not only to it, but to a part or element of it, at first, to the solitary glands! Besides, in Dysentery, apart from ulceration, we very often find very little trace of inflammation in it on death.

Will it be said that bad wine, water, fruit, improper articles of diet &c act differently from all the substances above quoted? Is it that they produce Dysentery not by mechanically irritating the mucous membrane, but by generating a poison or morbid agent in the alimentary Canal, which is absorbed into the system? We may perhaps elucidate the point by studying the cases of disease caused by "Poisonous food". Thus mussels, fish, charr, german sausages, pork, bacon &c &c sometimes give rise to symptoms of irritant poisoning; but the symptoms are the

following: « The symptoms are sometimes 44
accompanied by vomiting, colic and diarrhoea »,
on a post-mortem examination « no appear-
=ance was found to account for death. »⁺

Here also we find no symptoms or morbid
changes like those of Dysentery.

But let us admit for a moment, that acid
ingesta may cause true Dysentery, we shall
ask next why they limit their injurious
influence to the solitary glands of the Large
Intestine? Why do they spare the mucous
membrane of the Small Intestines and that
also (in the great majority of uncomplicated
cases) of the Large Intestine, which intervenes
between the solitary glands?

I am, therefore, inclined to think that all
acid or acid ingesta do not produce Dysen-
=tery, by acting mechanically, & that vicissitudes
of weather only play the part of predisposing
causes of Dysentery. The true exciting cause
of the disease lies beyond this. It may be
produced by some blood changes, as the occa =

+ Dr Taylor - Med. Jurisprudence, p 140.

= sional coexistence of scurvy seems to point 45
out; or sometimes to an epidemic constitu=
= tion; but what those changes in the vital
fluid, and ~~what~~ that condition in the atmos=
= phere, are, no one, I conceive, yet knows.

May it not be that when Dysentery is sporadic,
it is the result of blood changes, and when
Epidemic, of atmospheric constitution?

Upon the whole, it seems that Dysentery
finds its most efficient causes in the Tropics,
for it is there that it is so rife and put on
so severe a form. What can then be the
reason of the prevalence of the disease there?

We find in those countries great heat, mois-
-ture, and malaria in abundance. Is the
disease, therefore, owing to a malarious
poison, but different from that of continued
fever, and of any other? If so, how is the oc=
= currence of Dysentery to be accounted for
in Europe, where Malaria certainly is not
rife, and especially on board-ship where
no malaria can be in operation?

I confess that the explanation is very
difficult.

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Pathology: - However produced, whether introduced into the system from without or generated in it by some unaccountable process, it would seem that the poison or morbid agent which causes Dysentery has a tendency to be eliminated by the Solitary glands of the Large Intestine. Thus, I conceive, it is attracted by them or determines to them (why I know not) to be eliminated from the body; and, in that salutary process, causes inflammation and ulceration of them; just as the poison of continued fever is attracted chiefly to Peyer's patches, and also to a small degree, to the Solitary glands of the Small intestines, and causes them to inflame and ulcerate in the process of elimination.

But in Dysentery, the glandular alterations are more constant than in Typhoid fever.

This, however, is merely a speculation on my part, and I give it only for such.

That there is a connexion between the skin and the mucous membrane of the alimentary canal, cannot be doubted. Thus certain articles of diet taken into the stomach

1
produces an affection of the skin, ex. gr. 45
urticaria; and certain injuries sustained
by the tegumentary system produce disease
of the mucous membrane of the Digestive
Canal. Thus, I find, the following passage
in Dr Witt: « Moreover it has been shown
by Mr Curling that severe burns in young
people are sometimes followed by an acute
ulceration of the Duodenum, commencing
probably in BRUNNER'S GLANDS, and liable
to terminate fatally by perforating the in-
-testine.....

The cause of these visceral affections is sup-
-posed to be the cessation of the exhalant func-
-tion of the ~~skin~~ injured portion of skin;—
but this explanation merely adds to the
obscurity.†

C Dr Parkes makes the following statement:
« If, as I have reason to believe, the doctrine
of increased action of the liver be erroneous,
the effects of heat are to diminish all the
secretions except that of the skin. We can

† The Surgeon's Vade Mecum, p 135.

then easily conceive, that as the cutaneous excretion plays a more important part than in colder climates, so alterations in it are followed by graver consequences. Why these consequences should implicate the colon so particularly, is at present impossible to determine.

- Question of Contagion:—Ballingall, Bampf-
field, Dr James Johnson, Dr Parkes & State
that Dysentery is not contagious. Some au-
thors, however, maintain that when patients
labouring under Dysentery are huddled together,
the disease may become truly infectious.
But, it is asserted, on the other hand, that
under these circumstances, typhus fever is
associated with the Dysentery, and is the true
cause of the infection. Yet, Dr Copland asks
why under these circumstances, the disease
communicated is always Dysentery and
not fever alone? Other authors state that
it is the noxious exhalations arising from
the excretions of the sick that infect the
others. Dr Alison says « there is no good
ground for doubting, that in certain cir-
-cumstances, it may spread by contagion » P. 321.

I now ask, since this is the case, whether Dys- 47.
-entery is simply the result of vicissitudes of
weather? What other instance is there of an
inflammation, caused merely by cold or at-
-mospheric changes, being contagious? I conclude,
therefore, that the cause of Dysentery is (in
certain circumstances, at all events) Specific.
New comers are more liable to be attacked
by Dysentery; and both sexes are equally
subject to it.

C. Prognosis: - Sporadic Dysentery, in temperate
climate, and in persons of good constitution,
is not often fatal. Even in India, under similar
circumstances, European Soldiers are not cut
off more than three percent. But when the
disease is epidemic and in hot climates, it
destroys life as extensively as Asiatic Cholera.
The favorable signs are a diminution of
the pain, tormina, tenesmus and tenderness,
of the number of the stools which also become
changed in their character, the blood and pus
disappearing from them and their feculent
nature reappearing.
The unfavorable signs are a cessation

of the pain without a change in the character of the stools, especially if adynamic symptoms are present; protraction of the disease beyond ten days and great extent of surface implicated; and also extremely fetid stools, weak pulse and hiccup.

Treatment

1^o of Acute Sthenic Dysentery: - The most rational plan of treatment seems to be the following which is, in particular, sanctioned by Dr. Parkes. If the case be seen early, as within the first few hours, venesection is advisable and is very beneficial. It must be repeated if, after some time, there are still much pain or tenderness of the abdomen, and fever, or if the stools are not improved in character. Some authors state that bleeding is not advisable, even if the case be sthenic, if the stools are like the washings of putrid meat. If venesection is not deemed advisable, then it will be necessary to leech the Right Iliac fossa, or ^{over} the Sigmoid Flexure, or the Transverse Colon; and the number of leeches may vary from ten to

to twenty, according to the urgency of the case. Also, if, after venesection has been employed, there is still a little pain or tenderness of the abdomen, and it is thought fit not to bleed generally, leeches may be had recourse to, applied to the painful spot. If there is much tenesmus, leeching the anus or along the curve of the Sacrum (as advised by Dr Copland) is very good and gives great relief. The leeches may be applied two or three times in the day, if the disease is violent; and in India, this practice is carried on for seven days sometimes, and with benefit, according to Dr Parkes. It is the character of the Stools especially which directs us in repeating blood-letting; namely, if they contain much blood and are scanty, and do not assume the feculent appearance after the first bleeding.

Next, I would give Calomel combined with opium, as two or three grains of the former and one of the latter, in a pill; and half an hour after, I would prescribe some Castor oil and Laudanum to purge, and at the

50
same time, soothe the irritated bowels. This
anodyne purgative causes great relief to the
patient. Purgatives are considered by some
authors to be exceedingly useful; especially,
when the Dysentery is sudden in its attack
and preceded by constipation. Thus Dr Cheyne
of Dublin gave full doses of bitartrate of
potash; others administered sulphate of
Magnesia (Rowlands); some practitioners
gave from half to one drachm of Ipecacuanha;
and Mr Swining exhibited from four to
eight grains of Ipecacuanha, and alternated
this with large doses of Jalap. But I can-
not help thinking that the ulcerated state
of the bowels must be greatly irritated by
such drastic purgatives; and I am of opinion
that Castor oil and Laudanum are more
eligible than the other substances I have
mentioned, in the disease under consideration.
As soon as the bowels have been moved,
it is a good plan to give a pill composed
of two grains of Sol. Hydrargyri, one quarter
of a grain of opium, and half or one grain
of Ipecacuan; and to repeat it every five

hours. Or instead of this, some persons prefer 51.
giving two grains of hydragryum cum creta
and five grains of Dover's powder.

Now an important question arises: Should
we give mercury to salivate the patient?
Dr Parkes draws the following conclusions,
from his experience in India: 1^o In a certain
number of cases of acute Dysentery, ptyalism
gave great relief; 2^o in some others none at
all; 3^o in a third class of cases, Ptyalism can-
= not be produced; 4^o in a fourth class, it is
uncontrollable when produced and affects the
general health subsequently, 5^o in adynamic
and malignant Dysentery, salivation is
absolutely contra-indicated; 6^o In the pur-
=puric or scorbutic variety of the disease, it
is injurious; 7^o where the cure seemed to be
effected by salivation, convalescence was
more protracted than when the treatment
had been mainly depletory; 8^o when there
was hepatic abscess or tendency thereto, there
was no evidence that mercury is more parti-
=cularly required. Lastly, he comes to the
Conclusion that the notion of curing

Dysentery by mercury must be relinquished. 52
- In mild cases of Dysentery, Nitric and Nitro-
- muriatic acid. ~~and~~ also purgatives are good.
Lemon juice and vinegar are said to be very
useful when the evacuations from the bowels
are highly alkaline.

When fever is present, tartar Emetic admin-
- istered as a lowering agent and diaphoretic
is good. Then too Squills are good as an adju-
- vant; but must occupy a secondary place
in the treatment. If at the outset of the disease,
the Stomach is loaded, then I would consider
it well to give an emetic.

Acetate of lead is a valuable remedy when
the bleeding from the bowels is considerable,
and the more acute symptoms have subsided.

+ It is well known that this substance
tends to produce inflammation of the mucous
membrane of the alimentary canal; but Dr
Parkes states, that, in minute doses, its action does
not extend beyond the Stomach and Duodenum. But
May it not cause irritation, if not inflam-
- mation, of the lower tract of the mucous membrane?

It may be given (by the mouth) to the extent even of five grains every third or fourth hour. Balsam of Copaiba and oil of turpentine, in combination with Laudanum are also stated to be good under those circumstances.

Local treatment:— Large emollient Enemata of marsh mallow, linseed tea, melted butter, olive oil &c produce great relief and may be employed; or else small spicate Enemata consisting, for instance, of two or three ounces of warm gruel and half or one drachm of Laudanum. If the blood in the stools be considerable in amount, I would give an Enema of cold water, containing from fifteen to twenty grains of acetate of lead; and this may be repeated every four hours, if necessary. Some authors even advise to administer one drachm of acetate of lead in the Enema! If, however, the quantity of blood passed be trifling, a small Enema of cold water is sufficient. Sometimes, and according to Mr Twining, relieves the vesical irritation as well. Injections composed of infusion of Specacuanha or tobacco have been recommended; but I confess

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my unwillingness to try such potent and dangerous agents. Opiate Suppositories are advised for the tenesmus; but I should think that the irritability of the Rectum would render their use unpleasant, if not intolerable. In stead of them, it would be better, I conceive, to give a small Enema composed of one drachm of Laudanum and two ounces of cold water; or to apply a belladonna plaster to the rectum, as practised by Dr Copland. Mr Moirning speaks very favorably of the former plan. Warm or vapour baths are very good; but if they cannot be procured, hot fomentations or warm soft poultices applied to the abdomen, and constantly renewed, are very grateful to the feelings of the patient - When the Dysentery lapses into a flux, then I would give opium with catechu, kino, acetate of lead or zinc, by the mouth, and order clysters containing Sulphate of zinc and Laudanum. - It is to be understood that the above grand antiphlogistic remedies are only to be used in a severe case of Dysentery; in mild cases, a few leeches, or blisters

over one or the other iliac fossa, according to 55
the seat of the pain or tenderness, and dressed with
Morphia, are sufficient to relieve the inflam-
-mation, whilst the pills above mentioned
and castor oil and Laudanum are taken
internally.

But one of the most important points is
to pay the strictest attention to the diet
of the patient. The Large Bowel which is the
principal seat of the disease, must be kept
as empty as possible, whilst in an irritable
state. We must, therefore, order barley water
or very thin sago, in cupsfuls every sixth
hour or so; and in the interval very little
fluid must be allowed. By following such
a plan, the food will probably be all absorbed
before it reaches the Large intestine. We must
also use great caution in allowing the patient
to return to his usual food; as errors in diet
are the most common causes of relapse.
The patient, too, must be confined to the re-
-cumbent posture, as faintness might
ensue if he rose, from the active depletion
used and the small amount of food allowed

him, coupled with the effects of the disease. 56
29. Of Asthenic Dysentery (acute):- If the prostration of the patient is not excessive when he is seen, I would apply a few leeches to the abdomen if rendered necessary by the symptoms which have been already described, and afterwards a warm turpentine Eplithem. to be renewed frequently. In all cases of Asthenic Dysentery, I would not bleed at the arm, « especially when the disease is epidemic and in moist seasons » (Copland). I would next administer a pill composed of Calomel, Specacuan and Opium, to be followed, after a few hours, by Castor oil and Laudanum, and Emollient or Opiate Enemata, if tenesmus is present.

An Emetic of Specacuanha, at the outset, may be useful, if indicated by the state of the digestive organs. If these remedies do not subdue the disease, it is necessary, to administer full doses of camphor in combination with opium, Dover's powder or hop, every five or six hours.

If the disease is likely to become protracted

occasional purgatives of Castor oil and tur- 57.
-pentine, floating on milk or aromatic water,
are good; and in a more advanced stage still,
bitter tonics and astringents are most
serviceable. If the debility of the patient,
however, be extreme, bloodletting in any way,
is, I think, contra-indicated; and Camphor,
with Hydrargyrum cum creta, ipecacuan
and Opium are our main resources. At the
same time warm turpentine Epithems should
be constantly applied, till relief is obtained.
Decoction of Cinchona or Serpentina with
Camphor or chlorate of Potash, should also,
according to Dr Copland, be exhibited to the
patient; and if the Evacuations are copious,
Opium and astringents should be resorted to,
with injections of alum. In conclusion, I will
quote Dr Pukes' Opinion: « In the adynamic
form, in Natives or Europeans, alum com-
-bined with catechu and camphor is the
best treatment, with small doses of Dover's
powder in the intervals, frequently repeated »

Complications of Dysentery.

58.

The complications of Dysentery are Suppurative hepatitis, Scurvy or Purpura, Simple Remittent, Bilious Remittent, fever accompanied by head-symptoms; malignant remittent, regular or irregular intermittent, fever, typhus, Cholera, Rheumatism, Gastro-Enteritis &c. We shall say a few words only of the following:

Hepatitis complicating Dysentery.
Hepatitis may precede or follow the occurrence of Dysentery: when it precedes the occurrence of the latter, the question has been raised whether it is it that produces the Dysentery. According to my humble opinion, the answer should be in the negative, as I have partly shown in combating Dr. Johnson's opinion; and since hepatitis frequently exists without giving rise to Dysentery, and that the latter may be cured before its presumed cause is removed, which it would be absurd to suppose. But Hepatitis may come on after the accession of Dysentery and make it

appearance during the course of the latter, or 59.
when it is partially cured. Again, in this
case, I deny that the disease of the liver
is derived from that of the bowels; since
«Dysentery is observed to be very frequent
and very fatal among the natives of Ben-
gal, while affections of the liver are exceedingly
rare among these people.» (Swining).

Besides, if suppurative hepatitis is owing
to absorption of pus, "or some vitiating in-
gredient" (Watson), from the ulcers of the Large
Intestine, as maintained by Dr Budd, how
is it that we do not invariably meet with
the hepatic disease when Dysentery is
present? Since the cause, according to this
view, is in operation, we should see the
effect of it; yet Dr Parkes proves that ulcers
may be present in the Large Bowel, and no
abscess be found in the liver! Also, if the
suppurative hepatitis results from absorp-
tion of unhealthy matter from the ulcerated
intestines, we, doubtless, ~~ought~~ ought to have
suppuration of the Mesenteric glands
in all cases of Dysentery; yet we find them

morely enlarged and inflamed; and Dr. Parkes 60. says: « I never saw suppuration of them in secondary hepatic abscess! » The same author also states that the affection of the liver is not produced by venous inflammation in many cases.

One is led to ask why in ulceration of the Small Intestines produced by typhoid fever or Phthisis, or external burns or scalds, or in the simple chronic ulcer of the Stomach, there is no disease of the liver?

Dr Budd makes the statement that Dysentery always precedes suppurative hepatitis; and this is necessary to his hypothesis concerning the manner of production of the latter disease. But

Dr Copland, on the other hand, observes. « that inflammation of the liver occurs, either previously to, coevaneously with, or consecutively on, the dysenteric affection »; and Mr Annesley speaks of « Dysentery supervening to disease of the liver » and « when the affection of the liver supervenes to Dysentery » (Parkes).

What then produces the disease of the liver, 61.
I may ask, when the Dysentery is absent,
and no ulcers, therefore, are to be found in
the Large Intestine? According to Dr Budd's
view, there should be no suppurative
hepatitis in that case.

I, therefore, consider that the hepatic dis-
-ease is produced by the vicissitudes of weather
during which Dysentery commonly arises,
and that it has no necessary connexion
with the latter.

The affection of the liver may be declared or
latent; and its symptoms will vary accordingly;
but we shall not describe them, and merely
add that the treatment is the same as
that of Dysentery, with a few additions.

Scorbutic Dysentery.

In this form of the disease, the morbid altera-
-tions are not confined to the Large Intes-
-tine; but the Small Intestines are also
affected, the mucous membrane being
congested and dark, especially that of
the Ileum. We also meet more frequently
with perforation of the bowels, and some-

times find general Gastro-Enteritis and ulceration of Peyer's patches and of the solitary follicles of the Small Intestines. There may also be ecchymosis of the mucous membrane. Formina and tenderness per se may be absent; but tenesmus is generally urgent. The stools contain dark blood; and in an advanced stage, are very foetid.

Treatment:— topical depletion by leeches, if indicated by the nature of the stools, and the exhibition of blue pill and ipecacuan with nitric acid, warm bath and opiate enemata to relieve the tenesmus. The diet must in addition to farinacea, consist of vegetables and lemonades. (Parkes). If after a week or thereabouts, the acute character of the disease subsides, then creosote should be immediately exhibited to the patient, and may be gradually pushed to fifteen or more minims.

Dysentery with Remittent fever. The fever may be regular or irregular; and does not appear to be, in the least, affected by the Dysentery; whereas the latter always

assumes the asthenic form. If the ague be regular, the stools are numerous and copious; if irregular « there is only generally watery diarrhoea » (Parker)

The treatment is said to be easy; leeching the abdomen freely, and administering quinine, opium and astringents, combined together, with leeches to the anus and Enemata of acetate of lead or opium, to alleviate the tenesmus, is the best plan.

Bilious Remittent fever and Dysentery. There is pain over the hepatic region, headache &c in addition to the other symptoms of Dysentery, as bloody stools, tormina, tenesmus &c

Treatment:— Leech freely the region of the liver and the other seats of pain of the abdomen, and give quinine, blue pill and opium—

In both these cases of fever complicating Dysentery, the principal point is to subdue the fever by giving quinine rapidly at the beginning of the disease.

Chronic Dysentery.

64.

may begin as such from the beginning or may be the termination of an acute attack. We have already described its anatomical characters; we need not, therefore, repeat them under this head.

Symptoms: they are essentially the same as those of the acute form; varying only in their minor intensity. The constitution, however, suffers very severely sometimes from the protraction of the disease, especially if there is great extent of intestines implicated. Emaciation, pallor and hectic fever come on; the patient gets more and more enfeebled; until at last death happens.

Prognosis: This depends upon the length of time that the disease has endured: thus, if recent, the lymph which has been profusely poured out upon and between the coats of the Large Intestine will be reabsorbed by the treatment; but if the disease has been protracted, this salutary effect can hardly be accomplished; and many other complications are then also

apt to come on, especially disease of the
liver or Pancreas.

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Treatment: - If any exacerbation be present,
it will be our duty to employ topical
blood-letting by leeches applied to the
painful spot. Mercury will also be
advisable to remove the coagulable
lymph of which we have spoken;
but it must not be pushed so far as
to produce ptyalism. It may be given
in the form of Calomel or blue pill in
combination with ipecacuanha, gentian
and taraxacum; or what is better still,
corrosive sublimate (from one-twelfth
to one-sixth of a grain) in decoction of
bark may be administered three times
a day - Dover's powder, occasionally at
night, may be very serviceable, espe-
cially if there is pain or insomnia.
At the same time flying blisters, or
mercurial or ioduretted liniments
applied to the abdomen may hasten
the cure. Later on in the disease,

when the more acute symptoms have subsided, nitrate of silver will prove of signal importance, given by the mouth in the dose of one-sixth to one-half of a grain in dilute nitric acid; and in an enema containing two or three grains of it. It acts as a tonic and astringent.

Also Nitro-muriatic acid is very highly spoken of by the practitioners of India, particularly in the case of natives. Five minims of it may be taken internally ter die; and it may also be employed as a lotion applied to the abdomen and hepatic region (if the liver be diseased); or a warm bath containing an ounce of the acid to the gallon of water may be taken. When the constitution of the patient has been shattered by the ravages of the disease, then it becomes advisable to give sulphate of copper, zinc or iron internally. During convalescence, bitter tonics, change of air and especially removal to a ^{temperate} ~~colder~~ climate, a strictly

farinaceous Diet. Should be recommended, 64.
and no beer or Spirit be allowed, or only
very little Sherry or sound brandy.
The return to animal food must be very
cautious and gradual.

N. B. Dysentery in the dark races requires
the same treatment; ipecacuanha being
~~especially~~ particularly beneficial to them.

I have inadvertently omitted to speak
of the Diagnosis of Dysentery; but
this is generally very easy and by collating
all the symptoms, the nature of the
disease is known at once.

The End.

University of Edinburgh,
January 1st, 1853.