On some points in the Etiology, Diagnosis, and Curae of Remedia in Depentery & disappear

by

James Campbell M.B. C.M.

(2nd January 1882)

Hydnty Hill
Cork

April 1886.
In the Colony of Natal, when I was in private practice for two and a half years, and at the same time held the appointments of District Surgeon and Indian Medical Officer for the County of Victoria; in these capacities, I acted as Medical Officer to the jail, and to the largest Central Hospital for Indians, containing forty (40) beds, and to twenty Indian Plantations, employing from ten to twelve thousand Indian Immigrants; it was my good fortune to be directly and permanently in charge a large number of cases suffering from affections of the
Bills, especially Diarrhoea and Dysentery; this led me to take a special interest in these diseases, to observe, and to endeavour accurately to investigate anything which might aid me to gain a better practical knowledge of these important maladies, and to record my results as the subject of my thesis to be presented to the University for the M.D. degree.

Was it in Great Britain it rarely falls to the lot of a physician to treat acute Dysentery, or the Diarrhoea which is common in both Climates, and therefore does a paper as the present might be supposed to be restricted
in its value; it may seem ambitious also to venture to add to the knowledge of these diseases, about which already so much has been written, and by so many, among whom I may mention, Parke, Jordan, Yorke, Maclean, and Sayre, but I believe that careful original work must have a corresponding value, even though it only be to the author, and then you submit, without hesitation, the record of what was a most interesting study.

I propose to give a systematic description of the diseases, as I observed them, dwelling particularly on the signification of certain facts, in
relation to a proper appreciation of the
Etiology, Diagnosis, and Curative
Action of the drugs in use in the
treatment of Diarrhoea and Dysentery,
together with a few selected illustrative
cases, treated for the most part in
Hospital.

I must premise with a short
account of the people, Climate, and
Condition, of the locality in which I
practiced.

The people may be naturally classed
as the White or European, and the
Black, Asiatic (Indians) and African
(Native Kaffirs).
Amongst the white population, the diseases under consideration, were much less common than amongst the Indians and Natives. From general hygiene surrounding, even in many cases accidently had, the Natives rarely presented themselves for treatment by an English Medical man, so that my observations were carried on almost exclusively amongst the Indians.

These Indians, men, women, and children, had been introduced from India to supply the labour necessary for the sugar industry. The manufacture of wine, is largely
Carried on in Natal, before being shipped they had to pass a satisfactory health examination before a Medical Board, and may therefore be regarded as a healthy class of people, although doubtless they lose many who, from long residence in malarial parts of India, were constitutionally predisposed to disorders of the bowel.

The district consisted of low-lying coast land, penetrated by three rivers, along whose banks, at intervals, were stretches of marshy ground, and like most places
While Sepoytry and Sciarthima, an eulaire, may be described as
Diluvial, Intermittent and
Remittent fevers being by no
means uncommon, the Indians
were especially exposed to the
Diluvial poison, as in the
majority of instances their Burjolos
were pumped round the Sjgar
factories, which were always
built on the River side, in order to
obtain the water essential in the
process of Sugar making. The
Aidrai Burjolos a hato, were
so situated in order to be near
the scene of labour.
The climate is subtropical, and the year may be divided, into a six months period of heat and wet, extending from October to March, the temperature frequently rises to 100°F. in the shade, rain falls in large quantities, especially during the latter two months, from April to September a six months of dry temperate weather. Cases of disorder of the Bowels begin to present themselves in Bombay, at the commencement of the hot rainy season and gradually increase in Bombay until the maximum is attained in January and February.
then a gradual diminution takes place, till the minimum is reached in June and July.

The following page will show a summary of the number of cases which occurred in each month, during two years, from September 1883 to August 1885; in the table I have not attempted to separate the cases of diarrhoea and dysentery, as I intend to shew hereafter that they are frequently branches of symptoms of an identical disease, dependent on the same cause.
### Yearly Cases

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The term *Diarrhea* is generally applied to a symptom a group of symptoms which may be present in various diseases, and the term Diarrhea to what is regarded as a distinct affection of the Colon, characterized by certain symptoms. E.g. Pain, tenesmus, Borborygmus. I desire to use the term *Diarrhea* in quite as restricted a sense, and apply it to a distinct affection of the Bowel, characterized by the passage of liquid stools. I therefore leave out of consideration such specific diseases as:—Enteric Fever, Cholera &c.
The two diseases present so much in common that it is impossible always to draw a distinct line of demarcation between them. I have therefore decided to treat of them together. A case which today may be called strictly one of diarrhoea may tomorrow exhibit symptoms, a case of dysenteric symptoms, a case of dysenteric may evolve itself into one of chronic diarrhoea.

It is generally believed that diarrhoea is a disease essentially of the small intestine, and dysenteric of the large, and it was the difficulty which sometimes presented itself in
After having immediately ascertained whether a case was one of diarrhoea dependent on a catarrhal inflammation of the small intestine, or of diarrhoea preceding dysentery, which led me to ask: Does the symptom diarrhoea always depend on disease of small intestine? if not—have we any means to assist us in accurately diagnosing the part of the alimentary tract involved in the disease?

A careful comparison of the faces, as soon after being passed as possible, with what is known to be the normal state of the contents of the gut in health, suggested
itself to me, as the best means, for clearing those points. As a general rule the Physician is satisfied with a cursory glance at the depots of a patient, and off-hand decides, that there is Scarlatina, a Dysentery, and that therefore the anal a large intestine is diseased, according as he sees a fluid or bloody condition. The stools be more examined unless some symptom a statement of the patient directly points to some abnormality; he is in the habit of systematically examining the urine, but anything like a careful examination of the faces, is never thought necessary, merely a glance at the face is availed
and the offending vessel containing the excrta, is removed out of sight. This is no doubt due to the unsavoury nature of a careful examination; was it as easy to examine the faces as the urine, we should have daily news of our hospitalogical cases of the quantity, constituent, and microscopical examination of the faces passed every twenty four hours, and should be in a far better position to appreciate abnormal conditions of the Bowel; thus unless he is better able to benefit any case of disease, as the Elementary treat is involved directly or indirectly in all cases, of Anaemia disease.
During my examination of the Cases under my care, I was struck with the fact that in no Case of Diarrhoea Bell would be present in quantity, while in another and apparently similar Case, not a trace could be found, after further investigation I found that in the Cases of Diarrhoea which terminated in Septicemia, Bell was generally absent from the feces. This phenomenon I determined to study, hoping that it would throw some light on the nature of the disease, and perhaps afford some data that could be regarded as certain in the diagnosis and treatment of those Diseases.
and transformation of the bile had been so
completed as not to give its characteristic
yellow reaction on the addition of nitric
acid. I had ample opportunity of deciding
this matter by examination of the
intestines of six cases, where death was
sudden, while the victims were in a
good state of health, and from the
results am not open to falacy.

The causes of death were as follow:

1. Poison. — Three of suffocation by
phthisic and fever — and five of pectoral
stinging. The latter is a common cause
of death among the Indians, who do
away with themselves on the smallest amount
of provocation and without lapsing into

The examinations were all made in from, two to twenty hours after death, the brains were healthy except one of a man who committed suicide. White cells presented with marked pyknitic changes, at both cephalic there was no recognisable lesion of the Brains however.

In each case the skin after the put from the pyloric region of the stomach to the spinal column of the skull. The presence of bile was determined by the nitric acid test, which depends on the conversion of the bile pigment bilirubin into a series of other pigmentary substances. Each characteristic by a distinct color, of which a play takes
place. The solution of Sulphuret of Potassium, becoming grey, became blue, blue, violet, blue red and finally a pale yellow. (See text book of Physiology, p. 329). The experiment was carried on as follows: A small quantity of the Contents of the Bowel, was taken from any point, and placed in a porcelain dish, a drop of nitric acid was placed at the margin in contact, and the colour reaction watched for.

These experiments lead so strongly in the pursuit elucidation of the subject, that I give the results in detail on the following page. The results will be found to be remarkably uniform, except in three cases, in children. When the
Results of post mortem testing of contents of intestines at different parts, with nitric acid, to detect presence of bile, in Su Cases.

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was a haemorrhagic condition with no abnormal condition of the Bowels and which may be regarded as due to serious intoxication preceding the act of Self Destruction.

Except in the true cases already referred to, the Bowel reaction could not be obtained from the Contents of the Colon, in the termination of the Pileum, the reaction was either absent altogether or very indistinct, proving that in the normal state of affairs, the Bowel should not be recognizable in the Contents by the time they have reached the Colon.

Oedema and Inflammation must depend on the state of the Intestinal Walls.
2. Diminished absorption of the naturally fluid contents.

3. Excess or abnormal secretion from the intestinal walls.

These causes may operate alike on the small or large intestine. Though obviously the small intestine, being loose in its connections, the first cause will be the most important factor in connection with watery stools.

While diminished absorption will take place in the lining of the colon, when under natural circumstances all the fluid is extracted from the content.

While the 3rd cause will take effect in both cases. Diarrhoea and Dysentery.
It follows from the above fact, that when the Large intestine alone is diseased, the diminution of absorption together with the increase of Peristaltic motion, abnormal ascension of action will operate and give rise to diarrhoea or Peristaltic symptoms. In this Case, as the small bowel not being involved in disease the contents will undergo their natural change and be passed in due course into the colon, the bile having disappeared by this time, no tarry is discernable in the faeces.

On the other hand if the small intestine is diseased the increased peristaltic and other causes hurry the contents rapidly through the necessary change cannot take place.
the bile does not undergo its normal changes, and is forced into the colon混
with the other contents, and appears in the faeces. When it reaches in addition of the
fatty acid. To make the statement
plausible, I am testing the effects of
in a patient. Bile is found, the small intestine
is diseased, (and possibly the large). If no
bile is found in an abnormal stool, the
large intestine is at fault. This
approach, which has been successful in my
own practice and I now submit it, as
a most important contribution towards
the diagnosis of which part of the intestinal
tract is involved.

In the early stages it is frequently impossible
to distinguish between diarrhoea dependent on Catarrh of the Small intestine, and the diarrhoea which precedes Dysentery. Jordan and the author in their Articles on Diarrhoea and Dysentery in Reynolds's System of Medicine, and Haynes in his Tropical Diseases p. 35 &c all recognise this difficulty, and none of them in any other obse... as far as I am aware, have made use of this success as a measure of.

determining the actual disease, it is of the greatest importance that the Early Diagnosis should be made, as the disease as then, for some amenable to treatment, and many Cases which would be treated
with opium and castor oil as ordinary
Diarrhoea, if treated with Senna and a car
immediately cut short and the Dysenteric
have donated the Potent Fruit Bork
of Medicine. 1st p 149 occurs this
passage that Senna is valuable in
certain forms of Diarrhoea, according to my
own experience this is true in the form
of Diarrhoea which is dependent on disease
of the Colon, and caused by the same
specific poison which ultimately would
have given rise to Dysentery.

From what has been said it will
be gathered that I consider there are two
entirely distinct forms of Diarrhoea, one due
to disease of the small intestine, and Cancerous
by the presence of bile in the biliary tract and to the disease of the large intestine, frequently, though not invariably, followed by dysentery, and due to the same cause, and characterised, by an absence of bile in the biliary tract.

I now proceed to consider the etiology of the diseases.

Etiology

Many theses have been advanced in explanation of the cause of dysentery; it is a point still "sub judice," though Dr. Lea's belief that it is caused by a virulent poison, generated by the decomposition of organic matter, receives strong support from the fact that the disease lies at all
times been most prevalent in Australian
Districts. The general tendency at
present is to look for some specific
Microorganism to explain the origin of
many diseases; so I believe that the
Cause of Dysentery can only be looked
for among the Salmonella producing germs.
The germ having its habitat in the
Colon and giving rise to the symptoms
known as Dysentery. Until the germ
is absolutely proved to exist by
demonstration, I think that the
Consideration of the following points establish
it as being the most likely theory. 1. The disease
is most prevalent in hot and wet weather, and in
soil which contains decomposing organic matter, all then
Conditions most favorable for the development of a disease form. 

1. The disease occurs in a part of the intestine where decomposition naturally takes place, and these favorable tissues;

2. The rapid onset of gangrene in these cases is comparable to the pathoactive death of tissue; which might take place, for instance, in an amputation stump, and known to be due to bacterial action.

3. The pathoactive death of the Exceta

4. Microscopic examination reveals the presence of innumerable Bacteria and Micrococci in the Exceta, which begins deep murmurs to which the disease becomes

5. The disease is best cured by inoculation
Matters as act autagnostically & the forms, and which are truly antiseptic of the disease under certain conditions is infectious.

Heat, moisture, sudden change of temperature, improper water, exposure to cold, mountain air, bad food, worms, intemperance; vitiated air, are all favorable to the development of the disease. Amongst the Indians, badly cooked food I found to be a most important factor in considering the cause. I found that the unmarried men, who prepared their own food which was done in a lavished manner, suffered from diarrhoea and vomiting more frequently than the married men whose wives naturally undertook that work.

During my term of office I made a thing recommendation
the Natal government, in a report on the condition of the Indian Immigrants under the charge, in 1885, that a Ration consisting of a vegetarian resembling bread, peas, and "Cape" Potatoes shall no longer be served and as many lives in the habit of eating it miscarried, with the result that there was frequently a small epidemic in the plantations, after the initially Ration of "Potato" had been distributed.
Symptoms.

In all cases there is a preliminary
long or shorter period of diarrhoea, in some
cases confined to one or two loose stools, in
others, the diarrhoea may continue for
three, fourteen, or more days, and seldom
resolution takes place, or if not treated
the disease progresses until Hospital
is established. The symptoms in no way
differ from those dependent on Catarhmal
Inflammation of the Female Intestine, but
Can be distinguished therefrom by the absence
of bile in the faces. The stools rarely
Exceed Six to Ten in number, in Twenty
Four hours, and the may be some
abdominal aches; though the pain is
New scheme, the brain on the system gradually weakens the patient. The appetite is lost. The tongue purled softly that the stomach is affected sympathetically. This is generally not much febrile disturbance, unless the patient has suffered from malarial fever. When frequently, there are periodic rises of temperature. The stools present the following characters. They are thin, a little liquid, the food well digested, abundance of mucus, showing that there is a catarhal inflammation. No pain or blood is present at this stage. As the disease progresses the calls to defecate become more urgent and frequent. The stools may rise to as many as fifty-four in twenty-four hours, being pains in the
Automen commence, and then may be
pain on the walls along the course of
the large intestine. There is nausea, sometimes
vomiting, thirst is sometimes intolerable. The
patient complains of a burning sensation along
the rectum and at the anus, thus is
frequently rush straining and bearing down
in the act of defecating. The stools lose
their feecaloid appearance and become brown
shiny, watery, composed of a gelatinous
looking material composed of mucous and pus.
Blood at first in flecks and after in
large quantities. Of the disease is seen
threads of mucous membrane appear. The
strom is peculiar and putrefactive. If the
disease becomes worse, large quantities of blood
May pass on the thorax and the flanks increase in size.

As patient rapidly loses strength, the constant pain and thrashing at foot, exhausts the system. The body becomes emaciated, the expression of the face anxious, pinched, the temperature frequently sub normal, the pulse is always increased, and gradually tend to become weak.

The disease may spread into the small intestines, and then the impaction is marked by discharges of bilious feculent material and unless immediately checked is a very bad symptom.

Sometimes the disease affects the bladder, causing an irritability, or even strangury, this
occurs from an extension of the inflammatory action from the seat.

The liver was implicated in two of my cases. All suppurate from acute inflammation, but in only one did abscesses supervene, the case was fatal and post mortem examination revealed the presence of multiple abscesses through the liver substance.

The peritoneum is sometimes implicated and its affection is evidenced by a diffuse pain over the abdomen.

The temperature in cases of Dysentery varies very much. According to the severity of the Disease, and whether there exists a complication of Malarial Fever, in the latter case there are peculiar noises of
Diarrhoea, due to Catarrhal Inflammation.

Diarrhoea, due to Catarrhal Inflammation of the small intestine, presents many characteristics and symptoms of the Diarrhoea preceding Dysentery with no tendency to go on to the passage of Bloody stools. It may become chronic and then it frequently arises a Local ulceration.

Fresh blood may appear in the stools. Chronic Diarrhoea may exist without causing inconvenience, a loss of strength, at other times it produces a severe state of Debility which gradually ends in death; this depends altogether on the amount of food taken and the size of the stools, as I have observed cases...
among the Indians where the appetite has been for a few liquid stools a day can be quite compatible with fever.

Ammoniaca urea is frequently said to distinguish from Ammoniaca hypochlorite, but the mepacrine test is the presence or absence of Bilis in the stools.

In illustration I may relate the following case.

Indian Pri. age 18 years. Complains of diarrhoea. Cough and Pain in Abdomen.

Admitted to Central Hospital Feb. 28th 1885.

History: Diarrhoea has lasted 18 months for three months he had Edema of Joints and legs.


Very weak Marked Edema of lower extremities.

Resp. & P: Pulse 87, faint, Thready.

Immunization Normal.

Appetite good. Sleeps only 5-6 hours at a time.

Nausea: Generally 4 stools a day sometimes 6. Has no pain at stool.

Stool is watery, greasy, containing blood and a little mucus. No bile.

Abdomen is distended. Pain on various parts on Palpation, especially over Cæcum Region.

Respiration: Pyorrhea, Pus in sputum with black & yellow discoloration.
Oxyptosis. Anemic Cataractous Ocularitis.

With probable ulceration in lamina and of Heum & ascendibk Colon.

The presence of Drusus is evidence of Catarrh.

Blood of ulceration.

The absence of Bilir out the affection must be traced down the intestinal canal, in the colon and of Heum a Colon.

The number of Drusus that it was probably not due to the vom. which causes avgony.

In presence of Pain on Cacaal Region favours the accuracy of the Drusus.

This case on account of the presence of Drusus & Blood in the mouth might readily be mistaken for Avgony.
The case was treated with 10 p.c. drops of
Subnatrium Bisulph. 5 m. drops of
Alcohol. A few drops of
Dig. Biuret. Hydrochlor. But there
was obviously little hope for him when he
came into hospital. He died March
27th, 1875.

Post Mortem Examination revealed the
presence of minute tubular ulcers in the end of the Stomach.
Treatment. - I devoted considerable attention to the treatment of Dysentery and as the conclusions I have come to differ from any I have ever heard even suggested, I will relate in due the steps of reasoning by which I was driven to those conclusions.

Ipecacuana. This drug in the experience of all stands "facil princeps", in the treatment of Acute Dysentery, in my own practice I have seen it cut short an attack in twenty four hours, two doses of 20 gr. being sufficient. Thus, except in the large quantity
to be taken, and the nauseating effects of the drug, we could devise no better remedy in an uncomplicated case of Dysenteric. The beneficial effects of Spicaeaudia can certain, the rational of its action is by no means so certain, and this I set myself to investigate.

The Curative effects must be produced by its specific local action, or by its general influence on the body. In the former case we should expect that the drug introduced into the Rectum, by enema, and therefore much more directly to the diseased surface, would
be of greater benefit than if taken "per os"; in the latter case the
curative action would be better
manifested after the drug had been
d dissol\al\ed.

For the purpose of deciding this point
I administered \[spinaenalia per rectum\]
by injection in two cases of acute
dysentery, which I shall here
describe in detail. The powder was mixed in
each case in a pint of water at
the temperature of about 100°F.

1. Indiam\[a\] K. Admitted to Central
Hospital Dec 11, 84. Dysentery
with dysentery. Duration about
two days. In two, per leads composed
Dec. 12. (8.30 a.m.) 40 yr. [age unspecified.]

Inunction. Immediately returned. No motion for three hours after. Then led two or quick successions (10 P.M.)

Enema repeated. Returned to minutes, motion an hour after. Then every two hours till 10 P.M. When enema with 60 ptls was administered, which was returned at once.


Discharge. Admitted Dec. 15, 1884.

Disease Erysipelas duration.
10 stools in twenty four hours. Consisting of slender, fibrous, slimy, and bloody, at 3 o'clock P.M. 60 pdr. Spermac. was injected, which was repeated at 5 minutes, after which there was a constant desire to defecate, for an hour, for two hours following this was no stool, as the patient was able to restrain the desire, the stools after that became frequent, as every half hour. Enema containing 60 pdr. repeated at 12 midnight, repeated in a short time, then no motion for about two hours, then about every half hour, the motion, when another injection was given. Enema containing 45 pdr. the next
known did not improve, the patient was manifestly looking worse, treatment stopped.

3 Indian R. Native of Madras, admitted to Central Hospital, Dec 30, 1884.

Fainting a week. Stools about every two hours, passed with much difficulty. Contal. Blood and Benses.

Dec 31. Suffered severe emaciation continually. 40 lbs. Benses: after the second, an interval of about five hours occurred with no stool.

Jan 1. The emaciation of 60 lbs. Stools still continued numerous. Scarce more was. Patient said he was getting worse. Treatment stopped.
This two cases all occurred in the
Scurvaemia being administered by the
mouth. Thus, I think we are safe in concluding that the curative action
cannot be produced by the specific
local effect on the diseased intestines.

As will be seen from the foregoing Cases
a certain amount of relief seemed
to follow immediately after the injection
had been administered, but it is usual
to see the same mitigation of the
symptoms when a simple (warm
water enema is used), so that it
cannot be regarded as due to the
drug.

Admitting now that the drug is
Curare only on account of its general action on the System! The question remains: What is the Rationale of its physiological action? Paget in his Hesperid Disease p. 64 - quotes and evidently demo |

satisfactory. Dr. Ewart's theory which says: "In large doses, it stops inflammatory action, augments the Alum secretions, from oesophagus & Rectum, increases the flow of bile and pancreatic juice, purges without irritating, lessens peristaltic action, produces not, vomiting & tenesmus, promotes Diaphoresis, restores the balance."
of the Pastel circulatation, is a direct
sedative of Cardiac action, acts
on the glands of the Stomach and
Duodenum, Pancreas, Liver, and
Small Intestine, and on the glands
of the Large intestine. It seems to me that Dr. Erast has
confused the observed beneficial result
of administering the drug, with a
few of its physiological actions, and
given the whole as an explanation
of the Rationale of the behavior
of the drug. We learn from him
what the remedy does, not how
it does - that it cures the
symptoms which constitute Dysentery.
but not why it does so!

It will be well first to recall what is known of the physiological action of PPC analgesia, and then to consider its observed effects after administration to a case of periarticular.

Inhaled the drug causes a general irritation of the serous membranes of the nose, eyes, intestinal lining, and respiratory tract generally, often causing a profusion from their surfaces.

Taken in large doses (15-530 p.) it increases the salivary secretion, irritates the glands of the stomach.
And produces a smarting in the epigastrium, creates intense nausea, followed tardily by vomiting (Professor S. P. Frac, B. M. Sir, Lady T. A. 
K.). The secretion of bile is greatly increased, it stimulates the glands of the small intestine, which secretes more rapidly, and the muscular fibers more strongly, is exaggerated, hence a purgative effect is produced. Diaphoresis is always developed and bears a constant relation to the nausea. The greater the nausea, the more copious the perspiration. As regards its action on the liver, Prof. S. P. Frac, B. M., says:
Experiment in Ops. from that
Speenaluca is one of the most
powerful stimulants to the flow of
Bile, it acts only slightly as a
purgative, so the flow of Bile
remains constant under its influence.

The observed effects of the
drug after its administration in
a case of Dysentery may be best
described by a detailed account
of a typical case where it
was given with good result.

Sergeant F.D.
attached to Commissariat Dept
of the troops in Natal. Came under
my care Sept 3rd 1884. Suffering
from acute Dysentery of two days standing. Had been encamped
under Canvas in rainy weather. Kept in Camp clothes. Has
about 20 stools in day. Containing a great deal of Blood and
mucus. Has tenesmus and tenesmus. Passes through transverse and descending colon, in purrus or abdomen. Impe-
Patient was sent to bed and ordered milk and
Sept. 3rd. Little sleep last night. Stools frequent. Pulse 108. Temp. 101.5
at 9 a.m. Twenty gro. Specimen
administered in a little water.
Salivation and nausea commenced at 9 a.m., vomiting three
commenced to occur, sweat standing
in beads on the forehead, says he
feels faint. 9.30 a.m. Pulse 125, Temp.
101.5°, skin moist on the surface of
the body generally. 10 a.m. Nausea
still intense, Pulse 116, Temp. 100 °.
10.30 a.m. Had a stool composed of
flatus mixed with blood. Its bile.
Staining green.
11.45 a.m. Pulse 105, Temp 100°, had
another stool containing a small amount
of blood and flatus.
1 o'clock P.M. Stool with blood 1 paces
no bile. Slight vomit not so severe.

3. o'clock P.M. Stool: Brown & blood.
dosage: Aperient administered. Bannez.
limited one. Hepatitis in 10 minutes.
Pulse 110. Temp. 100°.

4.20 P.M. Stool: Brown & blood. Hepatitis
faculent. Hepat. trace of Bil. Patient
seems to feel much better.

7. 10 P.M. Copious green faculent stool
large quantity of Bil. small amount of
Brown and blood. Jiping pain absent
Pulse 100. Temp. 99°.

10 P.M. Faculent stool, containing
bile.

Sept 4th 8 A.M. Was lead from
stock since 10 o'clock last night
liquid, blood + feculent. 20 po.
Spacacuana administered. Patient
followed but no vomiting.
This case gradually improved, a
diaphragmatic condition probably due to
the action of the Spacae. Followed for
a few days, he was subsequently
discharged, well, on Sept 12th 1874.
This is offered as a favorable case
illustrating the effects of Spacae. in
Spacae, though it is quite typical,
and to record a greater number of
cases would be merely to repeat the
same phenomena recorded in this,
though they may have been more
tardy in appearance.
The gradual diminution in the Pulse Rate and temperature, and the disappearance of the tenesmus and other urgent symptoms following in the appearance of feculent stools containing bile are the most important and essential results in a case of Dysentery, which tends to a favorable termination after the administration of Sepia. Effects which are invariably produced if the can have not gone too far.

The disappearance of the Subile symptoms, when present, may be attributed to the Nuxia. Salivation
and daepheosis, which all in a
manner act as blood letting would.
The pulse rate is diminished and
temperature reduced.

The other symptoms, viz. the
pain, fever, thirst, frequent motions,
containing blood, bruise, & in some
Cases purple, begin to flow away
in a remarkable manner after the
appearance of Bile in the defecation.

Thus I observed one and one again,
in fact in no uncomplicated case.
When Specimen has beenLOUD, and in
uru, I have carefully watched for
the appearance of Bile, have I seen
the abatement of the Inflam Symptoms
which was not been preceded by the appearance of Pile in the stools.

In other words the Beneficial effect of Sperae only exhibits itself after its cholagogue and purgative powers have been manifested. This occurs so constantly, that I could not but consider it as Cause and Effect, and not mere Coincidence.

I was interested to find that Jagues in the record of Cases which he gives in his "tropical diseases" (which book has only come into my hands within the last two months) has detailed the progress of the disease in a manner which
Strikingly bears out my observation with regard to the appearance of bile in the stools being a precursor to the favorable termination of the disease, although no notice whatever was taken by him of the fact.

Page 70 he commences a record which includes twenty cases. Cases 1, 2, 3, 4, 8, 9, 10, 11, 16 all recovered. In all these except 4 and 9, there is mention of bile having appeared in the stools, and in each case it was then that the cases commenced to improve. As bile was not especially looked for it is quite possible it may have been present.
In Nos. 14 to 19 without being observed.

Cases 5, 6, 7, 12, 13, 14, 15, 16, 17, 18, 19, 20 were all fatal and in none except Nos. 5, 13, 14 to any greater degree of Bilious Stools. Whereas in these its appearance was a signal not of the effect of Speceranhae, but as post mortem examination revealed, of implication of the internal membre of the Small Intestine in the disease and of the liver, whereas by an increased jaundice was set up, which absorbs the bile, which caused often were lean been absorbed a change, through the Intestinal Canal as cause its appearance in the Stools, to this.
I hope to treat further on.

A herd of Cows, such as above, may live in different places, and by different men, together with my own Expereicnce leaves no doubt in my mind that the disease is caused in consequence of the passage of the Intestinal Secretions, especially the bile through the Colon.

As I have already stated I regard the disease to be due to a Micro-organism. Sincerely! To cure the disease the Violence of this must be overcome. Either by so diluting the poison from, as to make it inert, or by applying...
someting which will act as an antiseptic. To that letter the
secretions poured into the intestinal
tract must act by diluting the
poison and washing it away, just
as a warm water enema would
do, or they must act as antiseptic,
or both may be combined.

If the secretions (belly) acted
mainly as a diluent we might expect
that any poison which could cause
aCopious Water Excretion from the
intestinal walls would be beneficial
but we know there to be in Every way
harmful, as the poison or is
increased if there an extent as it
Eradicate the condition of arrest in the Colon due to the Disease.

If on the other hand the bile and intestinal secretions act as antiseptics as well as diluents, then we shall expect that any remedy which causes the secretion from the liver and intestinal glands, and which also slightly increases the gastric action of the small intestine, so as to break down to come in contact with the diseased surface, would precisely meet the indications. In treatment we have just one remedy.
In looking for evidence in support of
the Bile being an antiseptic, we have
to consider whether it is merely
a coincidence, a cause and effect, that
though Bacteria exist all through
the intestinal Canal they do not
manifest their power to cause
decomposition in the food, until
the extreme lower end of the
Heum and the Colon are reached,
where they evidence their power by
the formation of gas and the
development of the farcical odor,
and precisely when the Bile has
become so altered and absorbed as
not to be distinguishable.

...
believe that the presence of the Bile is act as to prevent decomposition form.

Again we find Enteric Fever and Septicemia, both diseases which most likely depend on microorganisms, affect the runs End of the Fleming or Colon.

Professor Rutherford states in his Course of Lectures that one of the functions of the Bile is its

As regards the exact action of the Bile on the disease forms I do not believe that it is so strongly antiseptic as to kill them.
but that its poison so paralyzes them that they become harmless. The forms in Dysentery gain access to the body by the mouth, are carried down the intestines, and while in presence of the bile are inert, but after reaching the Colon, under favorable circumstances may begin to develop and give rise to the symptoms peculiar to Dysentery. Further support is given to my view of the fact that bile plays in the case of Dysentery, when we consider the fact that Colon was at one time largely used in the case of Dysentery.
and the only physiological properties it possesses in common with Sepiae is its purgative and cholagogue actions, and doubtless acted as a remedy in consequence, though Sepiae is now almost exclusively used on account of its mildly purgative effect, as compared with Calomel.

Rutgers's experiment with Calomel on the Bile secretion in Dog, led to the belief that its cholagogue action depended on its partial emulsification with the bile. So it was thought, and that Calomel in itself does not increase the secretion of Bile, though
Field of the curative uses, it is also much used in Cases of Chronic Oxyt us when Specacution fails for some reason to exert its Culoapine action.

It is frequently recommended for a dose of Castor oil on commencing the treatment of Oxytus, and I have done this with apparent benefit. This dosage is transient, the good effect being from the building purgative effect, whereby the oil containing fecal matter as hurried from the small intestines on the diseased surface.

If my theory to correct any any
which would help the same indications as an cast by *Spermacauda*, might act as well. By a drug which will cause a copious flow of bile and at the same time have a slightly purgative effect.

Rhubarb is a drug which is known to act as an active stimulant of the liver, though its action on the intestine is stronger than that.

I administered this drug in three cases with marked success in two, the details are as follows.

1. Patient. June 16th, 1885.
produced Rhubarb at 12 o'clock M.
Suffering greatly increased. Piping
intake. Constant desire to defecate.
Stool about every 10 minutes for 3
hours. Very much fatigued. The
symptoms became so alarming that
the day was not used again in
this case.

India R. Admitted into Central Hospital
May 29th 1885. Dysentery two days.
about 8 stools in day. Mucus &
alittle blood. Soo 8 gr Rhubarb
3 times in 24 hours i.e. Every 8 hours.
May 30th 12 stools since yesterday.
Character the same. Says he can
bear more pain. Soo 8 gr with 2014 mord

May 31st: 8 stools in last 24 hours. Sipapaj not so severe.
Character of stools as before. No bile.
Continue treatment.
June 1st: 6 stools in last 24 hours. Rectal pale, with
Iecies & traces of blood. Bile
material obtained in faeces. Continue treat.
June 2nd: 10 stools in last 24 hours. Watery containing much bile,
& a little mucous. Give 4 p.s. Phrenil
Every 8 hours.
June 3rd: 7 stools containing bile,
no pain. No straining. Stop Phrenil

June 4th - Stool bloody, bilious, patient weak, red stools have lost their Aequative Character.

Discharged June 12th 1886.

Indiar, P. admitted to Central Hospital June 3rd. Aequating 5 days. 18 (c) motions a day. Consisting of 7 platinum drams of Bism. with much Flatus. Strong pulse in palpation on Secondaries Colon.

June 4th - 10 motiens on once admission (12 hours) to take 3 pr. Radium.

June 5th - No improvement. Bistums 16 once yesterday, Character the same. Continue treatment.
June 6. No improvement. 12
Movement since yesterday. Blood 7 p.m.
with small Hayfever passed twice this bilo.
Irritated Rhabdab 6 p.m. Every 8
hours.
June 7th. 8 Stools since yesterday
passed with much gripping pain.
Heighten facereal. Tract of Bilo.
Rhabdab 6 p.m. with 30 m. tinct.
Veroseyani Every 8 hours.
June 8th. 12 Stools. Liquid facereal
containing Bilo. Unraining less. Vap.
he feels more confortable. Treatment
stopped.
June 9th. 6 loose Stools containing
bilo. Granular containing in some
time was checked by the exhibition of instruments.

Discharged June 14th 1885.

It would be dangerous & unwise
not to proceed here on the evidence
of only two cases, but I think that
they at least lend support to
the large amount of evidence I
have been able to cite in proof
of my theory.

I had conceived the idea
of procuring the bile of oxen, immediately
after death, and using it as an
injection for the patient in eyewash,
but as my domestic arrangement
render it necessary for me to resign my appointments and return to England in Nov. 78, I was unable to proceed my investigations further. So thoroughly can I convince that the beneficial action of Specifics is due to the Pole it causes 5 to Decided, that I have no doubt that the apply directly to the surface of the Ecorce Membrane of the Colon would act as a curative in Dysentery. Thus, still remains the wide field of the application of ointments antiseptic in cases of Dysentery. This also Sholes has liked to investigate, had circumstances
permitted.

I now leave you, notes of
some of my observations on
Cases of [illegible] Dysentery, with
the knowledge that they are in
many ways imperfect, but with
the hope that they may serve
as a tent to future investigation.

[George C. B. M. E.]

[Address]

April, 1886.