On Dysentery.
Having chosen for a thesis so extensive and important a subject as Dysentery, and having no more experience of the disease than what can be gained in our civil hospitals and practice in this country, little more than a compilation can be expected. My object in selecting it, was more from a desire to make myself acquainted with the disease. Should I be called upon to treat it in tropical climates where it causes so great a mortality than a hope of laying anything new before the Profession, and I must offer this as an excuse for its want of originality. From there being so many disputed points connected with Dysentery, there is ample room for investigation, and I shall dwell most on those; endeavouring, when there is much difference of opinion upon any important point, to find out the cause of it, and ascertain which opinion is correct.

The following remarks will apply chiefly to tropical Dysentery, with occasional allusions to the disease as it occurs in temperate climates. The acute form of it will be first considered, and a short sketch of chronic dysentery appended.
Depertyry is a disease peculiarly interesting to medical men, more especially in tropical countries, where its ravages are very frequent and extensive, causing immense mortality, and requiring active and immediate treatment. Sir J. Ballingall says that "a 3rd of the deaths in India are depertyry" and from a table in his book on "The Diseases of European Troops in India" it appears that at the principal stations of the Madras Army 375 died from this disease in the year 1847, more than double the deaths from fever—the most fatal disease. It is in these armies, and especially among troops in actual service, that the distemper most displays its terrible power; and there is no single malady which is so crippling to an army in the field as this. Sir J. McPherson, to whom was entrusted the superintendence of the medical department of the Army on the two greatest services on which the military force of the country has of late years been employed—i.e., in the Crimean and in the Peninsular, calls depertyry "the scourge of armies" and the "most fatal of all" their diseases. In 24 years the British Army in Spain lost no less than 4,717 men by this complaint. In a period of 31 months, nearly 33,000 cases of depertyry and diarrhea occurred in that Army. During the 17th century it raged like a plague in this
counting. The second Dr. Reid's, in his valuable essay
"On the Increase and Decrease of different Diseases" shows
that in that century the number of deaths set down in
the weekly bills of mortality, under the title of "bloody
plague" and "gripping in the guts" was never less than 1,000
annually, and in some years exceeded 4,000. For 25
successive years—viz., from 1667 to 1692, the every year
amounted to above 2,000. During the last century the
number gradually declined down to 20. And now
a day, it is neither a common nor serious disorder in this
country; being seldom seen but in the persons of sol-
ciers and sailors, who bring the disease home with them
from hot climates. But although, in this country,
it was very familiar to our ancestors, it is happily rare
among us; yet it is not so in the tropics; for in all
tropical countries, it is common at certain seasons of
the year; from its causes being always in action at
those periods. When it becomes of importance there.

History

In the original Greek, the word "decemter" signifies
"a disorder of the bowels" (8 US. difficulty, and 17788. the
bowels). The ancients applied the terms "decemter," diar-
"rhoea," "enteria," "tenesmes" &c. to the moral stages, or
symptoms of this disease; and considered them as separate
of distinct distempers ( Vide Celsius Aurelianus). Thippinus
Hippocrates used the term "depentory" not only to signify all ulcerations, but all hemorrhages of the intestines, even those which are critical or salutary; and likewise every kind of stone, with or without blood. "Depentoria est exulceratis intestinorum. Nisi vero, inter quae ipsa Hippocrates est, depenteriam interdum appellant mons spermodes aculcerationem, venum, omnen etiam eorum fur pro intestina evacuationem." (Graecum, in loco Διαγραφής). Again "Ejus etiam depentoria, quae plerunque morbus plerimo" "Salutariter ac judicatoe solit, memini Hippocrates" (Lil. I. Epidem.) Focii Acconem. Hipp. in aedem vocavit. It would seem, however, that after this time, some of the other Greek Authors, whose works are lost, were sensible of this want of precision; and therefore restored the meaning of this term to an ulceration of the bowels, attended with gripes and tenesmus, with mucous or bloody stools; for a disease with these symptoms below, is called "Tormina," and says it is the "8ης ήπερηρίς" of the Greeks (De Med. Lib. V., cap. XVI., and Caecilius Aurelianus, retaining the Greek name, describes the depenterium much in the same manner as Celsus (De Memb. Cæca Lib. IV., cap. XVI.), yet Galen returns to the looser acceptation of the word, sometimes defining depenterum an ulceration.
of the bowels; at other times mentioning 4 species of that
distemper, all with bloody stools; but only one of those
agrees with the termine of Celsius, or the depentery of
the moderns, (de Caus. Sympt. Lib. iii. - de Loc. Object.
Lib. iv.) Archimenes, and after him, Aristotle,
confine the term to an ulceration of the bowels; and
the latter accounts for all the symptoms, according to the
particular gut affected, and the circumstances of the
wound, which, if deep, or corroding some large blood-vessel,
the supposes might occasion a mortal hemorrhage.

From this it would appear that the term 'depentery'
as used by Hippocrates and Galen, conveys no precise
notion of a disease; and that, unless the pathomnomic
symptoms of modern depentery are joined to an ulceration
of the bowels (which is not always the case) the
depentery of Celsius Aurelianus, Aristotle & Celsius
must be accounted a different culmen from the
depentery of our present authors, which I am about
to consider. Not that the bowels are liable to be
ulcerated in the true depentery, but that ulceration
is accidental, not essential to this disease. It was
considered essential however, up to the time of Willis
and Sydenham, who considered depentery as a dis-
order independent of any ulceration: and since.
their time this opinion has generally been maintained. Up to the time when Boerhaave wrote (1639) the disease arising from an ulcerated state of the bowels, was divided into two species. By "Depentery" when any part of the upper gut was ulcerated; and "Terecrem" when the rectum only was ulcerated. Galen says a discharge of morbid secretions only, does not constitute the disease, but that it should not be so called until the ulcer of the intestine is produced (Galeni, Lib. i. de locis affectis), and he mentions the disease in several other places.

**Nosology.**

Gullen places Depentery under the class "Syphexia" under "Profluviac" (i.e. "syphexia, cum exeuntio a ceceto, naturaliter non sanguineus"). The character of the fever attending depentery as "contagious", and says "while the disease continues, the natural evacuations are "rarely evacuated; and when they are, they are as small as of a hard and compact nature" (2067) and again "when natural evacuations fail, they are commonly in" the form of "capsules" (2071). Now although this description applies pretty nearly to depentery as it occurs in Europe, (and even then it is seldom contagious) it certainly will not apply to tropical depentery.
As this need not be attended with fever;-several are rarely seen in it; and it is generally admitted not to contagious.

Some writers on typhoid depository, however, affirm that it differs little or nothing from the disease as it occurs in temperate climates - as Hunter, Bampfield, etc. but I shall dwelt these important points at greater length when treating of the "Nature of depository."

Diagnosis

Depitory bears a considerable resemblance to some other diseases - as Diarrhoea, Cholera Morbus Enteritis, Spleenotic Colic, etc., but is easily distinguished by the following characteristics - viz. The evacuations, though frequent, are, at the commencement, devoid of faecal smell; and consist of mucus, blood, serum, or a mixture of these; tenesmus and tenuria are always present, in a greater or less degree. These will suffice to distinguish it from every other disease.

Nature

There are few diseases concerning which more has been written, and a greater diversity of opinion held, than depository; and, from its great importance, few concerning which we require more information, and unity of opinion - the variety of opinions regarding the nature of this disease (and consequently its treatment) would...
seem to arise (as Dr. Johnson remarks) from over-taking prominent effects for proximate causes. Thus one person is inclined to take up the idea of Sydenham [who believed it to be "a fever turned in upon the bowels"] because he sees it accompanied with defective perspiration; & because there is often a sensible diminution of fever on the appearance of the depository. Another thinks the "spasm of the intestine" is the chief cause, because one occurring then after death, before the signs of structure are effaced by ulceration or mortification, he sees these structures, & considers them quite sufficient to cause the depository. A third believes it to consist in "inflammation of the large intestine" because he finds the marks & effects of inflammation in that region after death. Whilst a fourth assumes hepatic disease to constitute the essence of the disease, because he finds abroad, or other organic derangement of the liver very frequent. Most writers on the real depository, however, concur in affirming acute depository to consist in inflammation of the large gut. Ancisley says: "It is entirely confined to the large gut, from the caecum to the rectum." [Diæt. Indiæ, p. 250]. Muller all consider it in the same light, and terms it "colitis." The "acute inflammatory depository" of Bampfield is the same.
Dr. Balfour considers dysentery (as also the mild irregular, intermittent, or the more violent remittent fever of Bengal) as so many grades of the "putrid intestinal remittent fever."

Sir J. Bringle is of much the same opinion as to its nature. He says: speaking of Dysentery and Cholera, "They appear in the same season with fever, and seem to be particular determinations of the vitiated humours; to which, if the first passage gives vent, a cholera or flux results, but if retained in the blood, they cause a remittent, or intermittent fever."

We shall see how far the symptoms and treatment favour each of the above views of the nature of Dysentery. Dysentery may be Thrombic, Epidemic, Endemic. In the 1st of these forms it is caused by vicissitudes of the weather, abuse of spiritsuous liquors, local accumulations, in the gut, bad food, clothing or water of dubious fruit. Yet in the 2nd, it depends on the character of the seasons, (whether hot & dry, or hot & moist, or cold & wet) and probably on some peculiar unknown condition of the atmosphere. In the 3rd, it is generally caused by malaria, or by unusual excubations, partial inundations of the sea, use of bad water & peculiarities of climate; especially when the damp air is hot & moist, the evenings foggy & damp, & the nights cold. (Annexed) So that vicissitudes of weather may cause all 3 forms.
How is Dysentery modified by Climate, Season, Habit, Age, &c.

The effects of Climate upon dysentery are powerful, well-marked, causing it to assume different aspects in various parts of the globe. In considering these, I cannot do better than commence with the following striking remarks from Mr. McGregor's Med. Sketches:

"Rarely, I believe, has it fallen to the lot of an individual, to see in very many cases of one disease (dysentery) such a diversity of climate & situation. In the 88th Regiment, during the course of upwards of ten years, I saw the same man the subject of this disease in the Continent of Europe, in America, in both extremities of Africa and in India. The dysentery which occurred in the army till we came to the shores of the Mediterranean, and for some time after, was clearly the dysentery; but afterwards we witnessed a different disease— I became convinced at Alexandria, that with change of country & climate, we had a different disease. This is one proof how improper & how unsafe it is, for the practitioners of one climate to set down & describe the diseases of another. They only who have studied the same diseases in various opposite climates, can fully comprehend the absurdity, as well as folly of this. From reasoning"
"If any man we are incompetent to decide on the identity of diseases. Reasoning from analogy here always fails. In many of the symptoms diseases may agree, but from thence to infer their identity is taking a very narrow view. Between diseases as they occur in Europe, and in Asia, there are as many shades of difference as between the plants of those opposite regions or in the colour of their inhabitants." (P. 153-3. 8.) He says: "The depentory of India, or what I shall term "tropical depentory" is not the disease which is described by Cullen under that name (i.e.) Sir J. Ballingall say, "in the definition of this it." Ballingall's case given by Dr. Cullen comprised in these lines: there are at least three circumstances not characteristic of Indian depentory—viz. the existence of pyrexia, the contagious nature of the pyrexia; and the appearance of sepals. Some authors however affirm that the disease occurs much the same in all climates. This Rampfield says that in all his practice (i.e. in the E. and W. Indies, China, The Cape, N. and S. Atlantic. S. Pacific, Europe, etc.) he never saw essential difference in depentory. There might be some peculiarities in certain places, as increased secretion of bile at the Cape, but no marked difference (P. 54). He affirms that the symptoms of oriental depentory..."
do not differ from those enumerated by authors describing it in England or Europe (Bullen, Tringlet, etc.) by
writers on the W. India depentsy (Hunter, Davelot, etc.) or by writers who have seen it in the Mediterranean,
Egypt, and other parts of the world (Galen, Celsius, Egerton, Briggs, Secar, etc.)

It would appear that when depentsy assumes the epidemic form it is much less liable to change its character
than in America. Dr. beaches, who practiced in N. America, the W. Indies says that "notwithstanding the difference of climate"
depentsy, when epidemic among the troops, appeared "with much the same symptoms everywhere, and"
when curable yielded to the same mediocles"

Dr. beaches also says "I can assert that all the epidemic
depenters which I have seen in the Army, have been
of the same nature, and I have been informed by Dr.
"beaches, Mr. Octavius employed during the late war, not only"
in Germany but in America, that the depentsy ap-
peared with the same symptoms, & yielded to nearly
the same remecl, which were observed to be most
successful in the Military Hospitals before, I may
add, that both in Scotland, and in this country
whenever I had an opportunity of treating such fluxes
in my private practice, I never could see that they
required any different method of cure"
Dr. J. Hunter, in his "Varying Disease" says "the deponent, as it appears in the Island of Jamaica, is the same disease that is so well described by Lydondone, Sir S. Kingle, Sir J. Baker, & others; and is not distinguished by any peculiar symptoms from the deponent that was epidemic in London in the Summer Autumn of 1779-80."

Mr. Curtis altogether denies the existence of scrofula deponent in India; and says it differs nothing from the bilious or hepatic flux; and that "in its nature, symptoms, presumptive cause, &c. &c., it is entirely different from that which has been described under that name in all other countries."

The Seasons, the character of those undoubtedly has considerable effect in modifying the nature of deponent as it is much more prevalent & dangerous in some years than in others. As when the rains have been heavy with great cold, or when the dry are out of wind, with very cold, damp, nights, accompanied with little thunder or wind. On the N. Coast of Africa the Harmattan Wind will sometimes shut a stop to the disease by cooling the air. The following extract from Sir J. D'lgro's "Report on the Health of the 84th Regiment at Bombay" will serve to illustrate the effects of cold & damp season.
in increasing the frequency of depository. The month of November (1810) was disastrous; not till the 1st. third chiefly from the North. Thermometer continued to fall; and before the middle of the month the cold season had fairly set in—elevations over cold & damp. In the course of that month, more dysenteric cases were sent to the hospital, than in the 3 preceding months, though many were relapses from old diseases. -

Habit. By this I mean Habitation to a Climate. There is a well-marked difference in the nature & frequency of the disease as it occurs in the Natives of India, and the Europeans, and also between Europeans who have long resided in that climate, and those lately arrived.

In the Natives it occurs only in the proportion of 1.5 to 10 per cent., whilst in Europeans the proportion is 30 to 100 per cent. (Amebic) which is an enormous difference.

In new-comers to warm climates (say Amebic) dysenteric cases are actively inflammatory, the inflammation tending to spread to the external coats of the bowel; whilst in the Natives, old residents, & weak persons, the inflammation is more Erysipelatous, confined chiefly to the mucous membrane. This is a low adenomyte type attended with a low type of fever, but little pain, more evident in its approach & less amenable to treatment. This latter form is much more commonly attended with disease.

Effects of Habitation to Climate.

Difference in Natives and Europeans.

Amebic & Adenomyte Types.
of the Liver (except in the Natives, who rarely have disease of the Liver) and is generally the type assumed by Epidemic and Endemic dysentery. This confining simple dysentery almost exclusively to Newcomers, or the Natives.

Age. In dysentery, as in other inflammations, the inflammation is more acute and chronic, in the young, than in those advanced in years. Of this induces habit of body, and it has often been remarked that in troops composed chiefly of young men, the disease is most apt to assume a highly chronic type of inflammation.

Sir Simon Fraser, in his "Account of the Mortality among the Troops at Welligabad in 1849," says:

"I should here premise, that the men of the regiment were mostly young, the greater part of them from 18 to 30 years of age: this will explain in some measure, the very aggravated form of the disease we have had to contend with, arising generally speaking, from a habit highly disposed to inflammation, and accompanied with a great degree of irritation, as has, in too many instances, baffled our best efforts to subdue it."
Is Dysentery Contagious?

There has been much discussion on this point, for we are liable here, as in other diseases, to fall into the error of confounding the assumed proofs of contagion with the effects of a cause that is generally diffuse. It operating upon all, more or less, and this mistake is highly probable, unless the proofs of contagion are clear and decided. There is little or no doubt but that dysentery may under peculiar circumstances assume a contagious character. e.g. When it is accompanied with fever of a low or adsymptomatic type, attended with elevated bowels, etc. (very similar to Diphtheritis) or when many labouring under dysentery are crowded together so as to vitiate the atmosphere. But in these cases (in the former at least, it is probably in the latter also) when such crowding takes place a fever is generally the result; it should rather be said that the fever attending the dysentery (of a typeless type) is contagious & propagates the dysentery, not that the dysentery propagates itself "in se" or in itself. And when the disease is said to be contagious, this is, in a sense, the same as it is generally taken in. Dysentery, when contagious, is almost always epidemic at the same time, and as other epidemics are liable to vary in character, so may this.
It is a well known fact that epidemics in general are liable to assume different types at different times, and under various circumstances. Thus an epidemic, maybe of an acute or highly inflammatory type in one year, and of an asthenic or a dynamic type in another, or the same epidemic, at its first appearance, maybe asthenic, and become asthenic after it has lasted some time, being modified by some unknown cause & wearing itself out, as it were, with its continuance: or it may be asthenic at first, becoming asthenic as it continued. In almost every inflammatory disease, we have two distinct types, or varieties: in one of these the inflammation is of a specific character, as Erythematous or Purpural, attended with fever of a low type, & of a contagious nature. In the other it is simple & asthenic attended with common inflammatory fever, of a non-contagious nature. These two forms are well exemplified in Coryza, Diphtheria, Croup, Pertussis, Pleurisy, Puerperal Fever, Meningitis (or inflammation of the membranes of the brain & spinal cord, which often assumes an epidemic contagious character in France & in committing great ravage). Yet, when these epidemics are of the specific or Erythematous nature, they are contagious. So we may have simple non-contagious diarrheal or epidemic specific & contagious.
argonymp. and when it is of the latter nature, it may be contagious even within the fowl itself.

The earlier zoologists, as Sauvages, Linnéus, Vogel, Sagar, McBrident, have laid little or no stress upon either the supposition, or contagious character of the disease. They place it as a genus under the division, not of fowls, but of insects, without any notion of fever, or contagion, except as a distinctive symptom in some of their species. Cullen says it is always contagious, and has hence not only arranged it under his class 'suppuration,' but generally distinguished it by his character of 'suppuration contagious.' In his 'Synopsis,' he asserts that he has never met with but one species, and still more distinctly in his 'First Lines' that 'the disease is always contagious.'

Most writers on topical diseases of aves non-contagious. Many, however, believe that it may become so under peculiar circumstances, and some believe it to be so in general.

Annally says 'as the disease is met with in hot climates, it seldom or never proves contagious. The"

Removal of the instance in which it has proved itself notable in India. This doubtless is owing to the circumstances under which it is generally met with in warm climates, to the causes whence it most frequently springs, and
to the free ventilation & attention to cleanliness, which are always observed when numerous cases of the disease are admitted into hospitals. Although it appears both endemically & epidemically under circumstances favourable to its presence, yet no unexampled case of communication of the disease from one person to another who had not been subjected to the causes whence it usually proceeds, has been satisfactorily made out in India during our practice in that country. We do not deny however, that under circumstances of crowding together of the sick, want of ventilation, & inattention to cleanliness, the removal of the evacuations, or when it is complicated with typhoid or malignant fever, &c. it occasionally is in temperate countries. it will not assume this property. (Researches into Do's of India 1858 Vol II 2o.) Bampfield affirms that in all his practice, he never saw it attended with contagious fever. &c. &c. It is probable that depentory is in India, when combined with typhoid (which sometimes occurs in Bengal during the cold season) & at Bencoolen, in the east of Sumatra) may become contagious. I have never seen such a combination in India, nor even seen depentory contagious. He proposes to give the appellation of depentoric typhus to it when contagious (distinctive from typhus fever.).
Sir G. Ballingall says, "I speak from personal experience. Sounds, when I say, that I have treated over 1,000 cases of this disease, and have never once met with a circumstance tending to excite a suspicion of contagious. (Mil. Surgery, p. 149.)" Sir J. McGregor says, "the dysentery contagiosa, certain, forms no part of the tropical dysentery. (Med. Sketches, p. 184.) Again in his Memoir of the Health of 83rd Reg. at Bombay: "None of the cases of fever or dysentery seemed to be contagious."

Sir Simon Fraser says: "I do not believe the disease was in any instance propagated by contagion, but altogether generated & kept up from the men, women, & children of the regiment, being exposed to some of the above causes (viz., heat, cold, wet, abuses of spirits, etc.)."

Dr. Balfour pronounced dysentery, as well as all the grades (various terms) of tertian remitting fever, to be infectious. He conceives that the contagion proceeds from putrefying or putrid bodies, and that passing down with the saliva, it corrupts the juices of the stomach & intestines, and thus gets into the circulation. This case, however, seems to have been connected with fever, which would easily explain its contagious nature.
Dr. I. Hunter says the depresory did not appear to be infectious in the hospitals in Jamaica (mainly)
"the epidemics that prevailed in London in 1779-80" through "I am far from saying that the depresory is never "infectious" (op. cit.).
Dr. Chisholm contends for its contagious nature, asserting that "few diseases are more apt to become "contagious"" (Chirn. and Dis. of Inf. Climate, p. 54).
Dr. Johnson and Frank are non-contagionists.
Sir J. Pringle affirms depresory is often spread by contagion. Speaking of a depresory which broke out in the army during the German Campaign, he says "the disease was common throughout nearly to frequent, among the officers, of whom there died were first seized, who happened to be out at Dettingen." The rest suffered by contagion." Again. "Whenever "depresory is epidemic, I have always found it in some "degree, infectious, especially in Military Hospitals;
and in the houses of the poor, who want the means of "cleanliness"." (P. 36) Again. During our stay at "Bonnau, the village of Freckenheim, a league from "camp, was employed for an Hospital. About 500 "sick were sent there, chiefly ill of depresory. They "infected the air so much, that not only the rest of "the patients, but the apothecaries, nurses, & others..."
employed about the building, with most of the inmates; the stinks of the place were infected. To this was added the jail- or hospital-fever, the common effects of foul air from crowds and animal corpses. These have caused a great mortality in the village; while those were seized with dysentery, but not removed from camp, though wanting many conveniences which those in hospital had. Rupt free from the fever & generally recovered. (German Campaign 1743)

Again: "Dysentery broke out at Fort Aquincum: but these being constant winds, which kept the ground tolerably dry, the increase of the distemper by contagion, seemed to be thereby prevented" (British Campaign 1743) — Speaking of a dysentery which attacked the troops during the Campaign in Dutch Brabant, he says: "None half the soldiers had the distemper—more or less. The contagion ran through the neighbouring villages, & was mortal among the peasants, who either wanted medical care, or were with those had better been without. But Mastrecht suffered little, though it had a constant intercourse with the camp; for the town standing on a large river, in an open country, is particularly well aired & cleaned. In all the above cases, we have either its epidemic nature, crowding of the sick, accompanying fever, sickness or want of these complained to account for its contagious nature.
The remarks of Dr. Cooper, page 212, offer good reason for believing that the late epidemic at Vinegrove was owing to the infection communicated by one person (that is, the child), clese-contagious cap. ii (46 et seq.) and if the strangers suffered so little, in particular the Jews (vide cap. i. 35) we must attribute that circumstance to the small intercourse they had with the people of the place. In camp the ex-

"lagarion" papers from one who is ill, to his companions in

"the same tent," & from thence forth, to the next (Pep.

254): "Those who are admitted with the fever, not only

give it to the rest of the patients, but to the nurses, &

"other attendants on the sick." In this cases we

must suppose the same causes to be present, as before.

In the late alarming attacks of this disease in Ireland,

some practitioners considered it contagious, whilst others

denied it this property. It was not considered so at

Cork, by Dr. Barry (Del. Med. Reports 1st vol. p. 16) or at

Limerick, by Dr. Boston (id. p. 13), while Dr. Halloran,

practising also at Cork, observes that it was obviously

"contagious on many occasions" (id. p. 9) Dr. Pole, that

it was contagious at Waterford (p. 24) Mr. Dillon, that

it was the same at Clonmel (p. 5) Dr. Cheyne, that

at Dublin, it was in some cases contagious, & in some

not; being decidedly so, when connected with continued

fever, and non-contagious in its simple form, or when
Dr. O'Brien says he has never seen it distinctly contagious but supposes it may become so when the disease is epidemic. In the accompanying fever in camps or other crowded situations it assumes a malignant or fever form (as in the Depopulacy of Ireland). Dr. Henry offered the opinion some time previously (as inbrig Department) Bumpfield says that Mr. A. L. also in the Depopulacy related a case to him, in which he found dependent in Europe to be contagious among the crew of a ship, of which he was the surgeon.

Sir G. B通行 a case where a boy labouring under depopulacy was brought on board a ship (the Viceroy, I think) and gave it to several of the crew. Broff. Nelson mentions the case of a man who kept a small shop in the city of Edinburgh being attacked, and eight of his family taking it. His servant, on going to her home, was attacked with it, and several of her family took it also. This certainly looks very suspicious of its propagating by contagion.

Dr. Cumbernie analyzed 95 of the depopulacy cases that prevailed in Ireland. 33 arose during recovery from fever, 15 during its progress, 15 from cold, 15 cold and wet, 4 from indigestion - the rest were doubtful but
many had been exposed to febrile contagion, and I
were in close communication with the patients labouring
under dysentery. I had been nurse in the ward
where the dysentery had occurred. I had slept with
dysentery patients. I one had used the same night-chair.
These latter cases however, might be merely coincidences.
Vivian gives a curious instance of a medical man
who was seized with dysentery just after making some
experiments with the blood of a dysenteric patient.
This might be merely a coincidence, but it is strange one

**Symptoms**

Another vary much in their description of the symptoms
attendant on dysentery. Some affirming that it is
always attended with fever; others, that this is
rarely present. Hepatic disorder is considered by
some to be an invariable attendant — others say it
rarely occurs. It is disputed whether the faces are
retained as sequelae, or not. And so on. I shall
consider each symptom in detail.

**Fever**

In discussing this, I shall include both the symptom
of simple inflammation, fever, symptomatic of
the internal inflammation, and also any
specifics of hepatic fever, which may accompany the
disease. The first of these, I shall, for the sake of distinction, call "Pyrexia": the second "Fever of Pyrexia." There are various circumstances which may make its existence a matter of dispute; thus, we must not expect to find the pyrexia in the tropics always well marked—for some of the symptoms characterizing it in this and other temperate countries, as quick pulse, feverish tongue, rigor, thirst, anorexia, hot skin & headache, are often wanting in the tropics. Thus Bampfylde says the only invariable symptoms of the fever attending deperty in the tropics are "much increased heat, very high coloured urine," thirst & restlessness generally attending. Now this might be taken as a favourable argument, either for those who contend for, or against pyrexia as the disease. The former might say: "There can be no doubt but that pyrexia is present, but from its not being so well marked in the tropics, as in general, people are apt to overlook it, & deny its existence altogether." Whilst the latter might say: "It is true that the deperty is often attended with a hot skin & very high coloured urine, & that the patient is often restless; but we would not be justified in saying, on that account, that it is attended with decided pyrexia." And perhaps this may go
some way in explaining the difference of opinion. Besides, we cannot place much reliance on one of the invariable symptoms of Bensfield's heat of skin. Unless particular attention be paid to it; as during the hot season, or south-west monsoon, the rising during its temperature fever is often moist. It can only be inferred and determined by the sense of heat communicated to the hand applied to a part of the patient's body, excluded from the external air, so that it is not to be over-looked, although present. In the cold season the skin is hot & dry as in the temperate climates.

We must also take into consideration, that debility varies in its nature at different periods, and like other inflammatory diseases which may assume an epidemic form, at one time attended with well-marked syncoha, at another with adynamie or typhoid fever; as may it; and also that the symptoms attending it in the latter form might be mistaken for the weakness & languour naturally attendant on debility. (N.B. These remarks apply to acute debility).

Again, there may be two distinct forms of debility prevalent in a district—one of which is attended with syncoha, and the other not; and, in the course of time, these two forms may become blended.
and consequently the fever will be mild, which attends this mixed form, at least we may reasonably presume to. In such a case a writer, who had seen the first only of these three forms, would when describing it, of course say it was attended with evident pyrexia. He who saw the second form, would as surely deny the existence of pyrexic symptoms. Whilst he who saw the third or mixed form would say they were present, but in a very mild form to show that fevers formerly distinct may have blended after a time. I quote the following from Sir G. Ballingall's Diseases of the Troops in India:

"I have endeavoured to show that under the general denomination of 'Dependent' or 'Flux' we have two distinct forms of disease prevalent in India, viz. Colonitis (unattended with pyrexia) and Hepatic Flux (with pyrexia). And now proceed to observe; that, although during the first years of my service in that country, these two diseases were often to be met with in practice, as distinct as I have endeavoured to keep them in description, they became latterly more and more blended together, so that they were to be found in all possible varieties of combination" — "It was by no means uncommon to find these two forms existing alter..."
Nearly for weeks or months, yet.

The following is an example of how the inflammatory fever may vary in different years (extracted from a letter to Sir J. Ballingall from Dr. Berg, of the Madras Med. Board — given in a footnote in a former work).

"In the form of flux, that has existed in the Royal, and that which took place last year in the 38th Regiment, the small degree of constitutional affection present till the disease had almost run its course, has no doubt been remarkable and is very different from the more acute form that used formerly to attract attention. I point out the inflammatory nature of the disease. It is difficult to account for the acute form being less prevalent, unless perhaps that the nature of the disease, not being known as well understood, or infections so frequently made, it was only this form that mostly attracted attention. For flux has always been too fatal a disease, today, that the form as it has appeared for two years at Wallaullahbad, had not prevailed before" — Thus it appears that the form of depearing which Sir J. Ballingall saw at Wallaullahbad, was much less marked with febrile symptoms, than the form which had been
(or was supposed to have been) most prevalent before as seen by Dr. Berry — and probably this arose from the colonics at Wallapahad being of a more epithelial or strumatic type.

Dr. Berry (ibid. says) "I have not laid any stress on the fever of this disease, as it is not common in influence — action simply of the Colon; or remarkable till the disease has made progress; but when once it attains the commenceinent, some other vessels besides the Colon, is probably affected." — And this supposition is rendered still more probable by the fact, that those writers who maintain hepatitis to be often attendant with fever, are those who affirm depuration is attended with fever (as Annally, Johnson et al.). Whilst those who speak little of hepatitis, also say little of the Fever (as Cumpfield, Ballingall et al).

Sir G. Ballingall remarks: "The existence of hypoxia does not always usher in the depuration and have been accustomed to meet it; and have known this disease to have very seriously, perhaps irremediably, injured the intestinal canal, before any urgent symptoms of hypoxia became either distressing to the patient, or conspicuous to the Medical attendant."

And he points out the evil consequences which might ensue, were a young practitioner, impelled with the
of appendicitis being a very early symptom of appendicitis, waiting for its appearance to satisfy him of the case really being one of appendicitis, and thus losing the best and only chance of saving the patient by active early interference.

Mr. Bannfield says: "In the acute appendicitis (which pretty nearly corresponds to the colic of the G. Ballingall) appendicitis is seldom evident, but sometimes urgent." But he says the inflammatory variety of acute appendicitis (according to his division) is attended with unequivocal inflammatory fever or sympodia.

The writer of the anonymous letter to Sir Walter Farguson (in the Critical Review for 1803) describing the symptoms of the acute appendicitis says: "There is always a very high fever, with unequal breath, and perspirable sweatfulness, the pulse is extremely short and frequent and strong, resembling that which takes place in the highest degree of yellow fever, or in the most acute rheumatic fever; and there is a burning heat of the skin, which leaves a sensation on the finger, as if it had touched a piece of heated metal."

Speaking of the above letter Mr. G. Ballingall remarks: "It has only happened to me to meet the disease with these highly inflammatory symptoms, when it has occurred as a sequel to a course of hard drinking."
and when, as often happens in such cases, it has generally made considerable progress, before medical assistance is required and that "the first symptoms do not occur, in any case, until the disease has made considerable progress." Sir J. M't Grigor (in his Memoir of the Health of the 3rd Regiment) says: "There were upwards of 500 cases of dejection—dejection was attended with fever—but in a few instances, and in those it was the symptom of Eullen. Again: "From the 13th to 23rd of October, 17 cases of fever appeared. They assumed different types, laterly with the symptoms of hepatitis, and in 7 the bowels were affected. They were treated as dejection. This is mentioned, because in a majority of the cases of dejection, which appeared hitherto, there were no similar symptoms. Johnston includes "disseca" as a symptom of dejection, the fever being principally symptomatic. Well, of course, ease with the cause (p. 89). Again: "When blood appears alarmingly in the stool, whether the fever is high or not, resection may be employed freely." (p. 86) Speaking of the great appetite during convalescence, Warning against indulging it too much, he says: "But there is one remarkable applicable to this and every febrile complaint (p. 190) anomaly. Peiresch includes "general fibrid excitement" in his symptoms of acute dejection. (Diseases of India, p. 249)."
FEVER. Various kinds of fever may precede, accompany, or succeed, dysentery; and we need not be surprised at this when (as Mr. Bannfield remarks) "fever rarely occurs in the tropics without some internal inflammation." If a case of dysentery with synoeca be improperly treated, or neglected, the synoeca is very apt to assume a low typhoid form. And among the natives of India, and colonists, typhoid fever very frequently accompanies dysentery.

Pringle says "Besides the previous fever (synoeca) the patient is liable to one of a lower and more dangerous kind. For the most part I have observed this to be brought on by neglecting the case, or by having recourse toatives and astringents before evacuation.

Dysentery is often joined with ague, intermittent, and intermittent fever. I must likely, in such circumstances owes its origin, like the fevers, or ague, to Malaria. Dr. J. Hunter, in his "Army Diseases" remarks "there exists an intimate connexions between intermittent fever and this disease, in Jamaica; the one frequently changes into the other, and the two diseases are often complicated with various degrees of violence. In cases the dysentery ends in a fever, though it happen much oftener than the fever terminates in a dysentery, especially among the common soldiers."
Johnson, speaking of the Marsh Remittent, or Ezo-
emic Fever of Bengal, says, "visceral obstructions"
"were almost always the consequence; hepatitis or"
"paronychia completed what the fever had failed"
"to accomplish" (p. 291).

Dr. Balfour, (as has already been noticed,) considered
the paronychia merely as a grade of the "paired in-
testinal, remittent, febrile state of Bengal.
Sir W. Burnett, in his work on the "Religious
Remittent Fever of the Mediterranean," says
"those who did not fall immediately on the sick,
"constantly relapsing; several as frequently as three"
"times, most of them once, and some of them were"
"daily attacked with paronychia." (p. 159.

Pringle remarks the great affinity existing between
paronychia and inter- and re-assertant fevers. They
agree, he says, in their cause, time of prevalence, chief
symptoms, localities, & method of cure, but differ in
the paronychia being contagious, & the fever not.

The says, that after exposure to these causes, "some
developed the fever, some with the chill, and,"
"perhaps, some with a disorder compounded of both"
"but that "paronychia & intermittent seldom occur"
"together in the same person, or if they do it is alternately"

Sir J. B. Mcgregor says paronychia often alternates with
Wapasa, or "Yellow fever" (Table at the end of the Natchez)
Hepatic Disorder

There is, perhaps, no point connected with dyspepsia concerning which there is so much difference of opinion, as its connection with hepatic disorder; some affirming that the liver is always deranged in dyspepsia; others, that it is often so, whilst others believe it to be rarely so. It is satisfactorily proved that there need not, necessarily, be any connexion between the two diseases - but there is no doubt that they are frequently present together, and we cannot be surprised at this, when we consider the great frequency of them both in tropical countries, that the same causes may originate both, and that the functions of the liver are always more or less disordered in those who change from temperate to tropical countries. The liver is the organ by which the temperature of the body is regulated. Part of the carbon and hydrogen of the respiration are burned off as CO₂, and H₂O by the lungs and skin, generating the required amount of heat, by this chemical combination with the oxygen of the atmosphere: part of it (the bile) is evacuated by stool; (an even smaller proportion however - not 1/10 of the whole) and, according to Liebig, a considerable quantity is reabsorbed into the circulating system, as it passes down the intestinal canal, by the veins forming the porta hepatis. In hot climates, if bile is required to maintain the animal
heat; but, from the rarefied state of the air (which con-
trains less oxygen in a given proportion, consequently
allows less of the C and H to be burnt off as CO and H2O)
and from the stimulating nature of the diet used by Eu-
ropeans in hot climates, more bile is secreted. This excre-
tion must be got rid of some way, it cannot escape by the lungs
and is determined to the intestines, contaminating
them, & often giving rise to a diarrhea, which is a
strong predisposing cause to debility. Besides the
increased functional activity of the liver, causes its
congestion, and enlargement or hypertrophy (the nec-
assary consequence of increased activity in an organ or part)
and often leads to structural change in the end
or it may cause jaundice from being reabsorbed in
excess into the blood or from never having been resorbed
from the blood by the liver, which we know is a very
common disorder in India. The average weight
of the liver in this country (as determined by Dr
Reid at the Edinburgh Infirmary) was 16-3-3 IV
whilst Marshall found that in 140 European
soldiers who died in tropical climates, of different
diseases—not hepatitis—the average weight was 16 IV
3 VI, showing a great increase in the weight of the
latter—and I presume of the bile also, resulting from
its increased functional activity in warm climates
As the same causes may give rise to hepatitis, which cause dysentery, we must expect to find them often combined. Dr. J. H. McGregor says (account of the health of the troops last year) "the same causes seem uniformly to produce dysentery, hepatitis, and the same treatment is equally successful in either disease." In some cases we could trace the exposure to miasma as the cause of hepatitis and dysentery. If this be true, it is of little practical import whether they are combined, or not. Some causes are more liable to originate hepatic disease with dysentery, such as a long course of intemperance, exposure to heat and cold. We must also make due allowance for the place, climate, seasons, and other peculiarities, in which any particular author meets with the dysentery, as it is so much influenced by these circumstances, on which I shall give a few remarks. And for the sake of better illustrating this subject throughout, the histological appearances of the liver will be considered here, instead of under the head of "Dissection: Locality and Climate." Hepatitis is much more frequent in the Eastern, than the Western Ocean (and consequently much more liable to be combined with dysentery) - Johnson says "the returns of seige mental sick shows that it is at least triple in"
"in the former, to what it is in the latter in India." Johnson

"the average annual percentage of liver complaints" in the different divisions of the army, was estimated at 13 per cent. in the effective strength. "(P.285)"

If dysentery prevail during hot and dry weather only it is generally associated with liver disease, as in the "South Province of India, and the coast of Coromandel." If it prevail in wet weather it generally is a sequel of fever, as in the "Northern Provinces," and in the "Malabar Coast." Here the effects of locality are very striking.

Speaking of the diseases of the "Ceded Districts" he says: "Dysenteric struck at the rapidity with which disease ran its course in this division, and that the liver should be found diseased in almost every instance." (P.285) However he attributes this peculiarity less to the weather, than to the abuse of plants (arack) mixed with narcotics (stramonium, opium).

Barrington remarks, "the cases of dysentery at "Banzfield" the Cape of Good Hope were more generally attended with increased secretion of bile, than those in the "E-India, China, and other tropical ports of the "Globe"—This does not, however, denote actual lesions of the Liver, as we may have great increase of bile with no
The natives of India from their adaptation to the climate seldom suffer from liver disease, but are very frequently attacked with dysentery.

Seasons - these have an evident effect in regulating the number of hepatic cases, and the very opposite extremes increase their frequency. Thus Annesley (op. cit.) says they are most common in hot, dry weather, with dysentery. But the same holds good of cold and wet weather also. "In the course of this month (October) more dysenteric cases were sent to the hospital, than in the preceding months of the year, and more cases of hepatic than in either of the two former 6 months" (op. cit). Now the month of October was very cold and wet, and both diseases increased in frequency.

We must recollect that various other diseases may be mistaken for hepatic affection, more especially as diseases of the liver are more puzzling in their diagnosis than those of any other internal organ. Sir J. W. McGregor says (op. cit): We found not a little difficulty in drawing the line between hepatitis, phthisis pulmonalis, and some severe cases of pleurisy. An accurate diagnosis is here much wanted. In the hepatic, the liver is seen and "decubitus in later semistriis" with more symptoms...
Mr. Benzon describes a morbid condition of the stomach and bowels which, both in India and England, is often mistaken for hepatic disease, or enlargement of the spleen. It is a mistake of consequence, as the disease in question is one of very frequent occurrence, and the treatment usually adopted is very injurious in such cases. Arrnsley says that acute hepatitis is sometimes attended with several of the symptoms of dysentery—tenesmus, stools frequent, scanty, and watery, &c. &c. As to be often mistaken for dysentery and that hepatica is very commonly attended with a dysenteric state of the bowels, healthy bile being hardly ever found in the stools. This would seem to be the hepatitis with a chronic diarrhoea, from the acid bile irritating the intestinal canal. Abdominal tumours, such as mottled growths of the omentum, or peritoneum, fecal accumulations in the bowel of the colon, &c., may be sources of error and lead one to suspect hepatic disease; but in these cases, a little caution should easily enable us to discover the true state of affairs.

Dr. Robertson, speaking of the dysentery at New Orleans, says: "on inspection he found enormous appearances in the intestines, sufficient to account for death, which was generally caused by hepatic disease."
"without pain being felt in the right hypochondrium. Robinson throughout the disease, either on strong inspiration or strong pressure under the false ribs. Barnsfield makes the following remarks on this "But this case, it may be observed regarding the climate of New Orleans in winter (when the disease in question prevailed) that the thermometer fell to 6° or 7° below the freezing point at night, and during the day was no higher than 30° or 38°, and seldom above 50°, thus being like the frozen than the torrid Zone, and the case could hardly be said to be Tropical dep-" "ent. Moreover, the men in 15 days, were transplanted from Jamaica to a climate where the weather was cold and rainy, with frequent sharp frosts, and that a suppression of the cuticular discharge, as recently overflowing at Jamaica) from exposure to very cold weather, might more generally & frequently excite inflammation in two of the abdominal viscera at once, than is commonly observed in the tropics as, in this year (viz 1818) in England, several inflamma-" "tions have been more severe & frequent after the very hot summer."

We should bear in mind that Hepatitis more especially in the chronic form, which is also the most frequent, may easily be overlooked when accompanying acute typho
the pain proceeding from the former being drowned as it were in the more absorbing pain from the latter and these being little pain in inflammation of the substance of the liver, just as there is little in Pneumonia.

Again—two forms of dyspeptic, one accompanied with hepatic disease, and the other not, may become blended, and consequently the one will partake of the nature and symptoms of the other. Thus Dr. G. Bullingale's case (1827, Dis. of India) “I have endeavoured to show, that under the general denomination of dyspepsia or ‘flux’ we have two distinct forms of disease prevalent in India,- viz. ‘Colitis’ and ‘Hepatic Flux’ (chronic dyspepsia).” And I now proceed to observe that though during the first years of my service in that country, these two diseases were often to be met with in practice, as distinct as I have studied to keep them in description, they became latterly more and more blended together, and were to be found in all possible varieties of combination. It is by no means uncommon to find these two forms existing alternately for weeks or months yet—The account for the hepatic affection coming on, in most cases of Colitis (i.e. when it does come at all) to the absence of whatever, combined with the effects of climate, and for the
Hepatic flux terminating in Colic ite, by the abuse of spirits, also. So that he makes climate: and abuse of spirits the cause in both cases — where the one exists, they will on various ways, cause both, - This of course, will only apply to those who have been some time in India, or have been intemperate.

I shall now give the opinions of various authors upon this subject, with the post mortem results. Mr. Bampfylde says, "Simple deperty in India, is undoubtedly an idiopathic disease. It need not be "sympathetic of a morbid affection of the liver." "Hepatic deperty should be confined to those "cases where there are unequivocal symptoms of "hepatic inflammation, or disease." "Hepatitis "occurs with the inflammatory form of deperty, in "1 case out of 10 — with the severe variety, seldom. "with the mild variety never." "Structural de- "arrangement of the Liver (except what is caused by "inflammation) sufficient to be fatal, is rarely dis- "closed on post-mortem." "I have seen the Liver "found, where it was said to have caused the fatal "symptoms." "The liver frequently assumes morbid "actions in deperty, either from sympathy, or from "the stimulant effects of cholmel & other cathartics, "on the extremity of the aletus communis choléreux"
or from participating in the general derangement in the circulation of functions of the chyloticotic viscera; or from becoming affected with acute inflammation; or from having been formerly affected with chronic inflammation, or obstructions. In the mild form it is only casually affected; in the severe inflammatory forms, there is often, most commonly, an increased secretion of bile, from the colonel and... 

The case that hepatitis sometimes arises in dysentery, plainly marked, but that they are rarely co-existent, during the disease to the inflammation in one of these extensive zones superseding that action in the other - also that chronic hepatitis may be present in dysentery, but from its slight pain, overlooked, and from being removed by the treatment adopted for the dysentery, never detected afterwards. And from the same reason, we sometimes meet with hepatic abscess after death, which had never been contemplated.

Sir J. Ballingall says: 'I think myself entitled to one' Ballingall incline, with Mr. Bampfield, that hepatic inflammation and dysentery are not so frequently co-existent in India as has been commonly stated, and believed (Phil. Soc. P. 506). He is inclined to view any affection of the liver, that may exist with Colitis, as a secondary affection.
communicated to that organ through its contiguous to
the hepatic flexure and transverse arch of the colon. -
There is no doubt but that this may sometimes be the
case; but those who assert hepatic to proceed or
cause dysentery, might use the same theory in support
of their conclusions by reversing the process, and saying
that the inflammation spreads from the liver to
the colon. Thus Anneney says the stomach, duod-
enum, colon, lungs, & even kidneys are often found in-
cluded in the destructive process, or dissection after
hepatis - It would I should think, require very
extensive & accurate observation to decide which is
in general right - Ballingall adds that "suppose"
"disease of the liver always preceded colitis, still"
"we should not be justified, exact properly, we use"
"to treat the liver first, whilst the affection of the"
"colon is urgent; & may prove fatal" - And
certainly dysentery is the more fatal disease of the two
I the more rapid in its progress.
Respecting the post mortem appearances of the liver
he says "The Liver may be perfectly healthy, or simply
"slightly altered in colour, without any change of"
"structure. In old residents, & hard drinkers it is"
"often enlarged, and indentured." In his Table of
"inspections of 35 fatal cases - the liver was found
in 10 cases, pale-coloured in 4, pale and indurated in 5, white and indurated in 3, simply enlarged in 2, pale and enlarged in 1, enlarged & indurated with white specks on its surface in 1, in 1 right lobe enlarged & indurated, 2 were brown & 1 dark coloured, with white spots on their surface, 4 with abscesses, 1 small & somewhat discoloured —

Mr Twining says "Some say Indian deputation is " almost always dependent on diseased liver. It is "stone ulcerous diseases of the large intestine, and abscess "of the liver, are often concomitant, but the general "relation as cause and effect, may be reasonably ques- "tioned. For, in the majority of Europeans who die "of deputation, we do not find disease of the liver. "Moreover, amongst the natives of Bengal, deputation "is common, and very fatal, but affections of the "liver are very rare. (Disease of Bengal).

Dr Budd, in his work on "Diseases of the Liver" proper, Budd "supports the theory, that hepatic abscess arises "from purulent matter absorbed through the portal "system into the liver from the ulcerated intestines "in deputation. The rap" of the 29 cases recorded by "Dr Budd, there are 21, or nearly 2/3, in which there "were ulcers, more or less extensive, in the large intesti- "nne, and 2 other cases, in which the large intestine "was contracted, or shrunk, in consequence no doubt"
of dysentery at some former period." The author adds that in
9 out of 13 fatal cases on board the Dreadnought or
in nearly 70% there were ulcers in the large intestine
or stomach— and gives some other striking examples.
This is certainly a very striking coincidence.
but not conclusive, as we often have ulcers of the in-
estines with no hepatic disease as in Doloventeritis
advanced Phthisis, in which it is very rare. And as
mentioned above by Mr. Twining, ulcers of the intestines
are common among the Natives of India, but
affections of the liver very rare.
Armstrong says "There is seldom seen within the tropics
an ease of disease in which, upon inspection, the liver
and spleen are both sound." Speaking of the dis-
cases in the "Travancore Division" he says "Hepatic
disease and dysentery, are those which require more
particular attention, the latter frequently
depends upon the former. Dr. Dr. or Treating,
may probably depend upon disease of the liver; and as
we find in India, that it actually does depend
in many cases, the removal of the latter disorder
will frequently prevent the former." (De of India, p. 270)
Dr. Johnson asserts that dysentery in India, never
occurs, without disorder of the liver. "I defy any one
who has munutely regarded this disease at all."
beside, to produce a single instance, in which the functions of the skin and liver are carried on in a natural manner at any period of the disease. -

He says — A man comes to us complaining of a flux. Yet — It is true to say he mentions any other symptom at this time. But if we come to interrogate him more closely, he will confess that he has had some soreness at the pit of the stomach, or perhaps in the right side; if we examine the part, a fullness will sometimes appear; if we press upon it, he starts back, or shrinks at least, from the pressure. If we look into his countenance, besides a certain anxiety, we will observe a dark kind of pallorness in his cheeks, and a yellowish hue in his eyes; the latter is seldom absent in hepatic diseases, either in India or Europe.

— Happily for the patient, as well as for the physician, the degree of violence in the bowel complaint, where other symptoms are not conspicuous, will be almost always a sure index to the rapidity, duration, of that of the liver (P229-30) — 'The flux may be termed the pathognomonic symptom of the Indian Hepatiti' — This is a view of the subject almost as extreme as that of Dr. CURTIS, who comes to the conclusion that there is no such disease in India, as simple debility; and that what is called by
that name in India, differs nothing from a "bilious fever or bilious flux," and that of the term "apentery" is to be applied to the Indian disease, it should be distinguished from all other varieties by being denominated "the hepatic or bilious apentery of India." The same view of the disease is taken in Dr. Trotter's "View of the Nervous Temperament" (Ed. Med. and Surg. Journal, for October 1807-8), where it is remarked, when speaking of the effects of calomel in bilious affections "The "apentery of the E. Indies is, in truth, an hepatic "flux."

Mr. Bamphfield makes the following remarks on the above view of the disease taken by Mr. Curtis: "An appeal to every medical man in India, would most certainly be conclusive of Mr. Curtis' conclusion. He has considered bilious fever and flux as the same disease, whilst they are different complaints, and ought to be treated as such; and if we can diagnose between the two (which we can) it is a sufficient refutation of this opinion, and a proof of their separate nature & distinct existence. He then makes a satisfactory diagnosis between the two diseases, which I shall not enter into, only remarking that the 2nd stage of Mr. Curtis' bilious fever or flux corresponds..."
well with the symptoms of Colomitis, or acute dysentery — viz. “accumulations of diseased matter in the intestines, and the stools accompanied with much griping; often with some blood in the stools, and frequently with diarrhea; the abdominal pain is more confined to a particular part.” I don’t see any great difference between this and dysentery. It is very probable that Bilious diarrhoea or flux, is often mistaken as dysentery, or part of it.

Sir W. M'Gridge states his conviction “after mature deliberation, and the most satisfactory proofs, proofs nearly amounting to demonstration” that the dysentery of the E. Indies “is a disease, whose first cause lies in the biliary system.” He has little doubt but that the same is the case in the W. Indies, and that the European dysentery is the same disease as occurs in the Tropics (Med. & Chir. Trans. p. 180). — At a foot note at p. 180. He says: "On opening the bodies of those who died of "Artsenal dysentery, in Egypt, as in India, we almost "constantly found the liver diseased," so that he plainly thinks dysentery to be of hepatic origin. Dr. O. Brien, in his dissections of cases of the Irish dysentery, found the liver diseased in almost every case — This is in striking opposition to the
Following statement of Dr. J. Mingle, who says: "Though at first as dysentery, from the sickness at the stomach and vomiting, the yell may seem to be concentrated, yet, in the advanced state of the disease, it must be wholly acquired; since upon affection, the liver and small intestines are generally found in a healthy state, though these parts ought to be most liable to be affected by disorders of the bile."

Nature of the Stools.

The characteristic stools in dysentery, consist of a mixture of mucous mucus, and serum, or of either two of these, said to bear a striking resemblance to the washings of meat (not a carcass) by Ballingale Banghild-Evans. Twining. Hunter, et al. The latter author says: "This appearance is owing to the stool discharged from the numerous little ulcers in the intestine."

The stools are liable to considerable variation in the course of the disease, from admixture with pus, bile, &c. The bowels may be either loose or constipated at the commencement of the disease. It often begins as a common diarrhoea, more or less severe, and, in truth, a severe diarrhoea may be called a mild form of dysentery. The two diseases often intermingle perceptibility into one another. thus Dr. Hunter says:"
"There are various degrees of violence in this disease: from slight gripings, with frequent iron stools, to the most excruciating pains in the bowels, indigestion, straining, profuse discharge of blood, great fever, & sudden prostration of strength. Between these two extremes are numerous intermediate degrees, and through the slightest cases may be called by the name of diarrhoea, yet there are no specific marks of distinctiveness; they run into one another by an insensible gradation, and therefore should not be distinguished by different names." Sydenham and Willis apply the term dysentery to every case of the flux which raged in London in 1670, although the former says some of his patients "voided no blood" and the latter that those whom he attended "had for the most part, none but watery stools." This we can hardly call dysentery but diarrhoea. Yirgole says we may have all the other symptoms of dysentery without blood in the stools.

The bowels are often constipated at first, especially in those who have just landed after a long sea-journey, or in those whose digestive system is impaired by cold. Bampfield says: "the natural feces are, in general," ultimately obtained at the commencement, but there may be successive diarrhoea."
The existence, or non-existence, of scybala in the stools & intestines, has, like most points connected with dysentery, been a matter of dispute. It would seem to be a common occurrence in European dysentery, as described by Culver, but a care one in the tropical form of the disease. They are rarely seen, either in the course of the disease, or in dissection after death.

Sir J. M. Grigor says that out of 300 cases of dysentery, which occurred in the 68th Reg. at Bombay, Grigor he does not think scybala were passed in 5 of them, so that the tenacities could not be ascribed to them. Sir J. B. Ballingall says "the appearance of scybala," Ballingall, "another striking feature of the disease, as characterized in Europe, is comparatively a rare occurrence in India" (As of India, P. 10). In his "Military Surgery," he repeats the description; says they are rarely found on dissection; and warns the young practitioner from persevering in the use of purgatives, from an idea of there being scybala, to be elucidated by their operation.

Bampfield says "in India, within the Tropics, Bampfield have very rarely observed the scybala; and the evacuations, whether produced by the action of medicines, or not, were generally loose. Again "in India, and the Tropics, have rarely seen scybala, and in every instance but two, the evacuations, whether nat
"Eural, only purgatives were loose, or in solid form; they were soft, and less in diameter than natural."

He believes that the rare appearance of syphala in the stools, and the small diameter of the fecal matter, when any was solid, is owing to the intestines being diseased or contracted, from the inflammatory inflammation, marked irritability, etc., as not to allow feces formed of a natural size in the healthy portion of the gut, to pass the diseased or contracted portions, thus causing constipation, until they are reduced to a fluid, semi-fluid consistency, by purging.

Johnson speaks of "hardened fecal matter being shaped several times."

Mr. Christie, treating of dispeptidology, says these stools, "small in quantity, had a syphaline appearance," (No. 2 Med. and Surg. Journal, p. 313.)

Cullen remarks: "While the disease continues, the natural evacuations are rarely evacuated; and when they are, they are commonly of a hard and compact nature." (P. 156.) "When natural evacuations pass, they are in the form of syphala." — Sydenham makes no mention of syphala occurring, and Rigby says they are not of frequent occurrence. "There are some other substances omitted by Sydenham, which are link commonly found in the stools at round forms."
balls of hardened feces. He says that from the
3rd day of the disease, until the favorable time,
formed feces are never seen, except when a purge
operates briskly; it carries them away. But then the
patient is stupid, has feverish motions, & lethargy.
These pegs or alluded to by them would seem to be
of very small size, as he remarks they "are of the
size of a pea," a texture, &c. round, that they seem to have been
formed in the cells of the fever, & to have lain there
from the beginning" yet c. They would seem to
agree with the following mentioned by Bancroft:
"Small pieces of solid feces, about the size of peas,
sometimes get entangled in the mucous of the gut,
causing great irritation; remaining there, although
purgatives have frequently been exhibited with
effect; and we believe the bowels to be effectually
cleared; there have a fetid smell, which, when
passed, they impart to the feces, in which they
are sometimes found; mixed with, or enveloped in
mucus & blood. They give rise to vertigo, thirst
& bad taste in the mouth;& as long as they are
retained,"

The blood in the stools may be very great in quantity,
sufficient sometimes to resolve the inflammation of itself,
but seldom, if ever, it is as bright red, than usual.
Blood

The more complete its admixture with the evacuations, the higher we presume it to source.

The bile varies much in quantity and appearance. If not taken entirely, the liver be diseased, it will of course be more plentiful. But a very little bile will be sufficient to give a yellow colour to the evacuations. Its colour will depend on the degree of acidity of the intestinal canal.

When pus occurs in the evacuations it is a sign of an ulcer or abscess somewhere. It generally indicates an accelerated state of the intestines—often it may be from abscess of the mesentery, peritonitis, li мая and in such cases it is more copious, rarely is it accompanied with very frequent, in the liver, we have the symptoms of the patient and besides such cases are of rare occurrence, as the abscess seldom bursts before death ensues from the violence of the disease in such cases. It is of great importance to look for pus in the stools; as its presence there points out several things which may aid in greatly in our treatment. Thus, it shows (besides the existence of ulceration) the duration of the ulcer or ulcers; as the higher up the ulcer, the greater length of intestine will the pus have to
traverse; and, consequently, the more perfectly will it be mixed up with the fecal matter; and, on the other hand, the lower down the ulcer, the less perfect will be the admixture. And, if the ulcer be low down, we shall be enabled to apply suitable remedies to it directly by means of enemata, a great advantage in treatment. The same remarks hold good in respect to the extent to which the blood in the stools is mixed with the evacuations (vide ante). Galen was aware of this.

"ubi veroicornemque exceperit hic inde, uterum"
"ac parte utrumque excipientes adeo"
"eas incipiit, et universus universis miscitur;"
"et pars ejusque reliquis supernavit: Etenim"
"admirat us aut in superiores; donec supernavit;"
"in humilioribus intestinis ulcus eae portundit sit"

(Galen de Levis luti i.3, v. cap. 4)

In other cases, the character of the ulcer, as seen by the character of the pus it secretes, is a pretty good indication of the state of the system (whether it be weak, irritable, indolent, or, etc.) as it may in depuratory, and the knowledge so gained, be used advantageously in the treatment.

We often have various other matters excreted by stools as portions of the villous coat of the intestines, pieces of protruded gut, of fatty looking matter, worms etc.
Bumpfield says "A black, petrified substance" is sometimes evacuated, which in some cases appeared to be coagulated blood, and in others a thin membrane, or slightly brownish portions of the eviscerated coat of the intestines" (p. 90). He gives an instance where there was a tough, mortified, cylindrical membrane protruding from the anus, which, advanced daily, could not be detached from the rectum (great pain being caused by any attempt at extraction) and was evidently the inner coat of the rectum cast off in a state of mortification, most tough and elastic.

Sir G. Ballingall mentions "shreds of membrane" mixed with the stools. And says: "Cases are not infrequent, where a portion of the inner coat of the intestines, amounting to some inches, has been torn off in a state of mortification" (Medical, p. 503). These appearances are mentioned by various other authors on tropical depapery. They may more or less occur in this country, but from the quick and progress of the inflammation, much seldom occurs. Stingle says he has never seen them, but still does not doubt those who say they have.

The pieces of fatty or cheesy-looking matter often seen in the stools are thought by some to be tubercles, by others really a fatty matter.
others decolorized inflammatory exudation and by other
and of mucus. It would seem that all of these may
occur... Hippocrates mentions bodies somewhat
similar to fatty matter as occurring in the stools, which
he calls "gavis" (canemula) but they are more plaine
described by Celsus Aurelianus and Aretaeus; and
have since been taken notice of by later writers, under
the name of "corpora funguca" and variously accounted for.
Many unquestionable instances of true adipos, or fatty
matter having been passed by stool, often in considerable
quantity... Savages was aware of this disorder, and
calls it "perister adipecta" in his Nosology. Telford
delivers an example of it, in which a woman discharged
every day for 17 months, a considerable quantity
of yellow fat, that lay upon the stool, like melted
butter. When added into a vessel of water, it floated,
like oil, upon the surface; and when cold, assumed
the appearance & consistence of fat; and, like fat, it
was very inflammable, it burned with a slight flame.
Notwithstanding all this, the patient's health was good.
Drs. Bonet & Parryday analysed portions of this fatty
matter, & pronounced it to be genuine fat. One very
curious circumstance, connected with the appearance
of this matter in the stools, is, that in several cases
where it was seen, disease of the head of the pancreas
and adjacent part of the duodenum has been found after death. And as the modern theory of the action of the pancreatic juice, is that it forms an emulsion with the fatty matter of the food, and thus renders it fit for absorption and assimilation; so it is very probable that in those cases where the fatty matter is perfectly unchanged, that the disease of the head of the pancreas prevents the entrance of the juice into the duodenum, and consequently its admixture with the fatty matter. This is more probable than that the entrance of the ductus communis choledochus into the duodenum is closed by disease in that part of the gut. In the bile thus prevented from mixing with the fatty matter, for this would involve the system seriously whilst we know that the person may be quite healthy for many years. But although disease of the pancreas is often found in these cases, still we are not justified in setting the two occurrences down as cause and effect; for we often have the pancreas diseased without the passage of adipose matter. This is negative evidence, certainly, but nevertheless sufficient to make the other opinion doubtful and unstable.

In inflammation or irritation of the intestines we often have a white glutinous looking matter...
pasted by stool, which is plainly decolorized serous exudation resulting from the inflammation. We sometimes see this white substance lining a large surface of the inside of the large gut depending. Intoxication in the neighborhood of the intestine will cause the formation of a bag of pieces of this matter which are often passed in several diseases of the uterus, ascetismosis, the misplaced organ irritated the adjacent intestine.

Wingle says he has often seen these "corpora fumigia" but never examined them. Once, when he was perfectly satisfied that it was a piece of cheese and questioned whether it was the curd of milk (which the patient was in the habit of using) or composed of particles of cheese (which the patient had not used since his illness) which had collected on masse in the colon, it was expelled after a time. He was convinced that in whichever way it was formed, it was identical in nature with all those he had seen before.—(2429-30) Bampfield says "milk was pasted as soft curd, moulded into the shape of the gut," 4 hours after being taken; but this caused intense pain. He believes that "the small grains of cheese-like matter" often voided by the sick, most probably proceeds from the tubercles of their first opening.
Vain, Heat, Redness, and Swelling being the 4 cardinal marks of the presence of inflammation, we are certainly justified in considering dysentery as an essentially inflammatory disease, as we have the two former well marked externally (i.e. evident by external manipulation) and the two latter internally, after death. Besides which we have the various products of inflammation such as effusion of serum, exudation of lymph, extravasation of blood, formation of pus, etc.

The Pain (in which I do not include terminus and terminus) varies much in intensity, sometimes being acute, at other times not attracting the patient at all. Yet in acute dysentery, whether the patient complains of it or not, it is always felt on pressure over the course of the large intestine. It is often merged in the more urgent terminus terminus, and if the inflammation be of an acute or Exitic nature, or in a debilitated system, it may be little felt.

Bamfield says: "In the inflammatory variety, the abdominal pain is constant. It may vary in locality, but is generally at the boundaries of the umbilical and hypogastric regions, or around the navel. The pain often feels like a weight or constriction."
which would seem to denote that parts naturally free, are now united by adhesive inflammation. The region is often very much swollen, red, and painful. In the mild variety, there is seldom pain, except on evacuation.

In nearly speaking of the symptoms of ordinary dependency, say, "pressure over the Colon gives pain." Sir J. Ballingall, describing the symptoms of Colonic say, "The patient soon begins to complain of fixed pain in the hypogastrum, more or less acute; sometimes peculiarly urgent in one or both iliac regions, and often to be traced along the whole course of the Colon." (Med. Surg. P. 250)

Mr. C. St., speaking of Simple Acute Dependent, large swellings elude, as a symptom, "pain on pressure" and remarks often there is little or no pain complained of, except during motions, but this ought not to be ascribed to the absence of inflammation, but to the varying degree of excitability or sensibility, with which the human frame is endowed, and perhaps to some unknown modification of the diseased parts.

Sir J. Pringle ascribes the pain to "spasm of the large intestine" and adds "when the pain is about the middle of the belly, we may presume that the spasm is in the lower intestine, but we cannot be certain as in some subjects the upper flexure of the Colon"
"has been found as low as the umbilical region. Pain in the side, back, and region of the kidneys, may be referred to the colon, but if the pains be felt towards the region of the sacrum, we may often suspect that the upper part of the rectum is affected, but when the lower extremity of the rectum is irritated, the spasm seems not then to be so much productive of pain, as of a violent motion, drawing into concert the muscles of that part, as well as others, which act in discharging the feces." By the violent motion he seems to mean tenesmus, and as agrees with Annesley, is supposing that the principal seat of that distressing symptom, is in the rectum. Heat, although the patient may not complain of a feeling of heat in the abdomen or its parts, nevertheless on touching its surface with the hand, we generally, if not always, feel that its temperature is greatly increased—often communicating a sensation to the fingers, as if they had touched a piece of heated metal. Annesley says: "A sense of heat in the abdomen, especially in the course of the ileum, is almost always felt, whether there be much, little, or no pain." And this indicates inflammation of the mucous surface of the bowel.—The heat will be felt upon the patient in the hot, more so in the cold season.
Tenesmus and Tormina are very distressing symptoms in acute dysenteric especially the pain proceeding from them being often excruciating. Various causes have been assigned for the tenesmus, and all of them may have their share in producing it. Bampfield ascribes it to the retention of the small pieces of hardened feces, formerly mentioned, resisted by the muscles and played in discharging the feces, and to the morbid secretions from the large intestine. Marten ascribes it to the tenesmus to the action of irritative bile on the intestines.

Aunsey considers the rectum as the chief seat. "When the streaming from tenesmus is very urgent, we may consider the rectum to be much inflamed. If severe tenesmus be the most prominent symptom, we may suspect that the disease is chiefly seated in the rectum, but we cannot depend on this nor should we use laxative remedial measures." To show the justness of his conclusion he appeals to dissections of tenesmus, the rectum having been comparatively sound, and seen urgent tenesmus, the colon being little affected, and the disease confined to the rectum. This conclusion is certainly reasonable & probable, and gains much weight from the preceding parts.
The termine would seem to be owing to spasm of the intestine, flatulence, & probably sympathetic
Dr. Mc Grigor says the termine is not owing to retained vesicles - as he did not find them in above 1 percent
of cases.

Genito-urinary System - There is always increased frequency of micturition, often strangury, and severe hypogastric pain, which may be mistaken for cystitis; (which does sometimes occur) and in these cases the urine is often scanty, highly coloured, and so acid as to cause "noctor urina" and violent pain at the glans penis. The painful contractions of the bladder accompany termines, showing a strong sympathetic action with the section. Dr. Gourley says that the urine being highly
-coloured, or green, scanty & purgant, is a pretty sure, though not infallible, indication of hepatic affection (Med. Chron. Trans. Vol 2. P181-2)

Martin ascribes the acidity & greenish colour of the which is sometimes present, to the presence of acid bile. The retention of urine is seldom obstinate; generally yielding to fermentation.

The testes are sometimes drawn up to the abdominal rings during evacuation of the intestines - and in worse cases there is often pain in the testes and cords - therefore from sympathy.
Tongue. The appearance of the tongue varies greatly. In mild cases it is little changed. In more severe cases it may be moist & clean, or moist & white, or dry & white (where there is fever), or white & dry in front, & yellow at the root, or white at the edges with a dark fur in the centre, or light yellow in front & dark yellow behind (especially when there is increased secretion of bile) or entirely covered with a dry black or yellow (lichen) fur. (Bannfield.)

In the early stage the tongue is little, if at all, changed in its appearance; as the disease advances it is "for the most part white flecked" (Ballingall).

The sense of taste may be entirely lost, or apacicious & perverted — sometimes but rarely, the mouth & lips are ulcerated at different parts. (Probably in many cases from the use, or rather abuse, of mercury.)

Taste. The pulse is variously affected, and offers no good criterion of the disease or its treatment.

Bannfield says: "in ordinary apsentory is little affected.
Ballingall says: "the pulse in mild cases, is no great criterion; it is for the first few days frequent, and sometimes a little full; but soon becomes soft."
"Pulse is still frequently found to be little affected only assuming an increased quickness, without any other remarkable feature." In severer cases without fever, it is generally full & frequent at first, becoming quicker & softer. The loss of blood from the gut must help to produce this softness, to some extent.

In the advanced stages it becomes small & quick. Sometimes even in the early stages—but we need not be surprised at this latter fact when we recollect how weak it is generally in internal abdominal inflammations. This quick, small pulse, is most common (in the early stages) when the inflammation is very severe.

Certain states of the pulse denote great danger, as when it is weak (thinning) or small, quick, thready & intermittent (Bamfield), or full, bounding and thinning—without much increase of velocity (Ballanger).

The pulse is often temporarily retarded, or accelerated by sympathy, when the stomach is irritated, or irritated with undigested food, or bile; or when the gut is severely irritated by acid secretions, of aces, flaters, or bile, or when there is much change of the pulse from sympathy.
State of the Stomach. In mild cases it is normal, or little altered. In more severe cases the digestion and appetite are impaired, or entirely suspended. There is frequently constant nausea, often with vomiting, either of bile alone, or mixed with the contents of the stomach. The general cause of this vomiting of bile (as Phipps observes) is owing to that secretion being moved into the stomach by a retrograde action of the duodenum, and if it once induced, its can only be stopped by the free expelling of the intestines by copious evacuations of loose faeces, which taking place, the bile resumes its natural course sometimes there is a peculiar irritability of the stomach, the blandest liquids being rejected, though taken in moderate quantity, so that, though there is generally great thirst with it, the patient cannot appease it. We may have this irritability without any thing to explain it, such as vomiting of bile or acid urine. Sometimes nothing at all being ejected. It would seem therefore to depend upon sympatrick, just as we have it in ptyalism, or in enteritis, without any gastric lesion. In some cases it probably depends on the presence of an enlarged liver upon the stomach—which it is well known, may cause sickness by exciting this peculiar state.
of the stomach generally accompanies cases which terminate in abscess of some of the abdominal viscera; and generally precedes the formation of an external abscess (Bampfield). It is also sympto when this disorder of the stomach is obstinate.

We often have transient pains in the stomach from wind, bile, or undigested food.

- Vegetable food is better digested than animal, the latter frequently passing through unchanged. Flatulence, often causes great uneasiness from the gases being confined by spasm in the stomach or intestines; sometimes giving rise to tympanities.

Acidity is often very harassing. If occurring in the early stages (merely from the irregular contractions of the diaphragm), it is not dangerous; but if occurring in the advanced stages, it argues, (as in other inflammations in the abdomen) an unfavourable termination, and if obstinate, is generally a sign of mortification having begun.

Frequent symptoms of dysenteric, is an immediate call to stool, when swallowing anything, whether solid or liquid; accompanied with a feeling as if what has just swallowed were running through the bowels; and this sensation is often so strong, that the patient will not be convinced...
That what he has taken has not in reality passed.
A stool, until he sees the stools to consist of slimy
mucus merely. This symptoms shows great
irritability of the bowels, & the strong sympathy
between the stomach & bowels. A motion excited
in the stomach, being propagated almost directly
to the rectum & anus.

The symptoms which give us an unfavourable
prognosis are — when the first purge is not do
not relieve; when there is great prostration, rest=
(some of especially of quicks are not complained of) when
the hectic fever increases; when we lose health, obstine
vomiting, respiration sighing and hurried;
subultan tenderness, piercing at the bed clothes,
pulse weak, quick, intermitting, or bounding & thudding;
cold sweats, cadaverous odour from the body & stools,
convulsions, vertigo, syncope, delirium, stupor or
coma, eyes dull & fixed with imperfect vision, paralysis
of the orbicularis oris & orb-palpebrae also of the
sphincter-ane, imperfect speech, articulation,
& deglutition, aphasia, raw throat, staggering &c.
In short we have here all the symptoms, as in
other diseases, (excluding failure of the circulating
respiratory, and nervous systems, and general
working of the vital Senses of the System)
Causes of Dyentery.

Acute dyentery being essentially a local inflammation, we should expect to find the causes which give rise to it, the same as those which cause other local inflammations—and we find that it is so here, as we have already seen the analogy hold good in the symptoms & will find it further strengthened when considering the post-mortem appearances, and the treatment. Cullen remarks that "the resemblance of diseases" really consists in the agreement of their proximate causes, whatever that may be; and as remedial cure "disease, only in as far as they remove their proximate cause, we must therefore consider these diseases to be of the same nature, which are cured by the same means" (Preface to his Morbology). But although these remarks are true, his view of the proximate cause of dyentery is certainly not a true one—This he believes to be "constriction of the intestines": but this must be considered as an effect, rather than a cause of the disease, being caused by the continued contraction of the muscular fibers of the gut from irritation which being unopposed becomes permanent (nor paroxysmal; strictures of the intestines) and also from being thickened from inflammation, which necessarily lessens the diametral of the intestinal canal—
Mr. Milne also ascribes dysentery to structure of the intestine, which, he says, is spasmodic (like the structure of the urethra as described by Mr. Home), and he appeals to dissection for the proof of his statement. (Milne's Letters to Dr. Hunter) "But (say Bampfield) he does not confirm his appeal by a single dissection in his work; nor have I ever seen such a state of the intestine on dissection; nor do I know any authority or person whose dissections have enabled him to describe such a state of structure, which corresponds with the accurate description of it given by Mr. Home, in his treatise on Structure of the Urethra. Dysentery is induced in a few hours, is attended with inconvenience, & dangerous symptoms early; and is attended with discharge of mucus, pus, blood, in which it differs from structure of the urethra. Sir J. W. Hunter says spasmodic affection of the intestinal canal, Vetricine rarely occurs in the tropical dysentery" (Prin. Sketches P. 184)

The causes of dysentery differ somewhat in temperate and tropical climates; and are much more frequent & powerful in the latter. Dysentery is seldom caused by one exciting cause alone, but generally by two, or more; with predisposing causes co-operating, such as recent arrival in a warm
climate, combined with intemperance or exposure to cold, weakened digestive powers with errors in diet, and so on. So that I shall consider the predisposing and exciting causes together. But although these causes generally act conjointly, still one of them alone will often produce the disease, as heat, moisture, malaria, or intemperance.

One of the most common causes of dysentery (eating) is "checked perspiration," resulting from sudden alternations of temperature. This acts most powerfully when conjoined with recent arrival in a tropical climate as a predisposing cause, especially in young persons, because when a person is first subjected to a great increase of temperature, the perspiration is greatly increased, and consequently much more liable to be checked by the operation of cold, applied either externally, or internally; whilst in old residents it is much diminished by the natural accommodation of the body to the ever acting influence of the climate. These would seem to be the causes which induce the disease in European troops newly arrived in India, before they can get spirits and set to be blamed for causing it. And as they approach India, the climatic effects will also gradually predispose them to it.
The influence of solar heat alone may cause dejection and its effects on the frame in tropical climates must be considerable as in India, the thermometer in the hottest season stands from 30° to 58 higher in the sun than in the shade. It probably acts by causing a diminution of blood to the intestines; and its power of causing these local diminutions is well seen in "coup de soleil" where we generally find on dissection the lungs gorged with blood, or congestion of the brain. — Dr. Somnath Bhavmard, in his account of the mortality at Wallejabad, says "in some of the children I am satisfied that the "sun's influence alone brought on the complaint." The rap that sometimes the attacks of dejection were very sudden, the men being seized with it whilst on guard or parade, passing a quantity of fluid blood, without terms or premonitions, so that it is very likely that in such cases it is caused chiefly if not solely by solar heat.

Dysentery would seem to be caused by a concomitant rather an absolute increase of temperature. Thus a summer hotter than usual in England, is sometimes followed by dysentery, whilst in some tropical countries, the coolest months in the year are several degrees hotter than the hottest
Summers in this country - and, were it dependent on an absolute increase, we should have it all the year-round in these tropical countries. Deperty sometimes breaks out in the driest seasons & camps (as in a sandy desert) and in such cases is caused by the effects of the night or dew on damp in the atmosphere & weakened by the heat (which dews will of course be heavier, the hotter the day) and probably also - as Mr. Ferguson believes, to the slow evaporation of moisture, still retained at some distance beneath the dry soil, or sand. Moisture alone may cause deperty - Lo. I as Mr. Grigor says that in some cases, they could plainly trace its origin to the effects of moisture Heat and Moisture are frequent causes of deperty, and there is an old observation that such seasons as produce most flies, caterpillars etc. (whose air is so much favoured by warm and moisture, as well as that of vegetables) are likewise most productive of deperty.

When deperty is prevalent on the W. Coast of Africa during a long drought the appearance of the Harmattan wind will often stop its ravages by cooling the atmosphere and it is in general worse, when there has been no wind.
One cause, mentioned by Bampfield, as operating especially on new-comers, is, the sweat accumulating on the lower part of the shirt (especially about that part of the abdomen encircled by the waist-band of the trousers) whilst walking or sitting. The exhalation at this point is retarded, & cold is induced by the evaporation; the lens getting cold & damp & thus acting injuriously on the chyliferous tissues.

To prevent this, the natives wear muslin sashes wrapped round this part of the body at night.

The injurious effects of cold are much aggravated when combined with wet or damp. And as these act much in the same way everywhere, I shall quote the following well-marked examples from Sir J. Wringle's "Diseases of the Army."

"The tents were struck in the evening; the army marched at night, and next morning fought at Bethania. In the night following, the men lay on the field of battle, without tents, exposed to a heavy rain. Next day they marched to Horan, where they encamped on an open field, and on good ground, but it was then wet; and for the first nights or two, they wanted straw. By these accidents a sudden change was made in the health of the army. For the summer had begun early, & the weather had been constantly hot, but..."
the face. Uninterrupted perspiration attending these heats, had, as yet, prevented any general mase. Now, the sorer were suddenly stopped; and the fumes tending to vitriol action, were thrown upon the bowels: it produced a dysentery, which continued a considerable part of the season. In the space of 8 days after the battle, about 500 were seized with that distemper; and in a few weeks nearly half the men were ill, or had recovered from it. The disease was common, though not so frequent among the officers, of whom, there were few seized, who happened to be wet at Dettingen. The rest suffered by contagion. Here we have fatigue also, combined with cold. And the latter part seems to be the frequent among the officers, who can procure superior comforts.

Again, From the end of August, to the middle of September, there was much rain; the foraging parties often got wet; and the ground whereon the foot encamped, being low, retained the water. Hence by the first of October, we had above 450 ill of dysentery:—(Hanoverian Campaign 1744.)

In India, the disease is most common in the cold season, after the Raines.

Malaria. This is undoubtedly a frequent cause of dysentery, especially in warm climates. Annolly
days the chief cause there, is malaria; and that where
proceeding from this cause, it often assumes a malign-
ent endemic form, more especially if the malarial be
laden with decaying animal or vegetable matter.
But although operating chiefly in warm countries,
it may also act powerfully in temperate ones. Thus
Sir J. Wm. gives the two following, showing the effects
of malaria and damp — and many more might be given.

"A new regiment was put into the citadel of Antwerp"
in the middle of July: the air of that city is moist; "the
fort, in particular, is exposed to the calculations"
of the adjacent marshes; and the Barracks were
in ground floor, damp. In consequence of this
the depopulation became general among the men."
Again "Fort-William, 28 miles from the W. coast;"
(where there are continual rains) and standing in
a narrow moist valley, surrounded by mountains (caus-
ing much rain, slow evaporation) is always a sickly
station, particularly subject to ague, the bloody flux" (British Campaign 1798)

He believes the chief cause of depopulation to lie in
the air, contaminated by spores, soil, straw, malar-
ia, damp, etc., and remarks "Whenever will people"
the account of the several campaigns will see
such an uniformity in the rise & periods of the
"diseases, & that so much connected with the state of the
air, as will be sufficient to convince him, that neither
the abuse of spirits, nor of fruit, nor drunken betwixt
could have any considerable share in producing them.

The chief cause of depopulation seemed to be the
sight being off, for or leaving the ground
where there were, the disease visibly abated.

Speaking of the offensive effluvia proceeding from
these, he says "At certain seasons the most healthy
have some predisposition to the depopulation, which
might go easily off, were it not for these destructive
steams, that work like a poison, & fag the disease.

Sheing the exemption from depopulation of those
not exposed to putrid effluvia, in cold & damp, he says

Three companies of reinforce marches from behind
the Atuanu, and encamped at a distance from the
general encampments, close upon a river. They there
had fresh air, were removed from the contagion of
the putrid, and they had never been exposed to rain,
or slept wet. They escaped, with the exception of
one man, while the main body suffered. They
remained free for 6 weeks, until they joined the
Main body, on leaving Hanuam, when they were
also affected, but slightly, as the depopulation
was declining. Then segregation entirely cured them.
Dr. Balfour and Darwin attribute a great deal to lunar influence, as causing, or helping to cause, depuration (accompanying cause) and support their doctrines by ingenious hypothetical explanations.

Mr. Bampfylde says he has observed attacks and relapses of this disease to be more common at the time of new, and full-moon, than at the interlunar periods; but believes that that planed acts merely indirectly, by the change it occasions at those periods on the atmosphere & winds. As such winds, strong gales, showers of rain are most prevalent at the time of new & full-moons; and by checking perspiration, act as inciting causes. The map "During 5 years in India, I kept a register of all the diseases, carefully noting the lunar periods, & different states of the weather; and arrived at the following conclusion," viz. that depuration, and all acute diseases in the oriental tropics, were most frequently induced at the libri-lunar, and novi-lunar periods of lunar attraction (other causes) produced at those periods, strong gales of wind & rain, or unbreathing changes in the air or weather; but if not, that these periods were not particularly remarkable for inducing diseases. Asmusesley agrees with him; and this is most likely the true solution of the question.
Errors in Diet

There are powerful exciting and predisposing causes of dysentery, and are very prevalent among Europeans in India, especially among the higher classes; who, as a general practice, use animal food twice a day, to vegetables or fermented liquors twice, and would do well to take a lesson from the more cautious and experienced nations. These excesses (for I think they should be called little else) weaken the powers of digestion, stimulate the liver to excessive secretion of bile, which prevents the formation of healthy chyle, & irritates the intestines; thus giving rise to bilious diarrhoea, strongly favouring an attack of dysentery. They increase the heat of the body by their stimulating nature, & because the excess of bile cannot be burnt off by the lungs & skin, from deficiency of oxygen in the rarefied air, and cause languor & debility. The common soldiers, of course, are not so much under the influence of these dietetic luxuries, in the way of food, but they can generally obtain plenty of animal & other spirituous liquors, which they indulge in greatly, and which alone may give rise to dysentery, as to other inflammations, generally of a highly inflammatory character. They are also much more exposed to atmospheric changes;
not being able to obtain the many protections against
them, available to the more wealthy

Amesley says "Deperty amongst the soldiers
in India, arises unquestionably more from irregularity
of diet, than climate, though I admit that in some
instances, the latter cause is often very intimately
connected with the production of the disease, es-
specially when the deperty is associated with orga-
nic or functional derangement of the liver. The "
Spirits"

Wright's list of a regiment is always increased after
"pay-day, and deperty is the general disease."
(Diseases of India, P. 219)

Wriggly, includes the want of fermentative liquors
vegetables, as predisposing causes of deperty; and
says they act by favouring putrescence of the blood.
But the use of them, or rather their abuse, is much
often a cause of deperty than the want of them.
The also complaints of the agency of pruits, or bad
water in causing the disease, and makes the
following remarks on the subject: "In 1743 dur-
ing the German campaign, deperty broke out
very early (my in June) and was attributed to excess
of pruits. But it began to rage before any pruits
was in season (except strawberries which were too
"near for the soldiers to get) and ended when the"
grapes were ripe, of which they could get plenty. But although excess of fruit did not cause the dysentery in this case, had there been plenty of it for the soldiers to use, it is most probable that more cases of the disease would have occurred, or at least that many would have been aggravated by it. Besides it is not so much fruit like grapes (ripe) which cause the dysentery but ascetic, salacis, wines, fruit or those containing much woody fibre in their composition. And this kind we knew often causes, or helps to cause, the disease.

Regarding water he says: "In the two seasons during which the bloody flux was most rife = desme (viz. in 1743 at Hanau and 1747 at Maastricht) the water was perfectly blameless." Nevertheless he allows that water has some influence, and states that one of his private patients found himself able to return to normal after excess of the disease, if he used pump-water, than when he used that of the river, and that he observed in the practice that some were better for drinking Bristol water (which, with the pump-water, is hard), not only at the Spring, but at a distance. So that we must allow some slight remedial action to the water in hand.
But there are some instances narrated in which there can be little doubt but that impure water causes dysentery—and in such cases it is often endemic. It seems best reasonable to suppose that it should act, when containing animal or vegetable matter in a state of decomposition, in the same way as Malaria may do so in like circumstances; or when contaminated by any other impurity (as sea-water) which may act injuriously on the alimentary canal. The following are examples. While the disease was raging with great violence among the soldiers stationed in the old Barracks at Cork, Mr. Bell, the temporary surgeon, observed that the troops were supplied with water, contaminated by receiving an influx from the public wells, and rendered brackish by an intermixture with the tide. He instantly changed the beverage, and had the Barracks supplied by water cool from a spring called the Lady's Well; when the disease almost immediately ceased (Dr. Chayne in Dub. Hosp. Reports—Vol. 3. p. 2)

Dr. J. Hunter remarks that at some of the quarters there in Jamaica, as Fort Augusta, & Fort Royal, a mild form of dysentery was prevalent, which he says is probably owing to the water in both places.
for, as they are situated upon sand-banks, nearly surrounded by the sea, they have no fresh water but what is brought to them, commonly from the mouth of the Wamish town River. This water becomes extremely putrid, especially if put into casks which formerly contained rum; and in such a state is undoubtedly hurtful to the bowels. There are other circumstances in the management of the water that deserve to be noticed: it is sometimes kept in cisterns, in which millions of insects, particularly swarms of beetles, breed: the negroes, likewise, employed in taking up the water, do not always proceed far enough from the mouth of the river, to get rid of all admixtures of salt water; so that it is sometimes brackish. The idea "that such water should produce complaints of the bowels, will not appear surprising; and it is probably the sole cause of them." (Diseases of the Camp)

We meet with various examples of this Biaze, in the "Swedish Anamiticoe Aecademica." The following is one of these. Rolander, while residing with Indians, was repeatedly attacked with dysentery, which he ascribed to drinking stagnant water, contained in a cistern of juniper wood. In this cistern was the-
covered a species of acarus, which Linneus, on his "contagium sanguinum animati" theory of the origin of diseases, called acarus dysenteriae, & considered as the cause of the disease.

Arnoldsley includes "brackish water, water long excluded from the air, marsh water", as exciting causes. Dysentery is often attended with worms. But, says Wrigley, "these are not to be considered as the cause" of it, but a sign of the bad state of the bowels, of "the corruption of aliment", and of weakness of the "fibres of the intestines, owing to the heat, moisture", and "futility of the air".

There are various other predisposing causes of Dysentery, as "The Male Sex", because men are more exposed to the exciting causes, such as vicissitudes of weather, intemperance, etc. and because women are less liable to inflammation of the large bowel, as they menstruate. Accumulations of viscid matter in the large gut, or morbid elongation, or displacement of it. Convalescence from Fever, especially when the liver is disordered. Or from any weakening disease.

Rheumatism, especially among the natives, whip Worms? It often appears in Natives & Old Residents, after the healing of chronic ulcers especially if situated on the legs. (The same occurs sometimes in Negroes also)
Post-mortem Appearances.

These fully testify that dysentery is an inflammatory disease, chiefly confined to the large intestine, as will be seen from the antecedent evidence of the presence of traces of inflammatory action in that gut. Concerning this there can be no dispute, and it clearly shows the nature of the disease.

Annally speaking of these, says, "They consist almost entirely of inflammation, or some of its consequences, in some part, or in the whole, of the large bowels; and occasionally in some of the adjoining visceræ" (p. 250) (This is in Acute Dysentery.)

Dr. G. Ballingall says, that in Colomistic, "the great gut shows the strongest marks of inflammation, in all its stages, some parts being red, some highly swollen, sometimes perforated (these last are effects of inflammation, and chiefly seen in the caecum, & sigmoid flexure)"

Prof. -- In his Table of Defects (p. 33) he gives 35 defects: in 23 of these the large intestine was distinctly modified, and in several other cases, parts of it had a livid appearance externally, with ulcerations internally.

Mr. Bampfield says, "the most common post-mortem appearances of bowel dysentery are inflammation, ..."
viccines adhesions, abscess, ulceration, & mortification of
the abdominal viscera.

Similar appearances are found in different parts of
the world—thus Mr. Ferguson, speaking of dysentery,
as it occurs in Holland, Spain, Portugal, and the W.
Indies, says "Deposition exhibited a miserable mass"
of disease in the great intestine, the colon being thick-
ened, knotted, and ulcerated to an inconceivable"
"degree." He does not here mention mortification:

And Hunter, speaking of the dysentery in Jamaica,
says "I have never seen mortification, gangrene, or"
"abrasions of the colonic coat," and suspects that the
black color arising from extravasated blood,
has been mistaken for mortification or gangrene.

It is very probable that this may sometimes be
a source of mistake, but not very probable that those
who have seen so much of the disease as Dr. Wollaston
Dallinjall. Banksfield, it should fall into the
error besides, Dr. Cleghorn, describing the post-mortem
appearance, also in Jamaica, says he constantly
found the large intestine "either entirely mortified",
"or partly inflamed, and partly mortified." And
Mr. Banksfield, who saw the disease in the Indies,
among other places, says he never saw any important
difference in the disease—so that, either there
must have been some peculiarity in the nature of
the dysentery seen by Mr. Hunter, or he must have
mortification mortification for extra exsudate of blood.
and a part of the gut when mortified, need not
lose its consistence & elasticity; for in the case given
by Barlowfield, where the inner coat of the rectum
was gradually protruded in a state of mortification,
he states that it was firm, tough, and elastic.
Besides Hunter says the number of cases he ex-
=amined "was not considerable" and perhaps
these few cases were of a chronic, or astrinetic inflam-
matory form.

Dr. J. Morris noticed mortification of the large,
Morris
gut & elevations of the yellow coat." (Obs. on the Health
of Soldiers, p. 505)

Sir J. Monagle notices gangrene. He supposes the
Monagle
mortification of the rectum, to be caused by the
constant irritation with the tenements (which mort-
fication proves fatal sometimes) and in proof of
this says "I found the appearances of gangrene
always the greater, the nearer it was to the extrem-
ity of the rectum."

In the dysentery which occurred in Ireland, Dr. O'Brien
O'Brien found the colon & rectum diseased in
every case.
The large intestine is generally more or less distended with flatus. On grasping it, and running the fingers along, a different feeling is communicated to the touch in distinct parts of it; at one place it is thickened and doughy, at another thin and membranous, and is often contracted at various points. This thickening of the intestinal coats is caused by the contraction of the muscular fibers (in the same way as a voluntary muscle thickens when contracted) from the constant irritation during the disease, which is at first merely spasmodic, but, by continuing long undissolved, becomes at length permanent. The thickening would seem to be from ulceration which sometimes occurs over a considerable portion of the inner surface.

There is often much granular blood in the Colon. The color of the internal surface of the gut varies in different places, and the shade is often different in different parts of the same bowel. It may be pale, bluish-gray, fawn, deep red, reddish-brown, greenish-blue, purple, black, and in some places quite natural violephant.

The shades of color presented externally, though generally depending upon the having some relation...
to, the state of the internal surface, need not neces-
sarily be so, for we may have no external marks
of disease in the large intestine, to a superficial
observer, and yet it will be found extensively
disorganized when laid open—thus literally we
may. We have observed in cases where the
peritoneal surface was the most pale, the internal
or mucous surface of the bowel, was most deeply
diseased, of the darkest colour, rather pala-
ciated, or extensively ulcerated. In other cases,
where the mucous was externally of the deepest
colour, varying in some parts from a bluish-
red, to a reddish brown, or deep purple, the internal
surface has sometimes presented less than usual
marks of disease in those situations" (p. 203).

On opening the large intestine, a quantity of
fattish gas usually escapes. And the inner
surface covered with bloody mucus, serous,
or pus generally contracted & ulcerated
The mucous surface presents as many shades
of colour as the external does, it may be rose-coloured
(shewing that the part still retains its vitality, or
deep-red, streaked transversely, & dotted with a darker
tint, vermillion, or still darker (approaching the
state of ophaceo, yellows, greenish, yellow,

Mucous Surface

Colour
various shades of green, the dark green indicating the first stage of gangrene. The yellow and greenish-yellow hues are probably from bile. The villous coat is often abraded, and parts of it seen in the evacuations: these are noticed by Galen, Monro-Bampfylde, Ballingall, etc. Ulceration of the bowel is a very common occurrence; and this process would seem to precede modification very shortly, as when the internal surface is ulcerated, the external is often of a livid hue. The ulceration proceeds invariably from certain outwards, and may involve one, two, or all three of the coats of the bowel; in the latter case the escape ofecal matter into the cavity often proves fatally fatal. Hippocrates, Galen, Celsius, make mention of ulcers in debauchery, but write the disease to their presence. They are also mentioned by Morgagni Bonetus, Swingle, Baillie, Plenkon Hunter, Ballingall Bampfylde, Anstry, and many other writers, both on tropical debauchery, and that of temperate climates. It is merely accidental, not occurring until the latter stages of the disease. The depictions of some European artists, viz. Morgagni, Bonetus, Swingle, etc., show the intestines to be often found, as regards ulceration, than otherwise.
The portions of intestine involved in the ulcerative process are generally very liable to be handled (mmare). The ulcers would seem to originate in the glands of the intestine (glandular substance) and can often be distinctly traced to their enlargement and thickening. They vary much in size, from that of a pea to that of an (generally oval) round inch in extent. The appearance of follicles and glands in the colon is often, in a great measure obliterated. An appearance of small ulcers is sometimes caused by the various-like parasites or tubercle sometimes seen in the gut, the prominent edges they show, after breaking, may give the appearance of a loss of substance of the colonic coat.

The large intestine is often found considerably narrowed into its calibre in various parts, which, as already noticed, some affirm to be the approximate cause of dysentery. This results from the thickening of its coats, which may be owing to spasmodic contraction from irritation or to inflammation, or to the tubercle-like excrescences previously mentioned, encroaching on the diameter. When from the first cause, it lies of course, in the muscular coat (its circular fibre), but we rarely see the spasmodic contraction on
defection; for although it no doubt often occurs in the early stages of the disease, it soon becomes permanent by continuance, and from inflammation from the constant irritation.

When from the second cause, it lies in all three coats; and this is the most frequent cause: for when the coats are thickened, they are generally inflamed also; and both the thickness and red colour diminish towards the circumference of the part as changed: besides, the tube, in most cases, cannot be made to resume its former diameter, after death; which it should do, if the cause were merely spasm. These contractions are often very limited, appearing as if caused by the application of a ligature round the gut (probably a band of lymph in some cases) and frequently present evident evident marks of inflammation externally. (Annular) The thickening sometimes proceeds to such an extent, as to suggest the idea of a solid rope; and the parts involved in such cases are so brittle, as not to admit of being manipulated, without risk of rupturing them. (Ball-valle) When from the third cause (my-tatoes) the mucous coat & sub-mucous tissue, are chiefly involved. After clearing away the blood & mucous
These occurrences appear, of a lighter colour than
the rest of the surface, with marks of more or less
inflammation in their vicinity. They have
been noticed and described, by several authors, and
compared to the eruption of small pox, which they
often closely resemble. Bringle describes them,
as roundish in shape, nearly equal in breadth
(about 1/8 inch) but unequal in breadth. The
rash, "We all agreed, that we had never seen anything"
"as closely resemble the small-pox of a flat bolt," "at the height of the disease. Their eruptions stood"
"as thick on this tract of the intestines, as variously"
"sprouted, when numerous, upon the skin, but"
"differed from them in this, that as far as we"
"examined them, they were of a firm consistence"
"without any cavity. The rash Dr. Whitehouse showed"
them a similar preparation, and believe they
might be much oftener seen, if properly looked for
by washing off the blood and mucous under which they
lie.

Dr. Hunter mentions them as occurring in chronic Hunter's
appendicitis, and it would seem to be in the form
of the disease, in which they are generally seen.
The most with them in different stages of development,
in the large gut, and sometimes in the ileum, lying..."
between the mucous & muscular coats. They were present in all the cases he examined (which were not many however). And he believes they occur more or less in all cases of epidemic dysentery. The following is his description of their development:

They first appear as a small round tubercle, of a reddish colour, not more than 1/8 of an inch in diameter; and gradually enlarge to the 1/2 of an inch, becoming paler as they grow. In this stage, there appears a small crack in the top, with a slight depression, which gradually increases.

And on examining the contents of the little tumour, I have generally found them to be a cheese-like substance. As the opening enlarges, the edges become prominent, and the base grows rough & scabrous, from which matter oozes out. That is sometimes tinged with blood. They often occur in clusters, become confluent (as in small pox) so as to form a rough, unequal ulcerating surface with a hard & thickened base — very similar to what occurs in Sore Throat or Ulcers. It seems very probable that the contents of these confluent tubercles, when aggregated from the larger cheese-like lumps, sometimes found in the evacuations, just as they from the small piles when single.
Sir G. Ballingall says: "In a few instances, I have seen parts of the coat exhibit the peculiar appearance, which has been compared by Sir G. Baker, and others, to small pox" (Med. Surg. P. 506). Mr. Cleghorn says, that in many instances after dysenteric he had seen scurfous tubercles spreading the cavity of the colon in several places (ib. in the Epid. Dis. of Minorca).

"There already noticed the analogy or similarity between these protuberances, and those which occur in the bowels in enteric typhus or cholera morbidus; and it is highly probable that these cases of dysentery, in which they occurred, are attended with fever of a low epidemic type, and that they are owing more to the attendant fever, than to the dysentery. The fact that they are most common when dysentery assumes the epidemic form, when we know it is most liable to be attended with a low fever, strengthens this supposition. The point might easily be settled by observation. Displacements, elongation, & convolutions of the colon often occur, and the ligaments of the gut are often relaxed or destroyed - the appearance of syphilis in it, however, are very rare (Ballingall) so that they are seldom seen either before or after death."
The small intestines are generally found in a healthy state, though sometimes inflamed, more especially at the lower part of the ileum, which is sometimes also ulcerated, or studded with verrucose-like tubercles. Skinner says inflammation of the small intestines is most common in connection with diseased liver. In the 35 cases given by Ballingall, they were inflamed in 10. Bringle says they are almost always sound, while H. B. Boreen in the repository of Ireland, found them diseased in 42% of the cases. When the ileum is ulcerated in enteritis, we generally have much illike vomiting, and it is not unlikely that this may be the case in distressing also when we cannot account for the severe vomiting by the presence of bile, or iecine indigestible food in the stomach.

The omentum is generally atrophied, thickened, firm and doughy, sometimes perfectly transparent, and devoid of fat; and the latter condition being generally found in long-protracted cases, it participating in the general emaciation; or in cases where the liver has been affected (Ballingall). It is often adherent to some of the viscera, especially the great curvature of the stomach, or to the parietal peritoneum. It is sometimes formed in it.
The Stomach is generally normal. From the severe vomiting, breaux, and tenderness over the epigastricum, often present during dyspepsy, we might expect to find it frequently inflamed, but it rarely is so. In the 35 cases by Ballingall, it was inflamed only in 1 case.

The Spleen is sometimes considerably enlarged; probably in those cases which have been complicated with ague, or intermittent fever.

The appearances of the Liver have been considered. The Gall-bladder may have its coats thickened from inflammation, or be enlarged. Sometimes it is empty; or contains air only, or bile, inspissated, & black from concentration.

The Kidneys and Bladder are sometimes, but rarely, inflamed.

The Peyerian or lymphatic glands of that part of the mesentery to which the diseased parts of intestines correspond, are generally, or often at least, enlarged & inspissated, or softer than natural, in a state of suppuration.

This would seem here, as in Typhus fever, to be owing to the prevalent, or other vitiated matter, absorbed by their appressed lymphatics, from the ulcer, and pustules on the inner surface of the gut, to which they hold the same relation, as a tube does to a chamber.
Treatment.

A thorough knowledge of the nature of dysentery is absolutely essential for its proper treatment; for, as a man forms his opinion on this point, so will he adapt his treatment. And to be well acquainted with the true nature of a disease is half its cure—more especially in the Tropics, where diseases run their course so rapidly.

Those who believe it to be a fever turned on upon the bowels (of whom there are very few now-a-days) will place most reliance in sud- Mines — Those who believe it to arise from damage to the intestine, give antiperiodics and laxatives. Those who believe inflammation of the large intestine to be the cause of, or rather the disease itself, bleed, give mercury, and other antiphlogistics. Those who believe it to consist chiefly of hepatic disease, give colonol chiefly. And those who join two or three, to constitute the disease, also take their approp- piate remedies united. — While we thus see men of great experience & talent, each upholding his own doctrine, supporting it by arguments plausible and seemingly in- controversial, forcing upon us statements &
of acts that it is difficult to subvert, and appealing to the success of his mode of treatment, in showing the correctness of his opinions; it must be very difficult for the young practitioners to decide which he is to believe and follow. It is quite evident that all cannot be right. It is true, we may have all the above mentioned conditions present in dysentery, viz., suppressed perspiration, or the appearance of dysentery with the elevation of previous febrile symptoms; structure of the gut; inflammation of it; or hepatic disorder; but this is seldom the case, as generally, one or other is predominant, whilst the others are either absent, or exist in no marked degree. The great point then is, to discover which is most frequently, or always present and I think we must come to the following conclusions. 1st. In acute dysentery or colitis, inflammation of the large gut is always present, and as the chronic dysentery is almost always the sequel of the acute, it necessarily follows that the chronic inflammation is present in it; and the appearances on inspection fully support the conclusion in both cases. Therefore, as in other acute inflammations, we use blood-letting, and other antiphlogistics, and generally obtain, from general
Blood-letting in chronic inflammations, as it seems
but reasonable and proper, that we should follow the same
plan of treatment in dysentery.

2nd. In both acute and chronic dysentery, the skin is gen-

erally hot and dry, which indicates the use of antiperspi-

drifics and diaphoretics.

3rd. In most cases of dysentery, both acute and chronic,
the finds, obstruction, contraction of the gut in one
or more parts, which is merely symptomatic, would
indicate the use of antiperiodics and laxatives;
but I have already shown, that these, though they

may be and no doubt are, at first symptomatic, yet
soon become inflamed and permanent.

4th. In many cases of dysentery, especially of the
chronic form, we have functional disorders, or
structural disease of the liver, indicating the
use of mercurial in most instances. But as the same
cause which originates dysentery, may give rise to
hepatic derangement, it is but natural that they
should often be found coexisting; though we
are not warranted on that account (which is
most likely accidental, owing to the effect of climate)
to conclude that either one is the cause of the other,
or even a modification of the other, because
we have the one, we must have the other.
We are forced to conclude then, and with good reason for so doing, that acute dysenteric consists in acute inflammation of the large gut; with the accompanying peculiar discharge of mucus and its frequent cause is checked by purgation from cold, so we have a hot dry skin. That the frequent contractions of the gut is an effect of the disease, which prolongs & aggravates it. And that as the same causes may give rise to dysenteric & hepatic, so we may sometimes have it accompanied with hepatic. That chronic dysenteric consists of chronic inflammation, and diseased state of the intestines, either exceeding the acute form, or resulting from the continued effects of the climate, with dietary errors; and consequently more generally attended with disorders of the liver secretion. That acute dysenteric is a local disease, requiring the same treatment as other acute local inflammations. And that chronic dysenteric is more a constitutional affection; and to be treated as such; our chief attention being paid to the disordered secretion, especially the bilious & cutaneous, and supporting the strength if necessary by light nourishing food, with tonics—our chief reliance being placed in Mercuric—
I shall now consider the various remedies more in detail, and see how far each is supported by experience. **Bleeding.** From the nature of acute dysentery, blood-letting is obviously the first indication of treatment, and its value & efficacy are fully borne out by extensive experience. To be useful, it must be employed early & actively, and even in cases where one would think it contraindicated, as in old residents in the tropics whose debilitated frames would seem unable to bear depletion, or in persons after a long sea voyage, it may be employed without hesitation. Nor should be be deterred by a feeling of weakness & lassitude, or weak pulse, (except in the advanced stages of the disease) as those are part of the general symptoms of debility, owing to the fever, pain & constant irritation, acting on the heart by sympathy, in the same manner as we have them in Enteritis or Gastritis, but do not therefore omit bleeding. We should use the remedy according to the previous, not the present, strength of the patient, & the severity of the symptoms. The propriety of blood-letting is supported by several powerful reasons, as 1st by its inflammatory nature, 2nd by analogy from other acute intestinal inflammations, 3rd by the rapidity with which inflammation...
vation in the tropics runs on to suppuration, mortification, sometimes proving fatal in three or four days.

5. By nature, who attempts to resolve the disease by loss of blood with the evacuations. 5th. by the character of the blood, which is often both thick and cupped. 6th. by the post-mortem appearances. 7th. and chiefly, by experience. With these powerful arguments before him, no man, I think, would be justified in omitting it. But, nevertheless, from prejudice, little experience, or some peculiar modifications in the disease, they have met with some danger to utility and abstain from using it.

The following are the opinions expressed by various authors on the subject of general blood-letting.

Prosperus Alfenus, in his Medicum Egyptianum (lib. i. cap. VII.) says that "Alexander Trallianus, Etius, atque alii multis gravissimi medici" were of opinion with him "optimum ex re medium dipenitentia medium," "sanamini evacuationem."

Sir Bampfield is a strong advocate for bleeding, advising it in all cases of the inflammatory kind, or where the return only is highly inflamed; also in severe cases (the severe variety of the acute dipenitent) where there may be little or no inflammation, but severe torment, obstinate constipation, pain in the belly,
(which however indicates the presence of inflammation) and although there be no superintegrated presence of inflammation, or antecedent bleeding, in these latter cases, will, he says, prevent the necessity of inducing phlegm and arrest the disease. "By bleeding we relieve the inflammation of the patients' suffering, or relieving which the patient's life depends." He says it cannot be dispensed with until the inflammation is controlled, but one general bleeding is generally sufficient. He has never experienced any bad effects from venesection in dysentery and hepatitis, and has, during the last three years of his practice, lost only one patient in the acute stage (of that case was too late for bleeding) and resolved every case of acute hepatitis. So that whether dysentery be combined with hepatitis or not, it makes no difference in the treatment as regards bleeding.

Dr. J. McGregor, speaking of the treatment of dysentery in the Pemuncular camp, remarks "The practice of Dr. Buchanan, Munroe, Ferguson, Edy, Petrie, Ch'ne, and Dr. Forbes, Walker (and I may add the lamented names of the late Dr. Gray and Cabell) and indeed of most practitioners) was, to attack the disease vigorously by depletion on its earliest commencement. I myself have seen much of the benefit of this practice in dysentery."
"Portsmouth in the years 1810-11, with many apoplectic cases received from the Peninsula. The plan of Dr. Somers appeared so judicious, & proved so successful on the first attacks of the prevalent uncleaved disease, that I recommend it being generally followed in the army. (Death of the Renois army) Sir J. Ballingall says, "Bloodletting is the remedy upon which our chief dependence must be placed. But in expressing a favourable opinion of this practice, I must candidly own that it is grounded more on the ravages of inflammation so universally apparent in the dead, than on many repeated or extensive experience on its beneficial effects on the living. In those cases of apoplectic in which I have employed bleeding, the majority have, I think, terminated favourably; and of those in which the result has been fatal, the appearances on inspection have been such as to create a sentiment of regret, at not having carried the evacuation further." (P. 507-8)

Dr. Johnson says, "When blood appears alarming in the stools, whether the fever run high or not, sense is not affected, may be employed freely, without the slightest apprehension of that bug-bear "Debility."

This is the first step of the treatment."
Mr. Annæley advises "general & topical bleeding" "according to constitution and length of service" in India, and the practice is advocated by numerous others, as Thirring, Jackson, Mosely, tucked Bingley, etc.

Sir John Clark says "No evacuation is better" calculated for the relief of the patient, when the disease is accompanied with a fever of the inflammatory kind; but, in hot climates, fluxes being either of a chronic nature, or accompanied with a low fever, the strength of the patients falls from the beginning (Ob. on Vomacation and Dysentry. p. 325).

But there are several arguments against this reasoning and practice. 1st. Clark had little experience of the remedy, as he says "I do not remember to have met with alow case or two, which seemed to me a sure bleeding, and the operation though performed early in the disease, did not in the least relieve the patient" (p. 325). 2nd. Dysentery is often general attended with a low fever; although often with a sense of debility and languor; and even if it were we should not omit bleeding as we do not under similar circumstances in enteritis.

3rd. Bleeding (as remarked by Mr. Bingham) will do away with the chronic stage or nature of fluxes.
Vomitives including Mercury

Vomitives act beneficially in various ways. 1st By removing constipation when present and its ill effects. 2nd By allowing us to see the evacuations, the knowledge of the amount and nature which is no small advantage as regards our treatment. 3rd By relieving bilious vomiting, from retrograde action of the duodenum, as they re-determine the flow of bile into its natural course. It is sometimes very difficult to purge in dysentery, as much as 3 or 4 of Manna, Sulph. and 4 to 6 of Calomel being at times required to effect it. But it should generally be avoided, once at least, in order to see the nature of the stools. The intestines should be completely emptied, as seen by the quantity, not the number, of the stools - as we may have frequent stools, but still little is nothing gained. They should not be carried too far, for fear of producing hyperacidity or too great irritation and tenesmus. Although Bancroft says there is very little fear of hyperacidity and if it does, that it can easily be stopped by opiates & aromatics. And Johnson, or rather Martin, says there is not the least fear of it. But from the stimulating effects of the vomitives, upon an already inflamed intestine, and
the irritating effects of the bile, they determine in increased quantity thereto also, it seems almost im-
possible that they can fail in acting insensibly if carried beyond what is necessary for simply evacuating the intestines. Besides we know that excessive purging will sometimes, of itself, bring on a dysentery. We should always be guided in our use of them by the amount & nature of the evacuations. Those cathartics should be used which act quickly, and are hydrogogue in their nature, as the reduction of the feces to a semi-fluid, or fluid form, greatly facilitates their passage. The neutral salts, with or without physic lemons, are general favorites. I seem to answer very well in most cases. Some prefer bile, calomel, or kido. Palapa & Co. combined with calomel. The East Calox. Co. is often used, but is not so sure or active a purgative in tropical as in temperate climes. Mr. Bonfield says others have been employed. None of course should not be given, from its peculiar irritating action on the large gut. Their action is some-
what modified by the effects of climate, for Sir J. W. Fergus remarks, that they do not appear to give the same relief in this climate as they do in Europe, or even in the West Indies (Health of the Body).
After having been once given to ascertain the particular form of the disease, and the condition of the intestinal canal, purgatives should not be repeated if they bring away no unhealthy fæces, but merely blood and mucus, and cause tenesmus; or if the appearance of the tongue, and mildness of the febrile symptoms give no cause for suspecting a loaded state of the bowel, an insalubrious circumstance they only irritate the intestines (Ballingall). Nor when a copious diarrhoea has preceded the dysenteric (Bampfield)

Caster Oil is a favourite purgative laxative with many—from its uniform mild action, as it is often retained when pills and mictions are evicted—and from its forming a protective sheath for the intestinal canal, against the erystulation of fæces & morbid secretions. Thus Mr. Bampfield says of it—"the oleum ricini is"

"perhaps better calculated to afford relief in dysentery, than any other aperient, or cathartic; for its action is not only mild, & generally effectual, but I have observed that some of it passes undecomposed, in its oily form, through the intestines, and appears on the surface of the excrement. Olœum may serve as a sort of health liniment. (P. 121)"
Martin, speaking of purgatives, says, "I never employ any other than those of a mild lubricating nature; castor oil is almost the only one that is proper."

Dr. P. Johnson says, "Castor oil is the best medicine I can recommend, for the purpose of bringing away hardened fecal, or vitiated biliary accumulations, where the gastric and intestinal irritation is previously allayed by the calomel and opium; and it will in that manner settle the termine tenore (P. 185).

Sir F. Ringle speaks very much in praise of it.

**Mercury**

Some authors, as Milne, Gray, Ferguson, &c., say that Mercury in some form is indispensable in the cure of dyspepsia, and well of itself, effect a cure. Others, as Johnson, Bannfield, &c., say it must be used preceded however by blood-letting, whilst others, as Ballingall, Howard &c., believe it to be useless, or worse than useless. How are we to account for this discrepancy? This is a remedy powerful either for good or evil, and how are we to know when to use, and when to abstain from it? Dr. McGeirr McGeirr has probably hit upon the right determination which should guide us to prescribe or withhold the drug.

It was he tells us, when the dyspepsia was complicated with disease or disorder of the liver
that mercury proved so highly useful, and adds
"in the early stage of the acute and unmixed dis-
"ease, and before resection has been performed,
"mercury will aggravate the symptoms. In the.
"more advanced stage of the disease, particularly
"when there is hectic fever, with extensive erosion,
"or ulceration of the intestine, it is invariably
"found to bring it on to a fatal termination.
"This seems to be the true state of affairs on the point
and is further strengthened by the fact, that those
who speak most of hepatic disorders accompanying
"appendicitis (acute or chronic) use mercury most.
"and in general vice versa. And one grand
"point on which almost all insist, is the necessity
"of preventing its exhibition by general blood-
"letting.

Dr. Johnson and Morton are strong advocates
for its use and beneficial effects - The former says
"in the hepatic form of appendicitis (an uncommon
"complication in Bengal, especially in the cold season)
"calomel is absolutely necessary for the cure." And
"again" I believe that cases of hepatic complication,
"treated without mercury, frequently terminate
"in inflammation and chronic collapse of the organ.
"(studies) - Speaking of the practitioners who follow
the mercurial plan of treatment, he says "He is "generally successful; but occasionally he is foiled" and cannot raise a phyalism, then his resources "are gone." He gives it (after bleeding) as a sedative, in 2 doses, three or four times a day; con- 
Ained with gr of opium, followed by castor oil; 
and persisted in until phyalism is established, or 
perfect relief is obtained. 

Martin is a regular ultra-mercurialist. He says "When phyalism is induced, the dysentery generally "disappears as a matter of course; but whether this is from "the mercurial preparations rectifying the hepatic "secretion, or producing some unexplained change on "the system at large, is at present quite unknown."[198] 
He ridicules the fears expressed by Bampfield of induc- 
ing excessive salivation and hypercalcinious by the mercur- 
ial plan of treatment—saying, "I consider all his fear "about excessive salivation, hypercalcinious, etc., as the "results of this new practice, to be entirely illusory. His "opinion that the induction of salivation is incompatible "with a high degree of inflammation, not only takes "for granted the correctness of his own theory of dysentery "but is, in itself, perhaps, little better than an atheism. Besides it carries no weight with it as an "objection; because where is the practitioner who "
would proceed to mercurialize the system, until he had reduced the existing fbrile excitement. Neither myself nor Dr. Robinson has ever administered *3 doses* of any other doses of calomel, with an attempt to "salvate, without preceding active depletion, both by blood letting & purgatives" (p. 188). Now whether phygalism and acute inflammation be incompatible or no, it can't make much difference as regards their treatment, as both premise the exhibition of mercury by general blood letting, thus reducing the high degree of inflammation. "Mercury takes it for granted that there is hypoporia in depuration which many deny," and Mr. Bensfield does not express much fear of hypoporia; on the says it is hardly induced, and if induced can easily be stopped. It is true, he approves, and properly, fear of excessive salivation, which every prudent man should warn against, and which is prone often to occur in voluntary depuration. Mr. Bensfield's sentiments on the mercurial treatment may be seen from the following quotations from his work. He contends that Mercury is a very important means of cure, and that the mercurial plan has been found equally successful in the East and West Indies, Europe, Abyssinia, Portugal, and Egypt. Yet that it should be invariably preceded by blood letting "is instinct this
it sometimes will not produce phyalism, and often
excites too much the action of the heart and large
estomes, which would be injurious, were not the
active inflammation previously reduced. The
memorial treatment, and large doses of calomel,
fail in the inflammatory variety; as the excitement
of mercurial evaporation seems to be incompatible
with a high degree of inflammatory action, with
the existence of internal or mineral, abeep, or mort-
ification. For under these circumstances, there
always failed to produce phyalism by all its varied
modifications in the largest doses. This is the opinion
of Dr. J. M. Grier, Mr. G. Ballingall, and some others.
and from it, it would seem, that either mercury
is of no use in the highly inflammatory form, or its
exhibition must be preceded by more efficacious
blood-lifting to reduce the inflammation to a
proper standard. The nephrotic Dr. Johnson's
plan of giving small doses of calomel, three or
four times a day, but this is not proper in gen-
eral, and rarely necessary; for, if it is to purge,
we can find other purgatives more safe, certain,
and which do not increase the bodily secretion
so much. If to produce phyalism in a short time,
it is seldom necessary or proper, as in inflammatory
"cases the salivation is incompatible with a high"

"degree of inflammation, and when that is subsided",

"there is no immediate danger to warrant such severe",

"treatment, whereas will do: besides, such large",

"doses may salivate profusely, as well as speedily,"

"Prophylaxis is not necessary, and besides pre"

"vents the patient from taking much nourishing",

"food, and he may sink consequently. As soon as the",

"mouth is affected, beneficial changes in the diseas"

"intestines takes place". And thus the best evidence

we can have of the therapeutic effects of a remedy.

He then goes on to state the disadvantages of the Mercur"

rual plan, viz. increased flow of bile, starting the",

intestines, severe palpitation of the heart, success,

entailing difficult deflection, & nascent cases,

(both cold)

aggravation by suppuration of the masticatory glands,

the prognosis is often 

the ill effects, & irregularities, are more than counter-

balanced by the beneficial effects.

Sir F. Ballingall says "I have never seen a"

"to see the benefits of its curative in the acute ic",

"stomachitory affection of the colon", but he had no",

"great experience of it, only having used it when the",

"Royals were attacked with acute digester, or leading
at Prince of Wales Island in 1837, in accordance with
the practice then prevalent. and in that instance
it utterly failed in producing any beneficial effects.
But he does not state whether it was preceded by
bloodletting: for though he afterwards became
a convert to that practice, he was not much in
favour of it on first going abroad, and therefore,
probably might not have used it in this instance;
which would in all likelihood have made a
marked difference in the result of the treatment.
He notices the practice of giving it with opium,
as recommended by Dr. Jenner, Knowles, but as if he
were inclined to think more favourably of that
plan (Vol. II., p. 1560).
Sir Simon Howard (op. cit.) remarks: "Mercurial
ointments & calomel were in many cases extensively
employed, but in the acute stage, except when a
muriatic acid was indicated (and that often consisted
of a few grains of calomel) I cannot say that I
ever saw any advantage from their use. Little or
no benefit, therefore, I am inclined to think, will
ever be found to arise from the mercurial practice
in that stage of appendicitis, when the disease is
attended with fever, or other symptoms of irritation;
but when there have been removed by other means,"
"Mercury then becomes the most powerful of all our remedies, in finally subduing the remains of any kind of visceral inflammation." This is just the opinion held by Bampfield, and seems to be the rational and proper one. First the bleed, vomiting, and the purgatives, and then the mercury and opium.

Dr. Johnson recommends an infusion of Sapium, or other light bitter, always to be given, directly after discontinuing the mercury, and continued until the stomach and bowels have recovered their vigor.

Colonel is generally combined with some other auxiliary remedy, as Rute, Saltpetre, Ruta, Saltpetre, &c., Ruta, Antissa, Ruta, Hyssop, Ruta, Hyssop &c., Rutaaceae. If Colonel disagrees, mercurial inunction may be substituted.

Nitric acid is a very valuable remedy in the treatment of dysentery. And often resolves the disease, when mercury and other means fail. It is used internally, to the amount of about 3 VD daily, and externally in the way of bathe, and regularly administered for some time. Dr. J. McGregor says of it: "In Egypt we felt the want of nitric acid in dysentery, and we equally felt the want of this powerful remedy in dysentery. The instances which have occurred to me during the last five years..."
One extremely numerous, where, after our failure with mercury, exhibition in all the variety of its preparations, we succeeded with this remedy; sometimes, as a substitute, and sometimes as an auxiliary. Major Dean and Bellami (head of the first note) have recorded a number of hundreds of cases of dysentery treated solely by nitric acid mixture and bath (Red Heptelby, p. 185).

He says in his "Memoir of the Health of the troops at Bombay": "I have nearly divided the number of cases which occurred, between the two modes of practice, i.e., nitric acid and mercury. And, after the utmost attention, that could be bestowed, the success of the two appeared nearly equal. As in last year, several succeeded with mercury, after the acid had failed, and vice versa.

And after a failure of both modes separately, the compound use of them succeeded. For this I can assign no reason.

Emetics. Infusion of theca camphora, given occasionally in dysentery, has been a favourite remedy in the health of India for many years. Sir William Babée, after an experience of thirty years, and an extensive practice amongst all classes of Europeans, says of this drug, that it "has no equal in simple dysentery, that is, dysentery not accompanied with hepatic afibrnment; in such cases, given even so as to produce daily a little vomiting, it"
"was the happiest effects" Dr. Johnson agrees with them. After an experience of twenty years, limiting its good effects, little harm, to simple uncomplicated deposits, and often bleeding of moderate purging.

Others think emetics of little use, thus Bankesfield says: "Emetics are unnecessary, except when there is "great oppression of nausea, with a sense of weight in the stomach, unaccompanied with vomiting." Bell-Ingall advises them "only when directly indicated" to remove any deleterious substance recently swallowed, "from the stomach." The nature of the case will be the best guide for our use of them. The natives in Guiana use a decoction of the bark of the Rumbia as an emetic, and sedative in dysenteric and fever, and often with the very beneficial effects. They will take two or three cups in the course of the day, and also use it in the form of bath.

Ephedrine and Diaphoretics, including Diaphoretics, are in analogy.

Checkered perspiration being perhaps the most frequent cause of dysenteric, we should naturally infer, that diaphoretics would be a chief item in its cure; and we do find them very useful in curing or relieving this disease, though we should not, as some do, place our chief reliance upon them. Some allow them
The exclusive power of curing dysentery is, indeed, "intermittent fever is not cured with more certainty by Peruvian bark than dysentery by dephlegmatics." (Thomson on thefever) Mr. Heath concludes that the disease is cured by,perforation in every instance. (Thomson on dysentery)

The extensive employment of opium and quina in civil life, as a medicine in dysentery, was first introduced into India, by Mr. Alexander, when Surgeon to the 34th Regiment, in the beginning of this century. The practice of giving several grains of solid opium, and following it up with two or more courses of the fever, was at that time in the highest vogue, and extensively adopted. And much ingenuity was displayed in accounting for its "medical operantiae" and beneficial effects.

Sir Simon Howard says opium is the chief means of curing acute dysentery, and that its action is two-fold: 1st. It diminishes pain and irritation — which effect may always be observed. 2nd. It determines to the" surface of the body," which is left certainly produced, though most important of the two actions, and the chief means of resolving the disease. He used in the dose of 3 to 4 of the quinque, or from go X to 200 of solid opium. And there seems to be great tolerance of the medicine.
for although it used these large doses, he remarks
"in no instance have I seen more than ordinary"
"sleep produced, and sometimes the patient come"
"pains of watchfulness" (Op. cit.)
Sir J. Ballingall agrees with him both as regards
the good effects of opium, and its mode of action,
and as goes to diaphoresis the most powerful &
selective effects.

Sir James, the editor of the letter to Sir W. Forquer, says
"Bleeding seems useful. but opium, given at the"
"commencement, is the most effectual remedy. If"
"delayed till the fever subsides it is injurious;"
"and can only be admitted in the decline of the"
"complaint" (Sirtie Review 40, 1802)
Sydenham trusted the cure of non-epidemic
diaphoresis to opium alone—
But although opium is often found a very sal-
urable remedy, it frequently fails in resolving the com-
plaint—And may do much harm when given
before the first pages have been cleared, or when
fibrile symptoms are present. As a general rule,
bleeding, and clearing the pneumonia should be
prescribed. — Bampfield. Speaking of diaphoresis
Bampfield remarks, that experience does not justify the con-
clusion, or the encomiums bestowed upon them.
And that he has sometimes maintained a profuse diarrhœa for several days, without obtaining a resolution of the disease, or preventing its fatal career.

It's maintenance is sometimes injurious, by rendering the patient more liable to syncope or a posture in the erect position. The cure of the inflammation and severe varieties, in the E. and W. Indies, should never be exclusively confided to the excitement of perspiration, either in the hot or cold season. The utility of diarrhoea appears to be diminished in proportion to the previous habit of profuse perspiration established by the climate, which is agreeable to the laws of the animal economy. In the hot season it is very easily excited or maintained, and should be practised. I do not mean to condemn, or object to, the practice of exciting the moderate action of the capillaries of the skin in the hot season, as I think a gentle moisture should be always maintained on the surface of the body, that we may be assured the disease is not fortuitous, or increased by the operation of the remote cause of the red perspiration, but merely caution the practitioner from expecting too much benefit from it in the hot season. In the cold season, diarrhoea is more important and useful remedies, than sweating is not kept up by the heat exter-
The caution against giving opium, was to interfere with the operation of cathartics, even if the stomach was very irritable.

Sir J. Kringle says that though some slight cases may be cured by laudanum alone, yet he has seen such bad effects from this practice, both in this county & elsewhere, that he would never venture to treat any dysenteric case with it before the first palpable were cleared. And that it were perhaps better never to give opiate at all, than as so before that was affected, for though they are sure to give some immediate relief at the beginning, yet by causing constipation & confining the wind & corrupting humours, they tend to fix the cause, and render the constitution more obstinate in the end.

Dr. Huck says, "I never knew an opiate give, whilst the fever, the thirst, the gripes & convulsions, were considerable."

From the above opinions regarding the use of opium as a diaphoretic & antiscure in dysentery, we may conclude, that it should not be given if supposible present, whether that supposia have come on with the dysenteric symptoms, or after the disease has been established for some time. That in most cases, its beneficial effects will be promoted.
by previous bleeding, and clearing the stomach; that if given at all, as the chief part of the cure, it should be in large doses, for we know that opium in small doses has a stimulant effect, but in full ones, a sedative and calmative effect, which is well seen when the drug is administered to a woman in labour. Where if given in small doses, it increases the frequency and force of the pains (which we may liken to the termicus) termicus indigestion, but in a full dose, it entirely arrests the action of the uterus; and as the muscles of that organ are involuntary as those of the intestines are, we expect it acts in the same sedative manner in distention, if given in full doses. That it would appear to be more beneficial when the distention is non-epidemic. But that smaller doses of it are required in warm season.

If opiate cause the stomach or head to be disagreeably affected, the writer recommends one or two spoonfuls of lemon juice to be given along with it.

Warm Broth. This often gives great relief to the patient, allaying pain, termicus termicus, diminishing the frequency of the stools, augmenting the action of peristalsis, depleting viscus, relieving the strangury, removing the heat & augments of the fever.
do not interfere, in any marked degree, with the operation of cathartics. They are more especially useful if diarrhoea have preceded. As good an enema as any is Hang, or rice water containing about 31 of \( t \) Opium (Belli
gale). A mucilaginous soup they should never be omitted in the treatment of dysentery. Astringent injections are necessary if there be much haemorrhage (from ulceration), but these are chiefly used in the chronic forms of the disease. Sometimes enemas are used as purgatives, as when the stomach is too enervated to retain medicine, and constipation is present. In such cases the tobacco enema is generally used, made with mucilage or rice water.

Barthlemy says it is the only admirable.

"The patient (say Johnson) may often escape much "stomaching, painful tenesmus, and loss of blood, by re-"straining from going to stool, at every call of nature, "During most of cases, only blood appears as palpable."

Dilute mucilaginous drinks, such as barley or rice water, mucilage &c. promote the action of the purgatives, protect the intestines from irritating matter, dilute any excess of bile that may be present, promote the peristaltic force of the tenesmus, tenesmus, & straining.

Sir J. Vangle say that P.H. Senec. Physician general to the French Army, informed
him, that having good evidence for believing
that several had been cured by taking tetting
but large quantities of warm water mixed or
six days together, he had successfully made the
experiment upon himself, and upon fourteen
men who had submitted to that regimen.

Vomiting is often much relieved by fomentations
around the attachments of the diaphragm, and by
sipping weak spirits of water, if there be no inflam-
ination (Bampfield).

Vomiting is caused by the presence of acid excre-
se, may be relieved by a quiet emetic, as in
sour milk or chamomile tea. If possible in the stomach,
the action of purgatives will generally correct it, by
restoring the bile to its natural course. If from
that peculiarity in the ability of the stomach, before
mentioned, Bampfield gives the following as being
often effectual in allaying it—Note particularly.

3. If, in a quart of borsier made into a drink,
of which no more than a mouthful is to be taken
at once— but this will have little effect in the
last stages of the disease, when the irritability
is from exhaustion. It also relieves the urgent
thirst— generally present in cases where the stomach
is in this untable condition.
Diet. This should be strictly antiphlogistic in
animal food, wine, malt liquors, spirits. Hot drinking
tea or coffee should be used cautiously as they often
disagree, though weak tea is generally an agreeable
and innocuous beverage. If animal food be
taken too soon during convalescence, chronic dyspepsia
is apt to supervene.

The patient should keep the horizontal posture;
else vertigo or syncope are apt to ensue, also tormina
tenues, and the frequency of the evacuations are
apt to increase. The bed should be cool, so as
not to relax and occasion restlessness.

I regret after collecting notes on chronic dyspe-
psia, that I have not had time to arrange
and write them, but the life so, as the excellent
and full remarks on this subject by Mr. Rangfield
and others, leave little to be added.

John S. Morton
March 30th, 1852.