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- Comrade
- Grooved
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- Ira
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- Animal
- Tooth
- Claws
- Bird
- Rabbit
- Hare
- Hay
- General Premise
- Hairs
- Trench
Dissertation
on
Enteric or Syphoid Fever
by
J. Nadal
Synopsis

Introduction

Continued Fever - Varieties


Enteric or Typhoid

a. History
b. Etiology or Cause
c. Nature as to

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4. Prevalence as to season, age, and sex

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List of Authors on Ementeric Fever &c
Of all the subjects in connexion with the science of medicine, it is questionable whether any single one has had so much attention and discussion bestowed upon it as fever, including its four special forms Typhus, enteric, typhoid, relapsing, and febrile. Neither is there one so complete with interest both to patient and practitioners, as the life of the one and the reputation of the other, depend upon its guidance to a successful termination.

In the very early stage of a febrile attack, it is sometimes difficult if not impossible to pronounce with certainty what special form of continued fever it will be, and yet we can approximate to a true diagnosis, if we bear in mind the different epidemics and their striking features of diversity and even of contrast and the difference between the forms of continued fever, especially between typhus and enteric, which differ notably and constantly in their cause, and nature, in their symptoms and course; in the superficial markings which respectively belong to them, in their duration and comparative liability, and more especially in the internal organic lesions which they are usually attended.

Varieties. For a long time only three distinct forms were
were mentioned in systematic works. Dysentery, Remittent and Typhus, now we recognise four special varieties: Relapsing - Typhus and Typhoid or Enteric, which are invariably prevalent in this and other temperate climates.

The first is a mild form of fever characterised by its short duration, and the mildness of its symptoms, seldom lasting more than a few days, sometimes terminating in twenty-four hours, when it is termed ephemeris or one day fever: seldom if ever fatal, unless from the superintem of acute local disease, which of itself may destroy life.

The second variety appears to be due to the same cause as typhus, and to a large extent of a similar nature, only differing in degree, governed by the same laws in its mode of invasion and dissemination, but peculiar in the marked cessation of the symptoms from the fifth to the seventh day, during which the patient is apparently well.

A few days after however, generally the footsore from the first attack, there is a well marked recurrence of the symptoms, which after a profuse sweat about the third day disappears, leaving the patient exhausted, though soon invigorated.
by a profound sleep. Its accession is marked by irregular chills or rigours, succeeded by hot skin, severe pain in the head and limbs, epigastric tenderness, sometimes vomiting, and hepatic and splenic congestion.

The third form originates it is sup-
posed on circumstances tending to impair the essential or vital properties of the blood, such as, overcrovding, defective ventilation, and insufficient nourishment or clothing. It is prevalent in times of scarcity and famine when labors is wanting, trade at a stand and com-
mmercial enterprise unprofitable, these circumstances indirectly affecting the labouring and lower grades of society amongst whom it abounds — Its accession is marked by chilliness and rigours alternately, with heat of skin, quickened pulse, succeeded by muscular prostration, more or less sensory disturbance and between the fifth and eighth day the characteristic morbillions rash makes its appearance, which does not fade on being subjected to pressure, and remains persistent throughout the fever. It lasts four-
ten days seldom exceeds twenty one: followed
by no specific lesion in fatal cases, only general congestion of internal organs.

The fourth variety (3rd) enteric and the one which I intend to offer a few remarks about, as the subject of my thesis partakes more of an endemic than an epidemic nature, being under the influence of some hitherto unexplained local cause, occurring in those districts where typhus least seldom occurs, clearly showing that the special cause of typhus whatever it is or where ever derived is peculiar to it and never gives rise to enteric fever.

While treating of this variety of continued fever in detail, I intend basing my remarks on the opinions of former writers, in so far as they coincide with my own experience and observations gathered and noted during the last summer and autumn in one of the northern counties of England, where it prevailed extensively with more or less fatal results, and where, both in town and country, I had every opportunity of studying its nature, diagnosis, treatment and pathology.

First as to its

History
Catalogue of London College of Surgeons Museum

Baillie & Hunter Pathological Anatomy
Though unrecognized until a comparatively recent date, it has without doubt long existed in this country and in a distinct form. And that many of the so-called cases of typhus miliaria were in reality enteric. This appears to be borne out by the fact, that amongst the various pathological preparations of public hospitals, colleges, and many private physicians' museums, we find very illustrative and well-marked specimens of ulcerations occurring in Byers patches, as taken from the abdomen of patients, who have died from what was then made out to be typhus miliaria, showing clearly that the disease did really exist, and was not unknown to the collectors of those preparations, though possibly under a different name.

Sixty years before Louis published his remarkable work in 1829, so clear, comprehensive and accurate in detail, as to leave little to be added by subsequent writers: we had the molarist anatomy investigated by Boedec in 1768; and after him by Pest of Paris in 1794; by Petit and Lere in 1813; by Kretorne in 1826 and 1827; and in the same year by Dr. Wright of London, and after the appearance of Louis' paper.
Dr. Stewart on the identity of Typhus & Typhoid Fever 1840

Fusius Clinical Illustrations in 1828

Encyclopaedia of Medicine

.Jenner on Contagious Fever
in 1829, we have accurate and descriptive works from 
Dr. Cheadle, and Jackson and Ballitte of America; 
Dr. Stewart of London, and Dr. Kennedy of Dublin, 
all of whom confirmed in a satisfactory manner, the 
observations of Louis, showing that it is the endemic 
fever of the United States in America, France, Germany, 
Switzerland and not infrequently of Great Britain.

But from the researches of still more modern 
authors including Dr. Stewart's paper in 1840, but 
more especially from the elaborate investigations of 
Dr. Jenner of London, than whom no living author 
has devoted more time and attention to this par-
ticular type of disease, it is proved to be endemic 
to Great Britain, much more frequently than was 
at first supposed: and it is curious that in Edin-
burgh, where a case of enure fever formerly excited 
surprise and interest it is now comparatively common, 
in some years more than others, though a few who 
still question the existence of enure fever as a special 
form say, that it is still as rare in Edinburgh, and 
that those few cases which do appear are strangers to the 
town and generally belong to the Kingdom of Fife and 
Peeblesshire — be this as it may we have other proofs 
that it is often prevalent as an epidemic in Edinburgh.
Edinburgh Med. Surgical Journal, October 1839

Duglasses Medical Library
and various parts of Scotland, England, & Ireland.

Thus Dr. Kennedy, in his account of the epidemic
of fever in Dublin from 1826 to 1828, mentions especially
the diseased elliptical patches of the small intestine
on a large proportion of cases, which came under his
notice. Dr. Stokes, in his description of the same
epidemic, observed follicular ulceraions in the greater
number of cases: jaundice in many, while the
whole group of vital and morbid phenomena, co-
respond almost exactly to the Bothenenthiic
affection of the Clerk and the Follicular Entitila
of Amothein; and from Professor Gooder's paper
on the symptoms and morbid appearances of the epidemic
which prevailed in the Kingdom of Cife in 1839 we
are led to conclude that it was also this type of
fever. While Dr. Christian, in a paper published
some time ago, remarks, that in Edinburgh the
intestinal affection, or constitutive Bothenenthiic has
repeatedly presented itself, in groups of cases, in which
it appeared and disappeared, as a subordinate or
intercurrent epidemic, in the course of the same
general epidemic of "fever." So that though
undescribed as a distinct form of continued fever,
it has not been unknown to many practitioners.
Etiology or Cause

This is a subject which has undergone the most careful and rigid scrutiny, and about which there still is, a perplexing contrariety of opinion, amongst medical men —

The circumstances influencing the bodily health are so variable, so many of them are apt to be in operation at the same time, and so little power have we of excluding them, one after the other, so as to ascertain the exact efficacy of each, that our observations respecting their relative or actual effects are open to much fallacy, so that in our investigations into the cause of any disease great caution is necessary in order to avoid being misled by individual circumstances — and to none does this apply more than to enter fevers and its class.

The can trace the influence of season, civilization, impure air, impure food and clothing, not only in the prevalence of particular diseases, but also in the characters of other disorders that are liable to occur in all circumstances alike —

The find that in different years and different periods of the same year, certain types of fever prevail differing not only in form, but in the complications
Accompanying them — thus typhus with harassing chest symptoms, predominates in Spring, and enteric with \textit{exhaustive abdominal symptoms}, in Autumn —

Again we know that polluted air is unquestionably hurtful to the general health, and predisposes to many epidemic and nervous diseases occurring in our large and populous cities, whilst such air is abundant, but there is no specific disease which we can distinctly trace to it as an exciting cause — So that, more or less uncertainty pervades all our investigations on the matter, and renders a definite conclusion almost if not altogether impossible.

It is a common belief, that it may be generated by the effluvia constantly proceeding from the human body even when healthy, if the effluvia is accumulated and condensed by the overcrowding together of many persons in close, badly ventilated places: and it is unquestionable when that, that once introduced, the disease spreads very rapidly under such circumstances — but we have no proof that it is ever engendered to germinal.

Another popular notion existed, and to a small extent still exists, that it was produced by some unknown condition of the air, impreceptible to our senses but-
distinct from contagion, a theory quite gratuitous and intenable and inconsistent with observed facts. For the fever may exist in one part of a town, and yet the parts in the immediate vicinity be quite exempt, whereas if the exciting cause was spread abroad throughout the atmosphere all would be similarly exposed to it. As for cold, famine, distemper and disease, being predisposing causes: they unquestionably are if typhoid fever, but there is no traceable connection between bite, fever and any of these, for it affects not the poor and penurious, the weak and destitute, of society as its victims, but on the contrary, we find it in the comfortable homes of those enjoying worldly wealth and live in the mansions and palaces of the rich and noble, the subjects of it having been in previous good health for the full enjoyment of life. So that other causes than these have to be sought for.

Dr. Mecklinson in an able paper endeavors to illustrate the connection between cutaneous fever and foul emanations from decayed and decaying organic matter, which he assigns as the exciting cause of the disease, being a poison so generated and introduced through the lungs, as a gas, or into the alimentary...
Canal with the water consumed, and mentions the
Mindon and Craydon epidemics, as illustrative of the
point—the cause assigned for which by the committee
of inquiry, being the result of undue precaution in
opening the sewers and cesspools—on both of which
occasions enteric fever, is said to have prevailed extensively,
giving rise to the idea, that it was propagated, by bad
drainage: and there is no doubt that many of the
facts mentioned in Dr. Macchionio's paper are striking at
first sight, but tend to show, that persons who have
been suddenly exposed to putrid emanations, have soon
after, been seized with enteric fever, confirming as
it were this theory. That foul emanations are the cause
— but on further examination, they are not only not
sufficient to establish the doctrine, but are perfectly
irreconcilable with other known facts; (viz.)—that
during the same epidemic, in some localities in which
a few cases occurred, a very large proportion of the
population were exposed to the same exciting cause
without apparent injury, and that during the very
height of the Mindon epidemic, in some of the thickly
peopled corns to which the atmosphere of the houses
were charged with fumes effluvia to a degree that
would not have been tolerated for a day, except
by persons, who were bound down by the iron hand of poverty, to a fixed spot, and yet, all the while in not one of these places, did a single case of the fever occur, may the fever even ceased in that many similar places, without any sanitary measures being adopted, and may not recur again for years, though the same pestilential influence continues in operation.

Or again if Dr. Mitchell's theory were correct, we could expect to find a greater number of cases in the neighborhood, or on the banks of large rivers, running thru large and populous cities, and receiving the accumulated drainage and excreta of millions, as well as decayed and decaying organic matter & giving off an abominable and disgusting effluvia, and yet amongst the population so situated, there are less than the average number of cases of Cholera Fever. — So that an additional explanation is still necessary, for the mind cannot be brought to admit that cause and effect so visibly follow each other as is generally believed —

Dr. Bond on the other hand holds, that such emanations and effluvia are small unless charged with the specific poison contained in the secretions and excretions from diseased bowels of persons already affected. — So that, if the view he takes of the matter be just
the cesspools and sewers must be the chief channels for its propagation, and that, in cities, cases of Enteric Fever must be constantly arising, which are directly traceable to sewer emanations, but only in so far as they contain the virus from a preexisting diseased bowel, and not to the common chemical compounds of mere decomposition and universal decay — It doubtless the Windsor epidemic proved with a clearness and precision not often witnessed before, that Enteric Fever may be widely disseminated by a poison issuing from sewers, but to hold with Dr. Michie and others, that this fever was not the effect of the specific poison with which the sewers were so largely impregnated, but of some perfectly undefined and purely hypothetical compound which irritation is supposed to extricate from common sewage, seems to me to invert all the rules which philosophy and experience have united in shewing to be essential to a true induction. One of the characteristics of the Windsor epidemic was, the intense power with which wherever it took effect, the fever-producing cause was acting — Even in the well-appointed house of the middle classes and rich, it was no uncommon thing for 4 or 5 inmates to be affected at once or in pretty close succession. — But if this was
the effect of common sewer emanations. How can it be reconciled with the fact, that at the very same time the fever was entirely absent from other places without number. While nevertheless, there was the evidence of a sense which cannot deceive us that such emanations were in the highest degree rife - so that, there must have existed some essential point of difference between the miasm that on the one hand, was laying whole families prostrate with fever, and the miasm that at the very same time, was for months together, causing no fever at all. - Under the supposition, that in the one case it was the vehicle of a contagious miasm. While on the other, it consisted only of pythogenic compounds, the two orders of events are at once explained. In the supposition that pythogenic compounds are alone the cause of the fever, they are absolutely inexplicable. - Adopt the one view, and all is compromising consistent and in harmony with what we know, adopt the other and everything is inconsistent and at variance with what we know. - the events no longer cohere, we have to take up one theory for one set of facts and another theory for another set of facts. - in a word we have to reconcile irreconcilable things.

I have dwelt somewhat on this theory of miasm...
which I consider tenable especially as a disseminating cause, not from Dr. Buddo's arguments on the matter of
symptom conclusion, drawn from some of my own observations
and experiments, in those cases which came under my notice
during the late summer and autumn months (p.33).

That in one or two families, I found fresh cases
of the fever occur in other members of the same family,
which lead me to enquire, why it should so happen in
those cases, when it was by no means a general rule
for several members of one family to be affected?

And ultimately I concluded it must in some way
be connected with inattention on the part of the relatives
to proper regimen and ventilation and the removal of the
excretions - as I invariably found that in those houses
where the stools were allowed to stand for some time
before removal, there was a second third and in two
cases a fourth individual of the same family affected,
whereas, in those houses where cleanliness and im-
mediate removal of the excretions took place, that was
second member of the family attacked... And
this was the invariable result also in those cases, while
acting on my suspicion, I took the precaution to order
a solution of Chloride of Lime to be put into the
night stool - proving to my own mind that the
the exciting cause what it may, the diarrhoea stools containing the thrown off poison, are at the least a source of dissemination, and that to far we have it under our power. But late this does not explain or reveal to us the primary exciting cause, and many other phenomena attendant on Contagious Fever, such as it out breaks in isolated country houses, where there has been no traceable source of introduction, and for the full influence of autumn on its prevalence, any more than the other theories do, all of which I admit, are capable of predisposing to the disease, by gradually undermining the health, by lowering the tone of the system, and when long continued, deteriorating the blood, but whilst doing so, I consider that looking upon them other than as predisposing causes, is going further than facts will warrant.

There is a theory, however which has too long been overlooked, if ever thought of at all, and which to my mind explains many circumstances connected with its course and nature, at least more satisfactorily than any yet advanced—I mean the spontaneous theory, viz., "Poison generated de novo within the individuals themselves"—this theory may be questioned by many, but there seems to be or rather there are facts which go far to establish the idea. Thus in perpetualancy...
there is every reason to believe, that the disease originates within the individual's themselves. — Again can there be any doubt of the cause of the secondary fever of smallpox? Is the disease known as Typhoid Pneumonia, other than Pneumonia to which Typhoid fever is superadded? for it is matter of observation, that at the first blush of the disease the fever is not of this type. In surgical cases also the same order of events are to be observed — in fact on what typhus often supercedes — in anthrax on which typhoid suddenly supercedes and rapidly carries of the patient — The same occurs in the progress of suppuring burns or erysipelas or after amputation or other surgical operations — There is in point of fact ample proof that any shock to the system, may be followed by fever, and this must have originated within the body itself. And not only does the recognition of this theory account for the various circumstances attendant on enteric fever, but it also affords some explanations of the varieties which fever presents and is ever presenting: and further it clearly follows, that under at least many circumstances it will be necessary to pay strict attention to all those cases likely to be complicated with fever, with the direct object of preventing its superinfection. 

Thus after a careful consideration.
of all the different theories as to its causation, I conclude that the cause most consistent with known facts is that it is produced by a poison generated within the animal economy itself, which has a compound action on the blood and on the solids, inducing the special lesions with which we shall see this type of fever is invariably associated, and from which the poison is thrown off, and unless means are taken to destroy its properties may form a direct source of further dissemination.

Contagiousness

As to contagiousness, Mr. Webster concludes as nearly as the subject will admit of, to a demonstrative proof, after adverting cases as examples which he contrasts with other cases in which all the circumstances appear to have been the same, except the presence of the alleged exciting cause, that this as well as all the other forms of contended fever, is contagious, that is that it is generated by the effluvia from the body of the patient, either by contact (infection) or through the atmosphere.

I have already stated my opinion, as to its powers of dissemination, from the discharged and diseased secreta, but I am not prepared to grant that it is contagious in the same way as typhus and
and the exanthemata are understood to be, for my own experience and observations tend to prove otherwise. Thus nurses and attendants in恩数ville patients do not contract the disease, not because they had the same previous, neither because they have not had sufficient intercourse with the patient to imbibe the effluxes from the patient's body, a clothes, a had the atmosphere filled with sufficient quantity of said effluvia to effect inoculation, for neither had they had the fever previous, or been exempt from the same atmosphere, but were living day and night in the same room in many instances with the patient, and every way exposed to its effects, if it existed in the atmosphere at all, may I since in many of the cases, occurring amongst the lower classes of the Lancashire population, they absolutely slept in the same bed, and yet be influenced no injurious effects.

Habit as a fortifying agent, cannot bez adopted in these cases as an argument in favour of the Contagonist-to theory, for the friends had had no previous nursings of fever patient, and the other members of the family who were at work in the heated atmosphere of a Cotton Manufactory, from 6 A.M until 6 P.M, returned at night, slept in the same room and
as already stated sometimes in the same bed, and
yet did not contract the disease.

As for the "Original peculiarity of Constitution" theory,
it is negatived by the doctrine of the Contagionists
themselves (p. 7) that it is a specific poison and
therefore contaguous (acting through the air or by contact)
it as a poison operates on all very uniformly, who
are exposed to its influence, which we see to be the
case only when the excreta are left standing without
the use of disinfectants. — Then lastly, if it was
contagious, according to this theory, it would spread
from person to person, and from house to house as
Typhus and Scarlet Fever invariably do, which we
know from the nature of the Contagious affection it
does not, but occurs in cases here and there, some-
times solitary and isolated, where no intercourse
could or did exist, while in the nature of the
disease, which are only explainable on the means already
advanced; that when once propagated in the body,
it probably becomes contagious when thrown off from
the pathological state of the disease but not otherwise.

Nature

Nature

The mode of invasion is slow and
more insidious, differing little from that of the other
forms of continued fever, except that there is always diarrhoea from the commencement, followed by gurgling in the right iliac fossa, and sympathetic distension of the abdomen, — symptoms at first not so violent as at first in dyspepsia, little or no cerebral disturbance, rather intestinal; manifested by diarrhoea — it increases in all its symptoms from the first to the twenty-first day, and terminates in the fourth or fifth week seldom earlier than the 30th day.

Duration

From the insidious and gradual accession and the slow and protracted convalescence, it is difficult to state any definite period of duration; besides, the various lesions which occur in its progress, materially influence not only the general character, but the duration of the fever.

When uncomplicated, it certainly has a determinate duration, averaging from thirty days, if no local malady supervene, the occurrence of which however tends to prolong it indefinitely.

A mild case may terminate earlier than the thirtieth day, while another case may terminate on the first, second or third week; or it may be protracted to the fiftieth day; some cases being
Dr. Penny, Barker & Cheyne on the Residence of Houses
short, others long, and though it may carry off its primit in the early stages, more usually it destroys life from the third to the fifth week.

The doctrine of crisis as marking the duration of other fevers, cannot be applied to this type, for both its progress and duration are intimately dependant on the serious lesions with which it is inseparably connected, as to preclude the notion of its progress, or duration being influenced by expector or depurative evacuations from the body.

Recurrent

It is apparently limited to one attack during life, at least so we are justified in concluding, after a careful perusal of the accounts of trustworthy writers and observers. Since experiments and observations render it more than probable, that those who have once had it are safe from a second attack — De Lorme modestly says "that in no instance was a person known to be attacked a second time." In this respect it is analogous to the exanthematic and other continued fevers, all of which in their course seem to produce some change in the system by which an individual having once undergone the disease, is as a general rule, secure from a second attack — and should a second attack occur it is generally mild. Modified in character
Prevalence

As to season, it is most prevalent in the autumn months, September, October and November and least in the spring of the year, while Typhus prefers the opposite seasons, being most common in spring and least in autumn; it is also observed that there is less annual variation in the number of Enteric fever cases than of Typhus cases. Thus, from 1848 to 1868 the highest number of Typhus fever cases admitted into the London Fever Hospital was 1062; the lowest being 66, whilst the highest number of Enteric cases was 234 and the lowest 137.

Age exerts a decided influence on this form of fever; the mean age of all the cases is nearly 26 or about 25-96 years; of Enteric it is 31-25 years.

The ages at which it most frequently occurs are from the fifteenth to the twentieth or twenty-fifth year of life; the next from the tenth to the fifteenth; and the third from the twenty-third to the thirtieth year; being much the same in this respect as Typhus, the latter predominating after forty.

Of 1830 cases mentioned by Cunneen, 933 of them occurred between 15 and 25; 346 between 25 and 35; 250 between 10 and 15; 107 between 10 and 5; 106
between 34 and 45: 38 between 45 and 55: and 16 between 55 and 65: so that the susceptibility to-enter fever diminishes in the middle, and advanced periods of life preferring youth to old age. Sex has little if any influence on this in any other form of continued flow. Taking the number of cases admitted into the London Fever Hospital during the space of ten years, we find the following results on this head.

"That of the 6628 cases admitted between January 1848 to January 1858: 3324 were males and 3304 females, showing only an excess of 20 males in the total number of four cases.

General Symptoms

It is distinguished as having already seen, by its slow and insidious onset, its being invariably accompanied with characteristic diarrhoea, sometimes from the very commencement, followed by tympanitic distention of the abdomen and gurgling in the right iliac fossa.

The spits, represented by some as characteristic, are not perfectly speaking so, for they are often absent altogether, and often so few in number as to small
a size that they escape detection.

When they do appear, they are first seen between the eighth and twelfth day, on the anterior aspect of the body, rarely on the face or extremities, recurring out in successive crops, and fading or entirely disappearing on pressure; occasional apoplectic moves or less in quantity, little comparative diminution of strength, and sometimes sensorial disturbance.

In fatal cases, invariably alteration of the solitary and aggregating glands of the inflamed, which are enlarged, and more or less ulcerated, according to the duration of the fever; with enlargement of the corresponding sympathetic glands, and increased softening and volume of the spleen.

During its primary stage, the patient is often unable to pursue his ordinary occupation, complaining only of undefined indisposition such as chills, loss of appetite, more or less headache, especially frontal, excessive thirst, pain of limbs, and a degree of languor and lassitude for which he cannot account. From there is less inclination for exertion, the tongue becomes furled, the pulse quickens, abdominal pains supervene, with a disposition to diarrhoea.
The countenance alters in expression and appearance, at times flushed, and at last from increasing weakness the patient gives up the struggle and keeps his bed — night brings an aggravated state of affairs, restlessness, inducing constant changing of position in the vain hope of finding relief — sleep is unrefreshing and disturbed, that more urgent and their more poignant, sometimes there is vertigo or ringing in the ears, and occasionally epistaxis. — The abdomen is always more or less tense, distended and resonant, a gurgling in the right iliac fossa accompanied with perceptible tenderness. Diarrhoea often exists at an early stage, and varies in degree — sometimes moderate, at others profuse and exhausting, and in some cases accompanied with blood, a circumstance diagnostic of internal ulceration going on.

If the case is mild and uncomplicated these symptoms continue without marked variation till toward the middle end of the third week, when the more prominent symptoms, the diarrhoea especially abates, which portends the approach of convalescence, the pulse becomes slower, very gradually, the urine discharges less frequent
and more consistent, the tongue begins to clean, the thirst abates, the heat of skin and restlessness disappear, the sleep becomes tranquil and refreshing, gradual improvement in strength takes place, while the appetite returns with so great keenness as to require vigilance to prevent its early indulgence and consequent risk to convalescence.

On the contrary it may not run to favourable course, and the symptoms may continue unabated, or some of them become aggravated—thus the headache, which usually passes away towards the end of the second week, may persist, and eventually may be followed by delirium or by somnolence gradually passing into coma more or less profound. The diarrhea may increase on sudden hemorrhage from the bowels may arise, which if it does not destroy life adds much to the danger, or the intestinal ulceration may extend, inducing progressive emaciation and weakness, from which it may be difficult or impossible to restore the patient.

Or again some form of pulmonary complication may supervene, such as Pneumonia, Pleurisy or Bronchitis, and more especially is this
liable to occur, when there has been early and severe
nervous disturbance, when it assumes the latent
form and only to be recognized by careful examina-
tion.

Not uncommonly in very severe cases,
the pulmonary complications may be combined
with cerebral disease, so that the fever in its pro-
gress, often involves the most important internal
organs, when the issue is seldom doubtless.

The general symptoms increase in pro-
portion to the intensity of the local complications;
the pulse rises in frequency, and is weak and con-
sumptive; the tongue, becomes dry brown and thinned
and often fissured; the teeth and lips covered with
blackish brown incrustations, the weakness day
by day more marked, the aspiration progressive;
the evacuations passed unconsciously, the
prominent parts of the body become inflamed
and pass rapidly into gangrene; or puru becomes
deposited in the joints, Pyaemia supervenes
of the case rapidly proves fatal.

Such is a resume of the course and symptoms
of Enteric Fever, both in a mild and complicated
form, but cases occasionally occur, in which
though some of these symptoms may be present
the general aspect of the disease is such, as to leave its nature somewhat uncertain by its assuming a latent form.

An individual suffers from undefined indisposition, which he is unable to throw off; he complains of lassitude, irregular chills alternating with flushes of heat; he is easily fatigued and unable to pursue his usual employment, complains of loss of appetite and sleeplessness. — On questioning him narrowly, it will be found that his bowels have been irregular, with a tendency to griping and prurging, and consequently the disease has been wholly ascribed not unreasonably to what is popularly known as "bilious disorder." — After a few days matters do not improve, but probably get worse the perspiration and disinclination to exercise have increased so much, that there is no longer the desire or even the ability to keep about, and the patient of his own accord remains at rest.

Some more energetic and tendering than others, make a still further effort to pursue their avocation, when on close examination, besides the altered countenance, general excitement and staggering gait, the peculiar rose colored spots, relaxation
If bowels and abdominal distention, showed too clearly the serious nature of the latent or hidden disease, and in many cases, the patient could only be persuaded that they were really ill, after profuse hemorrhage from the bowel or sudden fainting had taken place. And similar cases are on record which terminated fatally, a few days after the first albumin was taken — Louis mentions one such case where the disease proceeded even to intestinal perforation, without any of the symptoms usually indicating that fatal lesion having occurred.

In other cases, the disease may assume the form of a common cold, with cough and moist rales heard over one or both lungs; in addition to the febrile symptoms, but a few days the chest affection passes away, leaving the other symptoms stationary or aggravated; it may be until the true nature of the disease becomes revealed by some of the more prominent diagnostic signs.

In treating of these various symptoms in detail, I will consider each under the system to which it belongs, and in order according to their importance both in a distinctive and practical point of view, although, it is to be understood that all of them
may not be present in every case, and that some of
them may be more constantly observed than others.

Digestive System

It will readily be anticipated by
one acquainted with the nature and pathological
state of the lesions of Enteric Fever, that no set of
symptoms, are so important as those referable to
the digestive system, and this we find to be the
case, and therefore consider it first.

The Tongue varies in different cases.

In mild cases I have found it moist during
the whole course and little altered from its natu-
ral condition, that is moist without marked redness,
perhaps coated with a greyish or yellowish white film,
and it may be even preserving this appearance
in a considerable number of cases throughout the
course of the Fever. But in the larger pro-
portion of cases, the tongue I found was gluttoning, darker
than natural, especially at the edges and tip, and
occasionally coated with a dark brown fur or stripe
on the dorsum. In the advanced stage
of the Fever, it becomes dry and fissured transversely,
cracked, and incrusted with yellowish matter and
Sometimes more or less ulcerated.

In very severe and protracted cases, the furuncle becomes blackish brown, the tongue tremulous, protruded and retracted with difficulty, while the teeth and lips are covered with blackish brown serous, due to extravasated blood more or less modified by the chemical action of the various juices and it may be mixed with bile.

The uvula, tonsils and mucous membrane of the mouth covering the mouth roof of palate and nasal throat cavities are similarly affected to the tongue, both in the mild and severe cases, giving rise to various uncomfortable sensations, dryness, heat, pricking oral respiration, inducing irritating cough from the constant passage of the air over the inflamed surfaces. This inflammatory action may extend to the posterior faucets, inducing painful dehydration and should not be overlooked, even though tracheal at first as it may suddenly increase, and by impinging the structures in the vicinity of the glottis terminate in Angina Laryngea, or in absence of the pethum a posterior pharyngeal which has and may destroy life by its pressure on the pima glottides.
The nervous sensibility of the parts being more or less deprived, or morbid, the patient only complains of difficulty of swallowing fluids, and very often no mischief in the throat is suspected, until the frightful symptoms of laryngitis perhaps set in suddenly, showing too clearly the impending danger.

The Appetite from the commencement is defective, the thirst excessive. Nausea when gratified by copious draughts of liquids, generally followed by nausea, retching, epigastric pain, and vomiting of a dark fluid, which from recent vomiting investigations is modified blood mixed with bile and mucus, evidencing effusion of blood from lesion of the mucous membrane of the stomach, the extent thereof being in proportion apparently to the duration of the vomiting.

The vomiting brings little or no relief, while the epigastric pain continues unabated, and increases in severity and extent, very much exaggerated in pressure with the hand being made.

Sometimes these symptoms denote in an advanced stage of the disease, evidencing the internal lesion.
Some found, that of fifty seven patients in whom the fever was more or less severe but who ultimately recovered, forty three had symptoms referable to the stomach. (viz) thirty had epigastric pain; seven sickness only; and twenty had vomiting while, while in thirty fatal cases; twenty had nausea vomiting and pain; eleven of whom exhibited serious alterations of the mucous membrane of the stomach.

Diarrhoea, though not invariably present in this form of fever, is so constantly observed as to constitute one of its characteristic and most formidable symptoms, and one of the greatest moment in relation to the treatment of the disease as it almost invariably depends upon an inflamed and ulcerated condition of the intestinal mucous membrane and glands, and we can easily understand, how even the natural secretions will prove a source of irritation, and consequent expulsion of their contents, inducing exhaustion and emaciation very speedily if not met by proper and decided treatment.

In very mild cases the bowels are generally in a natural state, seldom relaxed, or if there
be a tendency to relaxation, it is remarked in the more advanced periods of the disease — generally speaking, however, there is diarrhoea from the beginning of the disease, varying in duration and severity, both in number of stools per twenty-four hours & quantity and consistence. In some cases it will continue throughout the course of the fever, especially in severe cases when it is long and protracted, sometimes for weeks or more, when the stools are severe and watery, and often accompanied with griping and followed by great exhaustion when the stools have been many and profuse.

As for the number of stools per twenty-four hours, there are great differences: one may state the extremes from two to twelve.

Out of thirty-two patients mentioned by Lavois, in whom the symptoms were well marked, in eighteen of them, the average number of evacuations per day was from eight to twelve or more daily: in seven it was more moderate, the average being from four to six: while in the remaining seven it was slight, only two evacuations per twenty-four hours. Again he says,
Out of forty cases, twenty two had frequent liquid defecaions during the first day of the fever; of the others none of them began to have it between the eleventh and fourteenth days: the others had no diarrhea and died after the thirteenth or fourteenth day of the disease; the bruises on a post mortem being made showing clearly the ulcerated African patches.

Of two patients seen by Dr. Jenner during the first week of the disease, one passed from two to six watery stools daily, the other from three to four. Of seven patients under my own observations, during first week of fever, nine of them passed as many as three stools each and one four stools in the twenty four hour.

Of fourteen observed during the third week of the fever, nine of them passed five stools each and two as many as four to six per day; while in the fourth week of the fever fourteen out of fifteen passed three stools each in one day and ten out of fourteen from four to six.

As a general rule the evacuations in Eastern fever are fluid, but not always so, as the bowels may be confined and the evacuations
Friar or less consistent, and cases sometimes occur where the intestine becomes filled with firm stybake covering the ulcerated portions of the bowel, showing that these may be ulcerated intestine and even perforation of the bowels without diarrhoea. Generally speaking, however, they are loose and fluid, of a yellow ochre, pea soup, colour, often dark resembling coffee grounds, and occasionally mixed with mucus towards the advanced stage mingled with blood.

I have always found their consistency more or less fluid and watery during some period of the disease. In only eight cases were the stools passed natural in consistence after the patient's first visit, and in none of these the stools were watery during some period of the disease.

The colour varies from the pea soup to while colour to almost black, while the odour is usually strongly fetid — when watery, they usually vary gull yellowish brown, with a deposit of lemon yellowish particles and towards the advanced stage of the fever they assume a darker hue and become more or less bloody.

Dr. Watson states that if this character
practically from day to day, it is an equitable sign that intestinal ulceration is going on.

It has been argued by some that when diarrhoea occurred as a complication of Syphilis, it was necessarily of the Typhoid type, but this is a mistake as diarrhoea is an infrequent complication of Syphilis, but it is marked by no specific lesion, whereas the diarrhoea of Typhoid or Enteric is invariably accompanied by specific

Statuten tritation of the Abdomen, with tenderness aggravated by pressure, especially over the cæcum, accompanied by a peculiar movement and sound; the latter not invariably present, but when present continues throughout as characteristic symptoms of written form. They generally occur about the beginning or middle of second week.

The amount of accumulated air varies, sometimes moderate, sometimes excessive, giving rise to great discomfort and uneasiness.

In mild cases it is either absent or so slight in degree as not to produce sensible elevation of the abdominal protuberance. In others it goes on gradually increasing, corresponding with the gravity of the other symptoms, until the accumulated air in the
in the ascending, transverse, and descending colons become excessive, producing the peculiar tube-shaped abdomen, and great discomfort and anxiety, from the impediment offered to the descent of the diaphragm, and consequent effect on respiration.

In regard to its comparative frequency, I found it in all my cases with very few exceptions. About three in every twelve or fourteen being free of it — while Louis noted it, in thirty four out of forty five cases which were fatal, and in forty out of fifty seven, who recovered — of whom in four it began on the seventh day; in one on the ninth; in thirteen between the tenth and twelfth; in a majority at a much later period; while in some in whom the fever ran its course slowly it did not occur before the third week or even later.

In these cases the amount and discomfort was considerable. While in the remainder it was slight — in some it diminished gradually. In those the latter symptom is generally accompanied by abdominal pain which with the tenderness and distention is in proportion to the severity of the case. The pain is generally felt round the umbilicus or other iliac region, occasionally
over the whole abdominal wall, simulating peritonitis and hysterical tenderness in women, from which however it is distinguished by its being greatest over the course of the large intestines, the caecum especially on Ectatic fever, while it is more acute diffused and persistent in Peritonitis and remittent and of various degrees of intensity in hysteria.

Gurgling in the right iliac fossa is as often absent as present, so that it is not to be depended on as a diagnostic symptom: if the case is favourable it is best elicited by careful manipulation of the abdominal wall over the caecum between the fingers of both hands, when it may be both felt and heard, but much better heard by applying the stethoscope over the caecum at the same time exciting a very moderate pressure with either hand applied to the abdominal wall.

Pain from peristalsis is a symptom which sometimes intervenes suddenly in the advanced stage of the fever, it may be during convalescence and often in cases of no great severity apparently.

In one case under my care, in whom convalescence was progressing so favorably as was supposed that nothing would keep the patient from walking
out, when one day he was suddenly seized with rigour and violent umbilical pain, soon followed by sickness and vomiting, altered expression of features, clammy perspiration, rapid turgor, forced breathing, and death in thirty-five hours from the Rigor — the diagnostic marks of perforation, which the post mortem examination confirmed.

So that if in a case of Enteric Fever, this same suddenly, in a patient with diarrhoea — chillies, abdominal pain, sound umbilicus aggravated by pressure, accompanied by a marked alteration of expression in the face, and that more or less speedily followed by nausea and vomiting, we are justified in concluding that perforation has taken place.

In some cases however, perforation may have taken place when the symptoms are not so well marked as we find in the generality of cases where perforation has occurred — neither are we to be guided in our prognosis of the occurrence of perforation by the presence or absence of diarrhoea, for cases are recorded, in which the evacuation were formed, and healthy in appearance at the very time when perforation took place and des-
mild the case, to be careful in our treatment and guarded in our prognosis.

We rarely meet with peritoneal inflammation but more generally, as the result of intestinal perforation. Yet when it does occur, it is one of the most formidable and distressing, generally proving fatal within fortyeight hours. Its accession is sudden, with all the symptoms of Peritonitis—acute pain, tenderness, with rigors preceding or accompanying these, nausea and vomiting ensue. Pulse becomes rapid, small and thready, great thirst, face pale, pinched and expressive of intense agony, the surface of the skin is chilblain with a cold clammy sweat and rapid sinking coma follows.

Sometimes in consequence of the dynamic state and deficient sensibility of the patient, these violent symptoms are latent.

Haemorrhage from the bowels is not infrequent during the progress of Peritonic Fever, and is at all times to be looked on as a formidable symptom, it being infallibly diagnostic of the progressive nature of the intestinal lesion.
It occurs generally spontaneously, in the advanced stage of the fever, and rarely in amount and appearance, being in small in some cases as merely to indicate the tendency to hemorrhage, more generally however it is larger, from half to several ounces, and in these cases as much as twelve or sixteen ounces have been discharged at once.

The patient may continue to pass blood for several days in succession if not satisfied with, and sudden death result from syncope. So that often the total amount cannot be estimated otherwise than by its influence on the patient's strength, which is seriously, often fatally, impaired by such a serious drain on the already prostrated powers. The blood discharged, flowed freely out from the margins of the ulcers and purulent membrane, spilled by post mortem injections into the Jugular veins and its flowing out at these points — the blood is rarely of the actual hue generally dark or almost black, resembling treacle in consistence; if it is not pressed as some times happens in thick coagulated masses.

Bleeding from the nose is not an uncommon symptom occurring at various periods in the disease.
it is less frequent in the mild than in the more severe cases - in about half the former and in 27 out of thirty four of the latter.

It differs in amount, generally moderate, perhaps only a few drops, seldom or never free as to require interference on the part of the medical attendant. I remarked its occurrence in about one third of the cases which came under my notice, in neither of them except one was it excessive and in a minority of those cases only a few drops of blood were lost.

It may occur once only, or for several days in succession, and it is not limited to any period of the disease, occurring sometimes at the commencement of the fever, more commonly however after it has commenced and advanced somewhat.

In the cases already mentioned, it occurred on the fourth, eighth, eleventh and twelfth days.

It is seldom or never preceded by any unusual sensation to denote its advent (it may be a little fulness) but comes on suddenly. The symptoms of the fever seem being sensibly affected or changed by its cessation.

The age at which it appears most commonly
is before the fifteenth year, at least if any reliance is to be placed on statistics and the observations of former writers we are justified in concluding so.

And further, it would appear from a comparison of the Continental and British returns, that the cases of Envene Fever on the Continent of Europe are more frequently accompanied attended by symptoms as a symptom than those cases occurring in Britain.

Nervous System

Headache is invariably present as a symptom in Envene Fever, always constant and begins with the first accession of the symptoms, in fact, so common is it in this fever at the outset that its absence at the beginning of a definite febrile affection, in which other symptoms characteristic of the disease are manifest, would indicate that the disease was not this type of fever.

It occurs in the mild as well as the severe case, and in the severe case is commonly confined to the forehead and temples, sometimes it extends over the head, accompanied in severe cases by intolerance of light, conjunctival injections or throbbing of the carotid arteries.
Dr. Jenner is regard to this symptoms, mentions two cases, the histories of which were complete, the duration of the disease lengthened, so that there was no headache, while in twelve cases, headache was one of the earliest symptoms — in four of these it disappeared, in one on the sixth, in two on the thirteenth, and in two on the seventeenth day of the fever; in nine cases before they came under observation generally on the 15th, 16th, 17th, 18th, 21st and one on the 28th day. In one case there was a little headache on the fourteenth day, but from the subsequent mental confusion of the patient, it was uncertain when it ceased.

"Louis mentions that in 37 cases, all of which recovered, there was headache in all but three.

Its duration according to him and many other writers differs — in seven cases, it may continue from ten to twelve days or longer.

The headache is often accompanied with restlessness and vigilance during the night, occurring especially in the early part of the disease, the aspect of the patient is fixed and insensate, or oppressive smell of apathy and indifference. Muscular tremor is depicted if sleep occurs at
all, it is without disturbed actions, and eyes often open, but quite insensible to what is going on about, hence constituting the "coma proch of lemmi."

Drowsiness is a very unfavorable symptom, often occurring in the progress of this fever, more especially if it is profound. In mild cases it is less marked, disappearing later and generally shorter in duration, while in severe and fatal cases, it continues to increase in degree and commonly terminates in coma unless delirium supervene, which interrupts and prevents this tattting place.

The period at which it most commonly occurs is on the fourteenth day of the fever, its mean duration being eight days, its extreme duration twenty-one days.

Louis, after careful and minute observation, found, that the patient who recovered, out of fifty seven in whom the affection was severe, eight had no drowsiness; in forty in whom he noted with case the origin, duration and degree of the symptoms in no individual did it occur on the first day of the disease; in one only on the second; in two on the sixth and eighth day; generally speaking, between on the 9th day, in extreme cases on the 10th.
Delirium seldom appears during the first week of the fever, generally later, about the third week, or even later still, when it is more commonly present than absent; in the more severe cases however, it may supervene early, and remain persistent until the first signs of convalescence are apparent.

In the still more grave, it lapses into coma, and from which the patient seldom recovers, so that as a general rule, early and persistent delirium more especially, if accompanied with the former symptoms of drowsiness, protest to a dangerous attack of the malady.

It is generally most active and attains its greatest height during the night, at first it is indicated by confusion and incoherent answers, more especially when the patient is sharply interrogated; as the fever advances, we often find this symptom increase in severity, the patient singing and talking loudly, while in the advanced stage, it becomes of a low muttering type. It varies in amount and character, in some it is so violent, that the patient if not restrained, will leave the bed and run screaming through the room, evidencing great bodily agitation, and apparent delirium.
In others we have sickness of the bed clothes, catching at imaginary objects, a degree of restless agitation, pensive mutterings on unconnected points, with constant motion, simulating to a large extent the symptoms of delirium tremens.

There is another symptom which sometimes happens in patients suffering from severe attacks of this fever, and which is to be looked on as of doubtful omen. I mean a degree of perversion of sensibility and judgment, under which the patient declares he is quite well—Louis has taken peculiar note of this symptom and affirms he never witnessed a single case of recovery after this had come on. The same author further remarks "that however much the brain may have been affected in the progress of the fever, permanent mental impietion rarely follows."—The powers of the mind were occasionally somewhat, though temporarily, enfeebled, but this disappears as the patient gains strength; in some cases the intelligence is affected during convalescence;—Louis mentions one case in which a son, who at the commence of the illness had the mental capacity at best was small. The patient remained for six weeks in an idiotic state, from which he ultimately recovered.
I observed the same phenomena in one case in a young woman aged twenty-two married, and had had one child eight months previous to the attack. The attack was sudden accompanied by paresis of sensibility and wild delirium — after a protracted course, she became convalescent, with a mind approaching idiocy, from which however she gradually recovered, and when I left the place she was quite healthy and intelligent.

It may be asked, if the sensorial affections are due to the changes in the blood how are we to account for their absence in exceptional cases?

The explanation is, that there is a less amount of poisonous in the blood, less than is sufficient to produce the brain affection — or it may be that in some individuals the cerebral mass is less susceptible, less easily impressed by the morbid blood; just as we observe the difference in effects of alcoholic stimuli on the nervous system in different persons. Moreover the bloodless state of the brain, occurring in cases where the heart's action is weakened and the fluid nearly inaudible, explains the quantity of alcoholic stimuli occasionally required, both in enteric and typhoid fevers.
the dominant forces — and the tolerance of quantity, which, if taken by the same individual in his ordinary or healthy state, would probably deeply intrude.

Symptoms referable to the special senses

Perverted sense of Touch: muscular activity, muscular depression or debility, backache, pain, or sense of weakness in the extremities; all referable to a depraved and perverted state of the nervous system, are all more or less concomitant symptoms of Contine Fever.

They are more commonly noticeable in hysterical tempaments, in whom we find the cutaneous & perhaps the muscular system abnormally sensitive; the slightest touch causing pain.

Hearing is more or less transiently affected, especially in the latter part of the disease, during the stage of convalescence — Deafness accompanied by Tinnitus aurium or buzzing in the ears —

It may be the result of inflammation of the meatus, conforming generally about the middle of the fever, progressing slowly and terminating in resolution or abscess of the external meatus —

Even in extreme cases however, it seldom
spreads to the tympanum so that it does not materially influence our prognosis, or endanger the function of the ear — "Louis observed deafness occur in two thirds of his fatal cases; and in thirty three out of forty five grave cases terminate in recovery."

I have certainly observed this symptom occur more frequently in severe cases of the disease, than in mild forms, in which it seldom or never occurs.

Dr. Leman observes, "that six out of twenty three had deafness more or less complete after they entered the hospital, and these terminated in the

one of these subsequently became deaf, the deficiency in hearing making its appearance on from the twelfth to the twenty first day."

In some of the more mild cases, we have an actual deafness occurring, but a perversion of the sense, which renders the patient confused and stupid like, when spoken to.

Vision is rarely if ever impaired in this fever, in some cases the conjunctivae are injected, and there is intolerance of light, but when the febrile excitement is well, there is often through insensibility to light.

Taste is generally altered or perverted, even from the beginning, arising partly from the state.
of the tongue and palate, and partly from preserved nervous sensibility.

Spasms are generally reckoned an unfavorable symptom, occurring in the latter stage of the disease, in severe cases, especially, in those of a nervous temperament, affecting the tendons of the wrist, inducing palisadins, or of the muscles of the face and of the diaphragm or all these simultaneously, when the prognosis is seldom doubtful.

Cutaneous System

One of the chief symptoms described by some as characteristic of Eutine Fever, is a peculiar rose colored eruption, first mentioned by Louis, and designated by him the "taches roses lenticulaires," but it is not properly speaking characteristic, at least in a diagnostic point of view, as it may disappear before the patient is examined, or lie so small as to escape detection, and cases are not uncommon, where there is no development of spots at all, there being no evidence (viz. post mortem) that there were cases of typhoid or Eutine Fever.

So that singly, I do not consider it diagnostic, but only when accompanied by the other symptoms.
I believe I am correct, when I give the approximate result of the total number of cases in which they do not occur, as from ten to twelve percent.

When they do occur, they consist of rose colored punctiform spots, passing insensibly into the color of surrounding tissues—they are scattered chiefly over the abdomen and chest, while the cuticle is thinnest— they are about two lines in diameter, sometimes perceptible to the finger passed lightly over them, they possess none of the feel like hardness of the first days eruption of variola nevi; all are they to prominent and perceptible to the touch as the papulae of Eichen.

Their surface is more or less less shaped, never elevated, and there is no trace of necrosis on their apices—

If pressure with the point of the finger is applied for some time to their apices they entirely disappear, but resume their round tint and elevation on it being withdrawn. In some cases, this rose eruption is preceded by a scarlet efflorescence over the whole surface very much like poxula. When the diagnosis becomes more complicated, bringing in the possibility of the existence of Siculatina, a doubtful name which is soon expelled as the disease advances.
It is seldom that the appearance of the symptom is marked by any critical or unusual symptoms, neither does its absence or甜甜tiness, bear any relation to the mildness or severity of the fever.

The spots seldom appear before the ninth day, more commonly about the beginning of the second week.

In about half the number of cases, they are first found between the sixth and seventh day after the commencement of the fever, but their appearance may be prolonged to the twelfth or fourteenth day, rarely later, unless in cases of relapse, when we may have them appearing anew on the thirtieth day of the fever.

In respect to this point, Louis found in a number of cases the following results, "in two patients they were visible on the sixth day; in three on the seventh; in a third of the cases on the tenth day, and in ten, it did not appear until between the fourteenth and thirtieth day of the disease."

In twenty-seven cases I noted the following on this head — In two cases the spots appeared first between the sixth and seventh days; in thirteen between the eighth and fifteenth; in seven between the fifteenth and twentieth; in four between the 20th and 30th days, and only in one case after the 30th, which was
ultimately fatal. Once having occurred, they
rarely remain persistent throughout the disease like
the smallpox, but often remain
from six to ten days, they gradually disappear,
without leaving a mark or stain, and they
are shortly succeeded by a fresh crop, which are de-
veloped, and then a crop of fresh crops.

The usual site of the eruption is on the abdomen
and thighs, rarely on the extremities, almost never
on the face, except when the eruption is abundant.

"Louis mentions only one case during his usual
practice in which it occurred on his face."

This rose-colored eruption is more frequent and abundant in the Ectatia Fever of early
life, for out of one hundred cases mentioned by
Dr. Landen, it was observed in all except eleven,
and of these three were not received into the
hospital until the third week after the com-
mencement of the disease, during which the spots
may have disappeared. —
It generally appears about the fourth to the eighth day in children, though it may be either sooner or later, seldom however absent, so much so that it may be looked upon as a single diagnostic mark of this type of fever in children as there is no other disease of childhood in which we have the appearance of such an eruption.

With regard to the much disputed question — whether it ever passes into the petechial eruption of Typhus or no? I am inclined to answer in the negative at least I never saw a case in which this rose-coloured, amniotic eruption became petechial or dark colored — and this I found to be true even in extreme cases, where the last crop of rose spots were of a very dark to the end. I do not deny that the two eruptions may coexist, as we now know that the two types of fever may coexist, but this is no proof of their being one and the same eruption at different stages of the disease, so that from experience and observations, I consider we are justified in holding — that the rose-coloured, peticular spots of amniotic fever appearing on the seventh, eighth, or tenth day and afterwards in
successive crops, bear no relation or identity to the dark morbillous rash of Variola, appearing on the second day, continuing throughout the fever, and becoming darker every day—neither does the former ever pass into the latter.

Sudamina or military rash (so called from Sudamina the resemblance to sweat drops and millet seeds) is a peculiar vesicular eruption, frequently occurring in the progress of this disease, rarely however before the fourteenth day, and more or less well marked.

It consists of small round vesicles about the size of a millet seed, filled with a clear fluid. It is best seen on the chest, abdomen, neck, and axilla, and requires to be viewed obliquely. Their duration is not uniform, they sometimes disappear with slight desquamation in a few days, in other cases they remain variable for eight or ten days. Their average duration however may be stated to be from three to ten days.

It is generally preceded by a warm skin and a profuse perspiration, and is more frequently observed in cases of more than average severity, than in the milder, though it does not seem to have any special influence on the symptoms or progress.
of the fever, neither is there any apparent relation between the abundance of sudaminae and the condition of the skin as to perspiration.

With regard to the frequency of sudaminae, in the Erysipelas of children, St. Helier noted it in two thirds of his cases, and De La Barre in 104 out of 121. The former author stating its appearance between the eleventh and twelfth day, and its average duration from one to six days.

Erysipelas may arise in the course of the disease, during certain periods of the year, and especially in hospitals, but it is to be regarded as intermittent or accidental.

Slothing of the integuments is a troublesome complication occurring in protracted cases of this fever. The most usual sites are the prominent parts of the trunk which are exposed to pressure— the sacrum, trochanters, and the buttocks. The slough may often arise after the appearance of erysipelas or an erythematosous blush or with ecchymosis, when it is generally followed by a fatal termination.
Respiratory System

Chest symptoms are not frequent in entire fever and cannot be said that the pulmonary organs are necessarily involved in the general disturbance; and yet there are few cases in which they entirely escape.

The respiration is accelerated and there may be slight cough, accompanied by some expectoration and moist rales heard over the chest, or the symptoms may be more serious, as may have bronchitis or congestion of the lung itself, or inflammation of the pleural surfaces: each indicated by its own local and physical signs, and often requiring daily watching and examination to detect them, more especially when accompanied by brain affections, when the pulmonary symptoms are apt to assume a latent form, they are liable to be overlooked and the lung disease remain undisclosed until it proves itself and presently it may be at any stage of the fever, rendering a mild disease dangerous if not fatal.

If we have flushing of the face with hot skin and paroxysmal coughing with accompanying local signs, we are justified in suspecting some
Robertson's Medical Anatomy
form of pulmonary affection, the exact nature of which we can diagnose by careful physical examination and then treat it accordingly.

In 14 out of 27 cases, I heard mucous, rales more or less distinctly, in about one half of the cases there was more or less cough with slight expectoration of a colorless mucus. The rales were present in eight out of the twenty seven when I first examined them, in the rest they appeared as follows: two on the fifth day; three on the 14th; three on the thirteenth; four on the fourteenth; three on the fifteenth and two on the twenty eighth day.

In two cases, there were no conscious rales till the thirteenth day, the patients being first visited on the seventh day.

Postmortem ascertained these various pulmonary complications to the peculiar symptoms deposit, which he says may be diffused over the epiglottis and larynx, the mucous membrane of the lungs and bronchial glands, or into their parenchyma, producing laryngitis, Bronchitis or the so called Erysipelas Pneumonia.

Bronchial Catarh is the most common form of pulmonary complication in this country.
and it is indicated by frequent cough, glairy tough expectoration, wheezing respiration, and moist rales heard over the chest. —

Inflammation of the lungs sometimes occurs as a complication in this fever, indicated by the incessant and interrupted cough, bronchial breathing, dulness on percussion after a while, and the peculiar pneumonic crepitus. According to Dr.latin, it is present in all severe cases of Enteric fever, and especially when the symptoms are well marked, at first he says there is hypostasis in the lower lobes, which ultimately become converted into pneumonic—gelatinous, soft product (similar to that which takes place on the bronchial and intestinal surface) being effused, and corresponding with the "existing chyloasia" which he supposes to be the result of a dynamic state of the system.

Angina Laryngea sometimes complicates this fever though fortunately less frequent than either bronchial catarrh or pneumonic. When it does occur, it is easily recognized by its characteristic symptoms—agony in swallowing, succeeded by ringing cough, stertorous breathing and voice with occasional suffocating spasm.
It is caused by simple edematous infiltration into the submucous tissue, or from the peculiar "lymphoid deposit" of Hofitanzky.

According to the experience of British medical men, inflammation of serous membranes is very apt to occur in the progress of enteric fever, and more readily than the pleura when it is not always recognisable by the general symptoms, so that it is well to be on our guard against its appearance.

It is indicated by the usual signs of pleurisy—rigor, pain aggravated by inspiration, accelerated respiration, difficulty of reclining on the side affected, friction at first followed by chilliness on percussion. In many cases however there is no manifestation of symptoms perhaps only a slight flush or increased heat of skin, to lead us to suspect that some complication has supervened, and not until we have made careful examination of the chest, and heard the characteristic rubbing sound, or dulness of percussion and absence of respiratory murmurs in those cases where fluid is already present. Can we say with certainty what the complication is? We cannot be too careful even in mild.
cases of fever, in watching for the first approach of pulmonary symptoms, which are liable to supervene either at the outset, middle, or convalescent stage of the disease, causing rapid accumulation of fluid, and sometimes with only little warning of its antecedent inflammation, or if worse and on the left side, it may involve the cardiac organ with the pericardium—a complication if not always necessarily fatal, seriously involves the safety of the patient.

The whole pulmonary complications, more especially of the forms pleuræ, and the effusion into the thoracic cavity though unquestionably an inflammation, and exhibiting the ordinary physical signs by which their special idiosyncratic forms are recognisable, are of a less acute nature than the primary idiosyncratic types, requiring a more modified treatment, combining both local and constitutional, the former to check local action on the one hand, the latter to sustain the vital and nervous powers on the other.

Some have denied that the changes in question are the results of an inflammation at all, but that they are the result of the severe poison acting specifically on certain parts, or on individual organs and structures, in the same way as we find certain poisons vitriol...
duced with the economy effect differently particular structures and organs, or as in melamination of the mea and its effects on the central mass.

But those who hold this theory mistake the cause for the effect - no doubt such is probably the origin of the complication, or its exciting cause, but that the ultimate result is not inflammatory in its nature, is more than we are warranted in granting. For not only its physical signs and constitutional symptoms represent it to us as inflammation, but post-mortem examination and observation renders it certain.

The urine in Entere Pneum is altered in color, in quality, and specific gravity. It is higher in color than normal urine, considerably diminished in quantity, contains more mucus, less fibrine, deposits wate of Ammonia. When it cools, and when first part of a more acid reaction than normal, ferments free of all men until near the close of the disease or in many cases.

Diagnosis

The diagnosis of Entere Pneum requires at an early period of the disease, is a point necessary
difficult and uncertain, requiring great caution and
reserve on the part of the physician before expressing
an opinion, unless the special type is prevailing in
the district at the time, when we may hazard an
early opinion, but more than this we are not warranted
in doing, for we have no positive means at an early
stage, of determining what special form the fever will
be, or when and how it will terminate. — Some
even go further, and state that we have no definite
marks from which we can say, what sort of fever
this or that will be, until it has passed the particular
days of each type; thus carrying us on to the fourteenth
or twenty-first (the termination of the fever) before we can
say definitely, that a certain fever attack is Everett
or not — and probably speaking it is correct, since it is
extreme. No doubt the existence of a
certain type of fever can only be guessed at in the
very early stage. (Or) from prevailing type characteristic
symptoms or — but still those symptoms are so
far characteristic and sufficiently developed, to guide
us in forming a diagnosis, long before the twenty-first
day. Cases however may occur in which even
the most to be depended on symptoms are obscure
or wanting, rendering the diagnosis doubtful. Vague,


and sometimes baffling the skill of the most experienced. — For example, there are cases where we have no appearance of spots on the abdomen until a late period, and even then so few as to escape detection. Or we may have cases where symptoms and tendences are almost wanting, but all such cases are rare and are exceptions to the general rule.

The greatest reliance can be placed on any individual symptom alone, but on a combination of them such as the rose-spots, splenism, symptomics combined with the state of tongue, bowels, pulse, general aspect of the patient, point of crisis and the duration of the disease as confirmatory, or if fatal the post mortem lesion. The diseases with which it is most frequently confounded are, Typhus, Remittent; Infantile Remittent; Acute Phthisis; Tubercular Meningitis, and other febrile gastric diseases occurring especially in children, from each of which human it can be distinguished.

After a somewhat lengthened and ably conducted discussion amongst various distinguished physicians and pathologists, it is now generally admitted or nearly so, that no two acute diseases so closely resembling each other, in many symptoms.
and having many features in common, can differ more from each other than the two types of fever, Typhus and Entere, differing especially in their symptoms during life, and their marks in the lesions after death.

They are distinguishable from each other as regards their apparent cause, for we have already seen that what predisposes and excites Typhus does not excite or predispose to Entere.

They are distinguishable as regards their nature and mode of invasion, being sudden in Typhus while it is slow gradual and insidious in Entere.

They further differ in their symptoms—thus, the heat of skin more constant and marked in Typhus than in Entere, the skin irregularly mottled, the spots pale purple and livid, circular in form, sometimes oval but sometimes very irregular, not fading on being pressed; appearing at the beginning of the attack and remaining persistent throughout the fever, while in Entere we have popular spots, circular in form, of a bright rose colour, appearing about the eighth day, fading on being pressed, not persistent but appearing in successive crops from the first to the last week of the fever.

The bombs in Typhus are generally constipated, more tympanitis, a gurgling in any part.
in any part of it, if the bowels act more frequently than usual, the evacuations are not watery — while in Enterie, they are watery pea-soup or ochre colored stools with pain, hypochondre and gurgling in the right iliac fossa — The duration in Typhus is shorter being from fourteen to twenty one days. The crisis is generally distinct — while in Enterie there is no distinct crisis and the duration is more less than twenty, thirty or forty days —

The brain and chest symptoms, especially delirium and intellectual dulness & stupor are more strongly and early developed in the Typhus than in Enterie. Eruptions and hemorrhage from the bowel rarely if ever seen in Typhus, while they are common symptoms in Typhus and a Enterie while with other boils

And lastly, anesthesia is more marked in Enterie, and of the case prove fatal the post mortem lesion occurring in Enterie and not in Typhus is sufficient to place beyond a doubt the difference between the two forms —

From this variety of remittent fever in this country, it is seldom we have the possibility of its recurrence complicating the diagnosis, but when it does occur, it is liable to be mistaken for
for Contulie, especially if the so-called characteristic symptoms of the latter are not well defined.

The course of Contulie is more rapid, bilious vomiting frequent, and there are well-marked remissions at regular intervals besides diarrhoea and tympanitis are rarely observed.

The appearance and general aspect of a patient suffering under an attack of Contulie Fever, sometimes strongly resembles acute Phthisis, and if it chance to be one of those obscure cases, when the acute symptoms are not well marked the diagnosis is extremely doubtful. The purpura and petechia which occur in acute Phthisis are, however, wanting; or occur comparatively seldom in Contulie Fever, and the evident physical chest symptoms, with cough and persistent expectoration lead us to a correct diagnosis.

That Contulie Fever is apt to Meningitis, the mistaken for Subulcular Meningitis cannot be disputed, and requires careful consideration of the individual symptoms of each before one can be sure of the disease and pronounce one diagnosis.

The head symptoms in Meningitis are more severe as might be supposed from the onset of the disease, the pain is more acute and lancinating.
the delirium of a morbid tons nature, alternating with drowsiness: vision to light is more marked, pupils are dilated; there is seldom sickness, vomiting or exhaustion, and at an earlier date about the third week terminates in recovery or death by coma and convulsions, instead of being prolonged to the fourth or fifth week in Enteric Fever, and death from exhaustion and syncope.

Enteric Fever is very apt to be mis-taken for the febrile gastric disorders common to children, especially those of the poorer classes, and to be treated with irritating purgatives as acute gastric affections. One can easily make out the diagnosis however, if one bear the peculiar symptoms and nature of Enteric Fever in mind. If the insidious onset, the extreme agitation and restlessness it may be delirium of the patient during night, the marked peristalsis, the tender tympanitic belly, the peculiar odour stools, the pale colored spots, and the length of the disease are sufficient to indicate the presence of this Fever.

Prognosis
The ultimate issue of a Case of Enteric
Once however mild it is at all times doubtful, and one can never be too cautious in forming our prognosis; for in no case can a favourable termination be with certainty predicted, unless sufficient time has elapsed for the healing up of the intestinal lesions which constitute the great source of danger in this fever; much will depend on the circumstances presented by each case, the degree or intensity of the local complications, and the strength or stamina of the patient to contend against its formidable nature.

The following I have always reckoned unfavourable symptoms, and to be looked upon with suspicion and watched with care:—

Mild and protracted delirium especially in the early stage, profound stupor, restlessness, vigilance, spasmodic twitchings and delusions, severe and protracted diarrhoea reducing the patient's strength and producing internal irritation, excessive distention, in the advanced stage, profuse hemorrhage especially if continued, a sunken cadaverous appearance of the face, a weak pulse continually increasing in frequency and more or less irregular and jerking, and with a weak or scarcely audible first sound of the heart, and lastly, that feeling of general care and comfort during the
early part of the disease, though other serious symptoms are manifest, a state of perversion of the mind often
preceded by a drowsiness and prostration of not fatal attack
of the fever. "Louis mentions all such cases of
Perversion as generally fatal."

On the other hand if the delirium subsides, the attention becomes more fixed on surrounding
objects, and more under control of the mind, if the
clouded intelligence pass away, if the pulse
becomes slower day by day acquiring strength
and fulness, if the tongue becomes moist and begins
to clean, with an increased desire for some tasty food.
if the diarrhoea and tympanitic abdomen, the diarrhea
decreases and evacuations regain their usual consis-
tence, we may venture to predict favourably, bearing in mind however that the danger even in
an advanced stage of convalescence is not passed
for cases are on record which proved fatal during
apparent convalescence from the gradual ulcerative
destruction of the successive coats of the intestines,
producing perforation and its fatal results even
in the fifth or sixth week of the disease. —
Dr Jenner with regard to the prognosis of
Puerperal Fever states — "that when death is the
result of the general disease, the fatal termination always occurs before the thirtieth day, and that fatal causes after that are due to local lesions.

The age of the patient may some-what influence our prognosis, being more favorable in cases of young, strong and previously healthy children. The weather and season so far as they influence the disease may affect the prognosis—thus the mortality according to Chmel is greater during the cold than the hot season of the year. In the Hotel Dieu of Paris in 1832 the deaths were during winter one in three and only one in six during summer, while in 1834 there were one in two died in winter and only one in seven during summer.

Treatment

And first as regards its prophylaxis, and the much disputed and yet undecided question—Can we counteract the effects of the fever poison when once it has entered the system and thus prevent the development of the disease or render it more mild in its attack and shorten in its duration by any prophylactic means?
The practice of eradicating the disease at its outset was formerly in high repute amongst the profession. And is still supported by many modern physicians, some adopting one remedy, others another. Some still using the lancet, others injections or driphletics, others old affluents, and some with Dr. Dundas of Liverpool. Trust to Lumine —

Blood-letting which we deemed with the remark, that however beneficial it might be in the very early stage of the fever, the case we believe would be special, for which in the present day, it would be resorted to as a prophylactic or preventative measure.

Emetics have been employed in all forms. Emetics as a prophylactic, on account of their power of removing offending and acid matters from the stomach, of producing increased determination to the skin and supposed elimination of the fever poison, and the general commotion produced by the shock of contracting to the system, altering in some way the fluids of the body and preventing the effects of the fever poison —. And no doubt emetics have the power of removing acid and irritating matters from the stomach and so far doing good, but as to
Supported benefit from shock given to the system, alteration of the fluids, or to the determination to the skin or other organs induced by the act of vomiting, I must confess my doubts and should hesitate to adopt their use on such grounds — may more! in certain cases they are highly dangerous, tending to exhaustion and impairment of the patient strength at the very onset of a disease throughout which, strength alone can carry him and be his safe guide in withstanding the effects of subsequent febrile symptoms.

And yet there are cases in which I would recommend emetics as a remedy, if not prophylactic, tending to mitigate the symptoms if not to shorten the course of the disease. I mean cases of robust healthy patients at the very onset of the disease, and where there is evidence of the presence of acid matters in the stomach: under such circumstances, the exhibition of an emetic is often followed by much relief though it may not cut short the disease. And it is just questionable, if an emetic given immediately after the signs of an approaching febrile attack in a robust healthy patient does not exercise a prophylactic influence.
Phosphatics have been given for a like purpose, as emetics (in 1/25 grains) to produce termination to the skin and supposed elimination of the poison thereby, suggested I suppose by observing the occasional termination of acute diseases by sweating.

But there are no grounds for believing that the fever poison is so dislodged.

Cold application is liable to the same objections as emetics, - the alarm and shock to the nervous system, and its dangerous tendency unless in the more acute forms and in healthy robust subjects, and even in those (if the idea that the disease is produced by a poison circulating in the blood be correct) we cannot see how such a remedy should act in averting the disease - how ablation of the skin will render small, the already formed fever veins, and stop the further development of the disease.

The use of Gumina both as a prophylactic and curative agent in fever was formerly highly esteemed, but had fallen into disuse, until recently revived by Dr. Dundas of Liverpool. He employed it once in all forms of continued fevers in large doses of the grains.
every second hour, until six doses have been taken, and thus he says, "it will arrest or cut that all fevers as well as remittent," a statement questioned at the time, and since demonstrated by the experiments of Dr. Christian Henet of Rotterdam to be quite fallacious.

I treated several cases with it on Sundays, in every one of which it very slightly mitigated the symptoms at first, but only temporarily, for they soon returned worse than before; the head symptoms especially, and it invariably produced a marked sedative action on the heart, from its effect on the ganglionic system of nerves on which it is now known to have some sedative action; that its specific action in remittents, is not due to any tonic property which it is supposed to possess so that if these can be eradicated after it has entered the system, or been cut off its course, the remedy has yet to be discovered.

In the meantime all we can do is to guide the disease, and prevent as much as possible injury to organs essential to life: which we accomplish by making ourselves acquainted with the case, its mildness or gravity, the stage or duration, the
existence of secondary lesions, the prevailing or epidemic constitution, the age, habits, occupation and previous health of the patient with such collateral information as we can attain: and these once attained we are ready to proceed with our treatment, the success of which I consider depends more upon a proper regulation of diet and hygiene than upon medicinal remedies so called, and shall therefore first consider the

Dietetic Management of General Agents.

This I consider to be the most important part of the treatment of all fevers, closely connected not only with the comfort of the patient but with the issue of the case, and yet how often do we see it overlooked or so conducted as to render it worse than useless.

Proper ventilation should be strictly enforced, the apartment should be large, and the temperature properly regulated, keeping it as near as may be to sixty degrees; never allowing it to rise above sixty-five, though in hot seasons and climates this is difficult to attain; further, the room should be kept quiet and none admitted without orders, and only then
for a very short time.

The bed and patients linen are to be kept fresh and clean, changing the former if need be often, especially if the case is severe and the evacuations passed unconsciously, when two beds (if the room is sufficiently large) will be found most convenient.

The patient's body may be sponged occasionally with tepid water. And lastly, let the nurse be one whom you can trust to carry out orders, and to whose discretion and judgement you can leave many minor points of regimen.

In the early stage of the fever the excessive thirst may be allayed by any agreeable drink, such as whey, cold ice water, or apple juice, avoiding from as much as possible those containing large quantities of carbonic acid or fixed air, which are apt to increase the tympanitic and consequent discomfort.

I have been in the habit of allaying the thirst by a piece of ice allowed to dissolve in the mouth, than which there is nothing better or attended with so good results.

Food is seldom or never sought after food by the patient at first, and we only require to supply his strength by light nutritious and mild
diet, such as thin gruels or papaada and such as are easily assimilated. At first light and untimely eating but nutritions: as the fever progresses it is better to allow a little more nourishment, by adding a small quantity of beef tea or any animal broth, say from half a pint to a pint in the twenty-four hours, we might give it almost from the very commencement unless the symptoms indicate a more than ordinary acute attack and consequently a more restricted regimen. —

The beef tea should be given in small quantities at a time, and repeated often, and if it produce increased feverishness or restlessness it is to be discontinued for a day or two, and Greenland substituted.

If symptoms of debility are manifested, the exhibition of stronger beef tea with sage, arrowroot, animal jelly, &c., are manifested, combined with a few ounces of a light mineral acid tonic or a vegetable tonic with an acid combined — none as good as the compound mixture of carbonic acid fumes with the dilute sulphuric or nitric nitrite acids. If the pulse becomes soft and compressible, the skin cool and clammy, the patient weaker and the tongue becoming brown and the
whole power suddenly giving way, indicating collapse, the treatment must be both nourishing and stimulant - the animal jellies and broths are to be administered stronger if possible with plenty of common salt to provide somewhat for the drain of the saline constituents of the body, combined with an immediate and powerful stimulant; and none is more suitable under such emergencies than good brandy in half ounce doses repeated at such intervals as may be necessary, or wine in proportionate doses to reactivate the failing powers, after which when the patient has begun to rally it should be carefully withdrawn only giving it occasionally and in gradual decreasing doses.

The daily quantity of wine given partly according to circumstances; the amount of depression, strength of constitution, previous habits of patients, but above all according to the prevaileling epidemic. And further it is of importance to give it at stated intervals, and only when the excitement is moderate - at night when there is often great exhaustion, a dose of wine is often followed by cool refreshing sleep, and hence the incalculable advantage of an interested nurse.
on whom indeed, the life of the patient often rests.

Medicinal Treatment

This department of the subject is upon the whole simple: In the very mild cases requiring little more than the management of the sick room, enjoining mental and bodily repose, regulating if necessary the alimental secretions, and restricting diet: administering light salines, such as Acetate of Potash or Ammonia to allay thirst, promote formation to the skin, and to diminish the viscosity of the blood. —

The greater number of cases however are of a more serious character, requiring more decided measures, modified of course according to the circumstances of each case. —

Thus if the headache, throbbing, delirium or restlessness are excessive, very great benefit and relief is derived from cutting the hair quite close or shaving it off altogether when we can. And applying cold lotions or ice to the scalp, taking care however to keep the applications cool and not allow them to become hot, and act as fermentations instead of cold applications as very often happens.
When proper directions are not given for their use.

Bloodletting in such cases has been prosed by some and condemned by others, so that at the present day, if not altogether abandoned it is only adopted under very special circumstances.

The disease itself tends towards exhaustion, and the abstention of blood under such circumstances tends only to lower the powers still further, diminish the chance of recovery and retard convalescence.

When the brain symptoms assume a form resembling delirium tremens, the patient delirious, the pulse stiff and compressible, the skin cool, the face pale, the delirium of the low muttering character, with monotonous delusions, causing irritation by chills to make of neck or temples, pain in the extremities, at the same time supporting the patient's strength with the quinine mixture of ammoniac, pure and muriatic galls, these are all indicated, tranquillying the nervous system by some form or another of bromin provided the tongue is moist, but not otherwise. As it invariably proves injurious, if not fatal in cases where there is dry brown coating of tongue.

It is sometimes more beneficial when combined with antimony in very small doses.
often repeated, until sleep is procured, taking care that during sleep, the punishment is administered at frequent and regular intervals.

Some practitioners prefer the local administration of opium by means of enemata, and it is not bad practice often proving more successful, not only allaying the nervous excitement but in checking the diarrhoea.

If the bowels are constipated at the beginning of the fever, a small dose of some simple laxative may be given, such as castor oil, and it is better to follow it by a few drops of the tincture of opium combined with it, bearing in mind the susceptible nature of the bowel in Fuscine Fever.

The smallest dose of calomel or any other irritant medicine is to be carefully avoided, as they tend to irritate and increase the local and intestinal fever, and never fail to do incalculable mischief.

The least the bowel is disturbed the better, and hence the necessity for abstaining from all specific medicines of all sorts and trusting to the spontaneous action of the bowel itself.

The diarrhoea which is more or less present in every case is to be treated according to its amount and frequency. If purgatives are used in the
States of the bowels, and act underly an aromatic
draught with a few drags of Ointure of Opium
should be administered to check the irritation and
allay the action. If the diarrhoea be moderate,
it only requires simple treatment, by bland fluids, and
the Common Mixture Compound Eptic, or doses varying
according to the case. If notwithstanding this,
the evacuations become more frequent and liquid,
and seizing the patient, it becomes necessary to check it
by the exhibition of Opium alone, or with some astringent
in the form of pill or draught, locally, or as an enema.

Notwithstanding all this, it still may be necessary
forced to the use of more active remedies, as the class
of either vegetable or mineral astringents, a bath combined
and either with or without Opium.

After a careful trial of many drugs out of each
Kingdom, I found nothing so successful in protracted
cases of diarrhoea, as the Picrate of Lead, or Sulphate
of Copper, in combination with crude gum Opium; the
lead and Copper not only controlling the diarrhoea
when given, but they keep or check the ulcerative
process in dysentery patches, from some peculiar action they
apparently have over inflamed mucous surfaces.
I found them most successful when given in
the form of pill in the following proportions

\[ \text{Pulvis Cuii} \quad 9 \frac{1}{4} \text{v.} \]

\[ \text{Confectionis Aromatica} \quad 9 \frac{1}{2} \text{v.} \]

Use: One to be taken every two or three hours if the diarrhoea continues — or

\[ \text{Pulvis Sulfuratis} \quad 9 \frac{1}{4} \text{v.} \]

Use: One every four or six hours if necessary

Haemorrhage should it supervene is also to be treated according to its amount and the state of the patient. If healthy and robust and the discharge not excessive, it need not be interfered with.

But in the opposite class of patients who can ill stand any deflating drainage to the system, it is necessary we should interfere by medicinal means — by enjoining quiet, rest and the horizontal posture, acid drinks cold to the abdomen, and可行性 internally, of which we have many both mineral and vegetable — Ead and Opium, Galli Acid, Al of Sulpentiae &c. In general I used the Lead and Opium or the Sulpentiae either of which will be found to answer — the former however preferable
Sympathetic or Abdominal tension may either be treated or not according to the amount of discomfort and uneasiness. In mild cases it is generally left to nature, but when the air is accumulated in great abundance, inducing uneasiness and impediment to the descent of the diaphragm, something to mitigate the circumstance are sought after, and nothing is found to great fail to the patient's feelings, as hot fomentations to the abdomen - a bitter tisue and with more permanent effect, a fracture clothes over the right iliac region externally and the face of the Decate of lead internally.

If these fail we shall sometimes succeed in relieving this symptom by giving some fainting races, such as Aconitum and Belladone about half an ounce of the tinctures in a spirit of glycer. or failing that, the stomach may be removed mechanically by the introduction of a good full sized Catheter (gum elastic) into the rectum. If the case is protractated and convulsion great, or heated supervening, we resort to the Common and wine with good sufficiency good Viaily to support the system.
If the case is one of spreading ulceration or of ulcerative absorption, producing perforation, we are very apt to have perforating peritonitis supervening — in the one case to be treated with warm fomentations. To prevent and it may be healed by rest, and by supporting the strength by sufficient and appropriate nourishment: — in the other we can only palliate by allaying the nervous symptoms, and diminishing the pain and pertussistic action of the bowels by the use of Opium, and its compounds in large doses if necessary.

The respiratory symptoms generally yield along with the other symptoms without apparent treatment; — of course it should pass into Emphysema, Pneumonia, or Bronchiitis, the treatment will be regulated according to each just according to the latent only, but by the duration of the affection; for pulmonary complications are seldom met with before the advanced stage of the fever, a during convalescence, when the powers are reduced and hence the caution in the use of heroic or depleting measures. The Benetham Cattle, and Lehanthien breath due to breath from fellow are best treated with preparations of Tin and Iodine combined with Sulphuric Acid.
It is necessary in our treatment of this as well as other fevers, never to forget the daily examination of the urinary bladder, as it is apt to become distended and be pressed unconsciously, deceiving both Nurse and Physician — the distention is easily detected however by pressure and percussion over the site of the bladder, unless the tympanitic is excessive, so that in all cases where there is the slightest evidence of diuretic, we should make sure by the use of the catheter.

If the case is prostrated, and the skin thermometer, to become erythematous or to blough, from debility or pressure, we are to have recourse to the water bed if it can be got, or change of posture, warm spirit lotions to the part if it has not sloughed already, in which case there is nothing better than either the Collohin or the solution of Boric Acid or Chloroform.

Treatment of Convalescence

This period of Convalescence is one of no small anxiety to the Physician. He knows the tender state of the last merely healed or still healing ulcer, and the dangers liable to occur at any moment, of the most exact care, especially in
diet, exercise and mental exertion, is not enjoined, and strictly carried out. —

It is sometimes difficult to persuade both the patient and friends that the danger is not yet past, and that the slightest excess may give rise to the most fatal results; they may even accuse the attendant of base motives than that of care for the recovery of the patient, which however is to be treated with the contempt it deserves.

The case should be devoted to the withholding of impure articles of food, and restraining the appetite, which now becomes almost morose.

The appetite, being out of the full, the regulation of the diet, light nourishing and easily digestible, no solid food as yet, no indulgence whatever, pieces of any kind of food being fraught with danger, as it is extremely apt to irritate the succulent membranes of the alimentary canal in its state weak state.

If there should be a tendency to constipation, small doses of the mildest laxative may be given, watching the result and checking over exertion.

Some remedies are most essential, such as Soda, Gentian, Infusia or Calomel, either alone or infusion or with one of the mineral acids. Some light
Chalybeate, if it is compatible with the liver post or back infusion.

In cases of great weakness and irregularity, when the heart is foundo very feeble and the general circulation slow, I found either of the following remedies well:

CH. Gentiane Co. 3 6

Gentiana.

Nat. Eto. H. 3 6

Rosae Distillatae 3 VIII

Alit. Nat. Mentis g. 1 to

Decantate; one or two tablespoonsfuls in a glass of water in hour before food and twice daily. 1/2 Infus. Calamine 3 IV

An. Rhei laticis 3 6

R. sulph. bic. deltis 3 II

Rosae Distillatae 20 3 VIII

2 tablespoonfuls in a glass of water three a day an hour before food.

Either of these preparations, along with or followed by lodging oil, if it does not cause nausea and vomiting will be found useful in recruiting the patient's strength.
Pathology or Morbid Anatomy

The morbid anatomy of fever up to a very recent state, was extremely meager and contradictory, traceable to the hesitation with which the doctrine of the identity or non-identity of the principal forms occurring in different countries was received— even to the present day many who notwithstanding the plainest illustrations drawn from pathological investigation and the most logical deductions, adhere to the untenable doctrine that the forms of fever are essentially one and the same disease.

Alimentary Canal etc.

The course of the canal may be more or less altered, the pharynx is generally unaltered or only red and swollen; in some cases it is covered with a thin exudation extending from the Pharynx, trachea, pulmonary and epiglottic constituting the "laryngeal syphilis" of anatomists, beneath which we sometimes find ulcerations superficial and limited if large to one, or two or three smaller ones grouped round a large one, or it may be deep seated of some extent, generally on the posterior wall.
In other cases we may find the tonsils ulcerated, or the mucous membrane of the epiglottis destroyed, exposing a superficial ulcer. This is rare.

The pharynx is seldom or ever affected, except in severe cases, when we may find one or two small superficial ulcers throughout its length, but most towards its cardiac extremity.

The stomach is generally somewhat changed towards an appearance and consistency. The mucous membrane from its natural pale colour is changed into a deep pink more apparent towards the large curvature, while softening and thinning sometimes entire destruction of the three muscular coats are observable.

The pathological state of the small intestine, especially the lower part of the ilium, presents the true anatomical characters of Enteric Fever, to which we naturally look for some pathological explanation of the abdominal symptoms manifested during life.

The mucous membrane of the small intestine is an immense secreting and absorbing surface, supplied with glands and follicles, the functions of which are still disputed. It is held by some that they are in some way connected with the further digestion of the food as it passes through the body.
An idea supported by the fact, that they are larger during the period of digestion. — Dr. Carpenter on the other hand, believes them to be connected with the elimination from the blood of decomposed matters, while Godwin and his followers, believe them to be appendages to the alimentary system, and that the chyle passes through them before entering the lowest vessels.

There are three special classes of these glands — first glands of the mouth and neck — second Glandulae Phlegmaticae or Salivary glandules — third Glandulae Lymphaticae or Aggregatae glands of the body — the first most numerous, are arranged in the submaxilae or in the naso-turbinals in the vicinity of the pyriform, gradually diminishing in number towards the lower part of the bony isch. — They are compound glands resembling in structure the Pancreas and Salivary glands; they are seldom or never diseased in this fever, they may be slightly swollen, congested, or adherent in a very severe case.

The second variety are met with throughout the entire intestine, large as well as small, the greatest number occurring in the ileum; if the latter, most in the Cecum and vermiform appendix of the latter.
They are small millet seed like bodies, projecting on the internal surface of the mucous membrane, surrounded at their base by a zone of the follicles of Goblet's, — they are more or less affected in entire faces along with the Glandular Agglomerations, the latter a third party, being most important however as regards the pathology of this fever.

They were first observed by Crew, but first described minutely by Oger who gave them the name papillae, — individually they resemble the tubular glands being papilliform, tapering to a pointed extremity, which projects amongst the Goblet's follicles, but in general are found them arranged in oval or elliptical groups, their long diameter corresponding with that of the intestine.

They are most numerous in the ileum towards its lower part, and arranged on the free margin opposite the attachment of the mesocolon, — they gradually diminish in number towards the duodenum or they may become grouped in irregular clusters or in the form of bands two or three inches long. — They are most distinct in young people, and seem to undergo rapid change after death, hence the necessity for early examination.
It is generally believed that these patches become atrophied during life, and it is not unlikely that the alterations these patches undergo with advancing age may have something to do with the frequency of entire fever in old age or after fifty years. The changes which take place in these patches during an attack of this fever vary according to their proximity to the ileo-caecal valve (those nearest it being first affected) and the duration of the fever.

In general there is first enlargement or hypertrophy of their substance, with distinct elevation of the mucus membrane covering their surfaces, and effusion or infiltration of the febrile substance or "Typhous Deposit" into the substance of the patches, the solitary glands and the submucous tissue and blood of the case is mild. This is probably the length to which the patches are affected, when the subsequent changes are arrested, and they return to their natural state and dimensions, as the fever subsides and convalescence sets in.

But in the generality of cases, the patches undergo still further changes, i.e., atrophy, the most frequent pathological appearance observed on examination.
The infiltrated substance, with part of the gland texture softens and thins, which is thrown off leaving a cavity or ulcer on the inner side of the intestine first called 'typhous ulcer' of Poliakinsky. The shape and size of which will depend upon whether the entire though has been cast off (when it will be oval and have smooth edge) or only part of it when it is of a proportionate size and of an irregular shape or the typhous deposit may degenerate into a vascular fungus giving rise to intestinal hemorrhage.

A similar ulcerative process takes place in the solitary glands, but at a later date. When the ulcer left is of round form instead of the oval. The base of each ulcer is smooth, being formed by a delicate layer of submucous tissue which lines the muscular coat— a well defined fringe of mucous membrane forming the margin. 

It is of importance to be able to distinguish between this and the tubercular ulcer occurring in the same set of glands, and in the same way both preceding to ulceration, these惹起 the diarrhea in the latter stage of the one.
and as a general rule throughout the whole course of the intestines differ in direction, in form and general appearance, the enteric ulcer having a smooth base and edges, oval and regular in form, and placed with its long diameter in the direction of the intestine (longitudinally), while the tubercular plaques have an unequal base, and ragged edges, irregular in form, placed transversely, and of a frayed appearance. Both may run on to perforation and a fatal issue, but it is produced in a different way, which it is also important to know and be able to distinguish.

In the enteric ulcer it is caused by the extension of the sloughing, giving rise to destruction of the coats of the intestine, and not by the extension of the original mohib deposit. In the tubercular on the other hand, it is caused by the increased deposit of original mohib matter in the submucous and muscular coats, inducing tubercular suppuration of the peritoneal coat, and ultimately perforation.

It is naturally asked if this lesion...
of Pyrex patches be the pathological element in Eutice Fever, is it to be regarded as the cause of the phenomena, or as the effect of the fever poison on these glands? — the latter is the more physiologically correct and agrees best with observation.

We see in other acute affections morbid poisons giving rise to similar specific effects, as in small pox affecting the skin; in measles affecting the skin and mucous membrane of the throat; and in miasmic cases the glandular and absorbent systems; or in the Plague, which acting first on the blood it is supposed, and subsequently on the absorbents, giving rise to the plague ulcers. — In like manner the action of the fever poison which generates Eutice Fever may be explained — acting primarily on the blood, or nervous system, or both, and secondarily on the Pyrexian patches, producing the so-called Syphous Deposit and Ulcers.

The mucous membrane of the large intestine is affected in the same way as that of the small, more or less swollen and
and congested. The pituitary glands of the colon, chiefly met with in the Caecum are occasionally enlarged and elevated, the ulcers being small in size and having flattened edges.

The pituitary glands almost always undergo the same morbid changes, and in proportion to the extent of the disease in the Pyogenic phases, and the duration of the fever.

They become enlarged, congested, and tumefied, their structure usually totally firm, becomes soft and of a pale colour, from the infiltrated deposit, and ultimately, the whole structure of the gland, is converted into a reddish gray medullary mass, in which deposit, or extravasations of blood are sometimes found. The tumor is in time detached, the proliferated gland gradually diminish and according to some return to their natural state, but others with Jones say that they never return to their former size but continued enlarged and of a higher colour. The gray blush, marks, or pustules seen on examination of these glands, are allowed to be the ulcers which have been undergoing the healing process.
The spleen is generally slightly enlarged in size, softened in consistence, and easily torn, and of a darker color than natural; — the latter two states are less constant, and not so observable as the enlargement —

The liver is seldom altered in size; it may be more or less congested, and darker in color, and occasionally somewhat softened and friable, either attributable to the disease or to the tendency to the decomposition of the hepatic tissue after death.

The kidney undergoes the same changes as are observed in persons who die of most acute diseases.

Organs of Respiration
There are various changes observed in the lungs of patients dying of Contagious Fever, which however are purely accidental or intercurrent, these lesions being often the result of previous congestions, or asthenic inflammation, or according to Pathatomy, if the Syphons Deposit on the affected tissue. —

The find subnecous infiltration of the
epiglottis, sometimes combined with the formation of abscess in the pharynx, so placed as to interfere with the act of respiration, by pressure on the epiglottis—often terminating fatally, and not discovered until after death.

The Borneal Glands are sometimes further dark in colour, and infiltrated with typhoid deject in the same way as the Myxenture.

The Pleurae are generally more or less inflamed, with occasional effusion of serous fluid into one or both cavities, which is probably landed among the final changes which precede death, unless in those cases when the pleuritic affection has been of long standing, or of a latent character, when we find it early effused and marked by its physical signs.

It is seldom indeed we find the Pleurae alone affected, in general the pulmonary texture of the primary is secondarily affected more or less according to the nature, extent, and duration of the local affection during life, in the same manner as in most other acute maladies so that it is not an essential element in this fever. The finding of examination...
congested lacer lobe, exhibiting a dark red
colour when cut into, somewhat dense, sinking
or not when plunged in water according to the
degree in which the changes have taken place:

If the lung affection has been more acute
in character, we find blocking up of the acellular
or cellular tissue by the renal products, and
hepatization of the diseased parts, involving it
may be only individual globules constituting the
lobular pneumonia, as called; or the greater part
of one lung (lobular pneumonia), as it may run
on to that state first described by Louis and
after him by Dr. Bastet of America and termed
by them Tuberculosis, from its resemblance to the structure of that organ, and at one
time paid to be peculiar to British cases.

It might be described as a result of high
inflammation, in which the lung becomes saturated,
assuming a dark slate purple colour, motled
externally with dark patches, it is easily torn
but still crepitus, and still floats in water.
As the case advances, however, the dark patches
increase in density, the crepitus ceases, the
longevity in water is destroyed, it ultimately
the whole blue lung becomes a tough disorganized friable mass.

**Circulatory System**

The heart is seldom if ever affected, heart
it may be slightly softened, which however is as
likely to be the result of post-mortem changes,
as any lesion before death.

The pericardium may contain a little
extra fluid, though not traceable to the cause.

The inner membrane of the pericardium is some-
times covered with diffused red patches, not
however traceable to the disease, being rather
the result of staining from embolism.

The blood itself in this as in all other
features of a continued type, is more or less altered,
containing less albumen sometimes less albumen,
putresces more rapidly, and contains more
corpuscles than healthy blood – the fibrin
diminishing in proportion to the duration of
the fever, while the corpuscles increase in a literate

**Nervous System**

The brain or its membranes may
or may not be affected, at all events after the most careful observations we are at a loss to account pathologically for the brain symptoms, which in the majority of cases prevail during life.

The Dura Mater is invariably normal,

The Arachnoid is in some instances only slightly thickened when a moderate amount of limpid or turbid serosity is effused into the subarachnoid tissue. — The Pia Mater either cicatrizes before, or at the end of the third week is more or less injected.

The cerebral symptoms in general seem to bear no relation to, nor are not dependent on, any certain or fixed lesion of the brain or its membranes discernible after death; genuine inflammation of the cerebral substance itself is rare even in the most acute cases of the fever. — Phthisic Cerebritis is often found, but as an idiopathic disease only.

We sometimes find the cortical substance injected, and of a very first, while the medulla is also injected here and there by numerous red spots, stated by Louis as frequent in those who die before the fifteenth or twentieth day.
he having found it to in 17 out of 46 Cases.
Softening of the cerebral mass is rarely
met with. Louis only mentions two such Cases,
and one of these was very well marked.
When it does occur it is most liable to
rise in the optic thalami, and septum lucidum.
If the fever has been protracted, we
generally find either effusion of fluid into the
subarachnoid space or into the ventricles, with
diminished consistence of the cerebral mass.
Projection more or less of the cortical and med-
illary parts of the brain, a like change in
the cerebellum,pons, and medulla spinalis,
all of which however are only slightly and
indistinctly marked.

These various lesions described are
not all to be considered as the essential
elements of Encephalitis, indeed a small
proportion can only be reckoned as such.

It may reasonably be assumed however,
from the fact that two important lesions
are invariably present (my the alteration in
Prie's patches and in the corresponding hypogastic
Glands, that these two constitute the true
Anatomical character, and that the other lesions noticed are only to be regarded as secondary or accidental.

**Statistics of Mortality**

Although we possess data in abundance to enable us to form correct conclusions as to the mortality of fevers as a class, the death rate of the individual forms has not hitherto very recently been satisfactorily deduced, in consequence of the several types having been considered as one and the same disease.

The mortality varies according to circumstances — for example it differs according to the form and type of the disease, but the death rate of the same form varies in different years, and in different places. The period of life also, has an important influence on the mortality of this type of fever.

The most reliable information on the death rate of fevers is the experience of the different Hospitals, more from their extensive field of inquiry than from the accuracy with which the cases are recorded and the care with which
the several forms have been distinguished.

Judging from Dr. Mitchell's recently drawn out tables the rate of mortality from fever during a series of years, differs little it would appear, in the various hospitals of England and Scotland, being about one in eight cases, more or less.

In Aberdeen Royal Infirmary however, the mortality from 8783 cases during eighteen years has been only one in eleven.

(The mortality of Enteric Fever judging from the same source turns out to be rather under that of Typhus.)

Out of 1824 cases treated in the London Fever Hospital 383 died, being in the ratio of 21.29 per cent or about one in five and a quarter.

And of the cases fatal in twenty four hours he added it falls to 17 1/3 per cent or of those who died within 48 hours it is less than seventeen per cent or nearly one in six.

In one year however, 1853 the death rate was greater than any year from Typhus being 28 per cent or about one in three and a half.

And in another year 1848 nearly 29 per cent
or about one in 3 and 7/16.

The smallest Mortality in any year, was about thirteen per Cent, so that in no year was it so low as it has been in some years from Typhus, and as Dr. Auchison has pointed out, the year in which the mortality was least was also that in which there was the greatest number of cases, whereas the mortality from Typhus appeared to be lowest when it was least prevalent as one would expect.

In the Glasgow Royal Infirmary, the Mortality from Puerperal Fever has exceeded London being 26.6 per cent or nearly one in four and a half in ten years. The admissions from 1848 to 1868 with the mortality is as follows.

<table>
<thead>
<tr>
<th>Year</th>
<th>No.</th>
<th>Deaths</th>
<th>Percentage</th>
<th>Year</th>
<th>No.</th>
<th>Deaths</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1848</td>
<td>152</td>
<td>41</td>
<td>26.97</td>
<td>1853</td>
<td>211</td>
<td>59</td>
<td>27.96</td>
</tr>
<tr>
<td>1849</td>
<td>138</td>
<td>26</td>
<td>18.84</td>
<td>1854</td>
<td>228</td>
<td>44</td>
<td>19.3</td>
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<tr>
<td>1850</td>
<td>137</td>
<td>24</td>
<td>17.67</td>
<td>1855</td>
<td>217</td>
<td>30</td>
<td>13.82</td>
</tr>
<tr>
<td>1851</td>
<td>234</td>
<td>30</td>
<td>12.82</td>
<td>1856</td>
<td>149</td>
<td>23</td>
<td>15.43</td>
</tr>
<tr>
<td>1852</td>
<td>140</td>
<td>25</td>
<td>17.85</td>
<td>1857</td>
<td>214</td>
<td>27</td>
<td>12.61</td>
</tr>
</tbody>
</table>

And it is curious, that in proportion as the mortality of relapsing fever is great, the death rate of all other forms is diminished and the
The small rate of mortality in London in the epidemics of 1831 and in Edinburgh and Glasgow in 1843.

The mortality from Cholera varies between the ages of ten and fifteen, to about thirteen per cent, showing a smaller death rate in early life than in typhus. At the different periods of life also, there is greater uniformity in the mortality than in typhus, though as in typhus the death rate keeps pace with advancing years.

For example, above thirty years the ratio is 27.38 per cent: above forty years it is 27 per cent: above fifty it is 46.36 per cent: above sixty it is 55.57 per cent: and the death rate is lower between the ages of forty and forty-five than in the period of life immediately preceding.

Again the law holds good in this as well as all other forms of continued fever (W.) that the mortality increases as life advances, as seen from the following table.

<table>
<thead>
<tr>
<th>Year of Life</th>
<th>Percentage</th>
<th>Year of Life</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th to 10th</td>
<td>13.59</td>
<td>30th to 35th</td>
<td>30.</td>
</tr>
<tr>
<td>10th to 15th</td>
<td>12.8</td>
<td>40th to 45th</td>
<td>17.38</td>
</tr>
<tr>
<td>15th to 20th</td>
<td>16.18</td>
<td>50th to 65th</td>
<td>57.14</td>
</tr>
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</table>
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