Ymphus Lver.

To

Alex. Paterson, P.M.
Typhus Fever

I propose in the few following pages to consider some of the leading points with regard to typhus fever, its origin, mode of spread, symptoms, course, pathology, treatment. The subjects in this wide range of medical science are worthy the careful, persevering observation and consideration of the physician. For to us typhus is no stranger, coming when we know not, why we know not, whence we know not. Stealing among us with impetuous step, intruding itself a most unwelcome guest on whom may a home? Invading with its finger of measly death. Come along one in halls, now a parent, now a sister, now a brother, with a strange mysterious attraction, it too often forcing its victim across the dark Egyptian vale. She ravages it has caused alike in family. In what who can tell? So few times has more fatal harmful research attention been bestowed. Yet who can say it on its work of destruction? Who can thus far no farther shall them come? Or who...
role it of its victim? It is true we can do much to modify alike its spread & power.
We cheat it of a victim. But still our warfare with it is absolute only. We can
not attack, disarm it but only defend ourselves plentifully at least but feebly for
though victorious it is not till a long battle has ensued which leaves no most
exhausted. Such considerations have made me take advantage of this opportu-
nity of making myself better acquainted with this phenomenon a treatment of this
dreaded disease.

Syphilis fevers have received many epithets as "Jail fever," "Retro" fever," "Camp fever,
"Hospital fever," "Spotted fever," "Pelleted fever," "Camp fever" &c. from its prevailing in the
place or assuming the forms indicated by each particular name.

Syphilis fever arises from a specific poi-
tion, now universally admitted, Staint, to be
carried by the overcrowding of living beings
along with imperfect ventilation. Some
contaminating being necessary for its development,
for it is therefore epidemic.
Its names indicate the general aspect
of all liken to its origin from overcrowd
ing, though at the same time ignorant of it. For while calling it "rat feve," "chipfever," "Camp fever," &c., they notice its origin in connection with these places, the one common feature of which was overbreeding, aggravated doubtless by other circumstances; though they fail to see in this common feature the cause of the fever. It is much dreaded. Whenever men are crowded together closely in half ventilated dwellings there will naturally be found to hold its dire court enacting a fatal theatrical power. In proof of this being the cause of its origin, let me refer to the well-known instance of the "Black Assize" where prisoners were confined in holes densely crowded in a state of the most abject filth where fresh air was unknown & the place teemed with abominable fleas &c. the products of the emanations from its wretched inmates. Rendering the place a very nucleus of death, a very gate of death, impregnable except to those acclimated to its fearful putrescent odor, &c. If seen strange that the inmates of this den should ever themselves escape. But we knew that
the human frame can thus accustom it self even to the deadliest poisons. As custom may even take doses of the most active certain poisons with no unfavourable effect than a temporary acquisition of greater vigour, which would at once kill those accustomed to their use. These inmates however, though escaping themselves, nevertheless showed they were cautious so to speak after poison, for the judge and those in the court were affected with the most violent fits which often seized them instantly on their inhaling the fearful fumes which arose from the poisoners' bellies. When this court, giving origin to a fear so dreadful alive in its salutary effect, number of victims it claimed so that the courts were named the "Black arrival."

It does not seem to have any predilection for age, for though more women than men are said to be affected with it between the ages of 20 and 40, this is still not fully explained by a consideration of the great importance change going on in the feminine at that period of life. It is essentially a disease of
adult life through no period of life is exempt from its influence. No do the
seasons seem materially to affect its origin or progress. It is indeed stated to
be rather more prevalent in the latter half of winter, the beginning of spring.
But this can be satisfactorily accounted for by the greater crowding, owing to
the cold. Consequently more ventilation of the houses at those periods,
without exposing the eves or the floors to have a direct influence. Sleep has
been ranked among its predisposing causes just as much as it often chooses
this state, during which to attack its victim. Stealing on him when aro
his quarrel as it were, when wearied with the fatigues of the past day, he
drop him down to rest. Seeking repose &
genius to his warm embrace, forgetting
the anxious year, the pressing disappoint-
ments, the doubting hopes, the harassing
business, the turmoil of life, in calm rep.
Feeling sleep. Nightly judging that it
will then find him less equal to the
costant than easier rest. So far sleep on
he said he predisposes to it, but it is not
strictly speaking sleep which predisposes to it but that sleep is the state during which the vital powers of man are weakest, most depressed purposes cause quantity he will be less able to withstand its influence.

Vast overcrowding imperfect ventilation shame already mentioned as its cause taken as generally happens there are associated with paining tremors cannot wonder at the resilience if ten assumes nor indeed as its varied manifestations, for wherein other depressing circumstances spasms are thus associated with it it must be more or less modified by their influence.

A peculiar odor arises from the body of persons affected with Leprosy from which alone many say they can diagnose the disease. Hence say that immediately on inhaling this odor they experienced prostration, region, nausea, headache &c. in short the initiating symptoms of the disease. If those who attend on the sick are in the habit of judging of the severity of the disease by the degree of this odor, the specific poison seems capable of
transmission in various ways but many circumstances point to the pulmonary and cutaneous exhalations of this fever as the media of infection and spread to the health. It is well known that particles of organic matter are constantly floating in the air as spittle, droplets, pus cells, etc. Such materials capable of conveying the poison are swallowed or inhaled by persons into their bodies there to exercise their most dire influence on the blood. That it is frequently contagious infectious is seen from the following facts: 1. When it commences in a house or locality it often spreads with great rapidity. 2. The prevalence in houses or localities is seen to be in direct proportion to the intercourse between the health and sick. 3. Persons living in localities where disease is known and in circumstances likely to give rise to the disease are attacked by or visiting uninfected persons at a distance. 4. That typhus is often imported by infected persons into localities previous free from it. 5. From these causes attendant on the measures taken to prevent its spread and propagation.
We do not know the extent of a disease transmitted through the air. But Dr. Murrellian concludes that "if a patient be placed in a large well ventilated apartment, the attendants incur little risk, for the other patients in the same house pose whatever." There is a popular belief that the fever may be communicated into the air let to houses in the neighbourhood from a fever hospital. But this like many popular beliefs, laพ聨 in is utterly groundless. There is considerable danger to the physician auscultating fever patients, from inhaling the concentrated exhalations from the patient. But in order to avoid this he should stand so that the draught in the room will be from him over the patient, also blow down the clothes for a minute before auscultating so as to dilute the auscultations. Take a deep breath beforehand and then breathe during auscultation. The fever poison is also communicable from cotton as cloths that too without the means being themselves affected. Woolen textures are most apt to convey the poison than cotton materials more
So than light. Keller found that the absorption of odors is regulated by the same laws which govern the absorption of light, that the specific poison of typhus is lighter than air. So that if the same floor patients placed in the lower story of a hospital are liable to infect patients above them, there being a communication between the air after stories. While if typhus patients occupy the upper part of the building the patients below enjoy complete immunity. Ionites if not exposed to the air may retain the poison for a very long time. The poison may also adhere to the walls of the dwelling, become offensive, particles of furniture. As instances in the case of ships which continued to infect people long after the removal of the sick from them. The latent period of the disease varies from a few minutes to a very long time, according to many. Dr. Murdock thinks up to the 12th day, but usually about 9 days. There are various opinions as to what stage of the disease the poison is most powerful at. Some think that it is during the period
of eruption, which that it is the period of convalescence. Dr. Murchison is of this opinion, thinks that the disease is most contagious from the first of the first week, up to convalescence, when the odor from the exudate is strongest. It is still a matter of doubt whether the dead body can convey the poison to fee people. But for my part, I do not see why it should not, if walls, means of wood, etc. can do so. If this there seems no doubt, one attack as a rule gives immunity from a second. I do not hear of any E. plans to destroy the contagion. The typhus fever poison is probably some compound of amonia for Richardson has shown that the artificial introduction of amonia will produce typhus symptoms. In the skin, breath, fleas, etc. are found to give off amonia. The conditions essential to the propagation of the specific fever poison are chiefly: 1. Overcrowding imperfect ventilation. 2. Personal equal heat apparel saturated with cutaneous exhalations. 3. A deteriorated state of the constitution, such as may arise from starvation, or any debilitated cause. 4. A moderate temperature.
Symptoms: Its advent is generally more or less sudden till advances gradually. There is general disorder, irregularities, fatique without cause, loss of appetite, more or less thirst, disturbed sleep, chilliness for a few weeks followed by heat of skin, sometimes dangerous pains in the back, fluids from the head, headache which is a constant symptom, and during the first week usually lasting about the 10th day, but always before the 14th, disappearing on the advent of delirium. The tongue is large, pale red; first covered with a white fur but afterwards with a yellowish brown coat. It's sometimes tremulous indicating the loss of muscular tone. Haemorrhage is rarely present. The bowels are generally constipated. The urine is clear, high colored, dense, generally contains albumen which when it appears large or in large quantity indicates great danger to the patient. Blood is also sometimes present in the urine, which is a more symptom. The pulse is generally from 80-100 often full, almost always compressible, basal flow. If the pulse be above 100 per minute the case is clear. Though it w
not necessarily mild because the pulse is slow. The face is flushed bluish, the edges of the eyelids are turrid, the conjunctive are injected. There is a chill, head absent, puzzled expression of countenance. If sleep is obtained it is disturbed & dreams frequent startings. So that it is unrefreshing. Although the patient may have appeared to sleep for hours he does not feel that he has slept. He persists that he has not closed an eye. Between the 4th & 5th day, usually on the 4th-5th day, a measly or mulberry eruption appears composed of numerous spots of an irregular form, colored or in patches when they are more or less conspicuous. At first they are of a dusky brown color, very slightly elevated. They appear on pressure. After the first or second day they become darker & more distinct, are no longer elevated above the skin & do not disappear on pressure but only fade & have no defined margin. They appear first on the abdomen. Along with these are others less distinct imparting to the skin a marbled or motted aspect which has given to the eruption the name of "mulberry rash." The rash is often absent. Its average duration
is from 1 to 10 days. The quantity of the
eruption, its depth of color, the earliness
with which it becomes petechial, are in
direct ratio to the severity of the case &
its duration. Age plays considerably to in-
fluence the eruption, it being absent much
often in the young, always present in
patients above 60 years of age. The spots
are ineffaceably persistent after death.
At the end of the first week the headache
ceases. The prostration is great so that by
the 7th day the patient can scarcely
leave his bed without assistance. There is loss
of control over the muscular movements,
the limbs shaking when raised. Delirium
supervenes. From a low muttering form very
acute. The patient wanders at first in the
night and the delirium usually appears as
his awaking from a disturbed sleep. He
talks incessantly usually without agitation.
His mind seems elsewhere. He is inattentive to
all that goes on around him. His still
muttering the joined words or sentences. This
peculiar form of delirium has, from its fre-
quent occurrence in typhus, been called ty-
phomania. From this state of delirium the
patient may be cured by speaking loudly.
to him or by the sight of a strange face.
So that through incoherent delirious
just before he may become collected when
his medica...man fuses. Sometimes there
is a constant tending to heaviness, somne-
less. The mind clings to thoughts, little attention
cannot be fixed to the patient may lie
with his eyes open, evidently aimed, but
indifferent or insensible to all that is go-
ing on around him. In which state the
appellation of coma ligeil has been given.
Memory becomes deficient; the idea taints
cold so that it is always prolonged.
If the headache does not cease with the re-
perception of delirium, but continues along
with it, it is suggestive of the probable
continuation of some secondary lesion
within the brain to which special atten-
tion should be immediately directed. The deliriu-
mus usually comes on during the second
week. It is most marked towards night while
the prostration is most marked towards morn-
ing. As the disease advances the pulse be-
comes from 100 to 120 per minute small and
weak, but sometimes full and soft. The res-
pirations are from 20 to 20 per minute.
The skin becomes cooler, dry, or clammy...
off a peculiar color. The eruption becomes
callered about the middle of the small
true petechiae may appear in the centre
of many of the spots, which do not disap-
pear on pressure. I may have a well-
defined margin. Stupor, delirium, alter-
ate, the pupils become contracted. The
danger of cerebral coma supervening is far
much in proportion to the contraction of the
pupils. The face is now often flushed espe-
cially on the cheeks. The patient lies on his
back unable to turn himself in the slight
bed. Quits down in two legs. Hence it is
a good plan to place our patient lying
on his side or even with his knees drawn
up, because it is a sign that he still oc-
trains some strength. The urine is often pas-
red muddily and more copious, paler and
low specific gravity, or it may be obtained
accompanying the urine. The tongue is thickly coated, hard, dry,
black brown or even black, contracted
into a ball appearing as if baked. It is pro-
tended with difficulty. The teeth are covered
with coals. The patient cannot be awoken
for more than a minute or two either out
ter his own self. Millions, ten thousand or hundred

May appear in the groins, at the epigas.
trum, under the clavicle, on the bicep,
the sides of the neck, behind the auricle,
giving a character to some epidemics. Dr.
Jenner thinks age has something to do with
the occurrence of these milian vesicles of
that they are rarely seen on persons above
40 years of age. As the disease ap-
proaches a fatal termination putrid symp-
toms show themselves. Foulness forms on parts
exposed to the pressure of the bed. The toes
and men legs may mortify, foot away. So the
Edematicia may smaug. leaving circular
ules foreboding an unfavorable result for
the patient. The bowels may be confined
so there may be vomit. in one to ten a
nights time. The patient's voice becomes almost in-
caudable. Perhaps he may be unable to
swallow which is a bad omen. It might
however be due to dryness of the throat.
And either constricts about the aorta by giving
hot water before asking him to swallow.
There may be inability to protrude the tongue.
Subcutaneous edema. Tremulous movements.
Failure irregular involuntary actions of
the limbs. Deafness is not uncommon; this
not favorable is still more so than pre.
Unnatural acuteness. Imperfection of vision is common. Insensate sensations of localization may be present. Rare not good sign. The patient no longer complains. The pulse becomes from 120 to 140 per minute, is small, weak, and thin, often intermittent. The cardia's motion is slower. The epigastrium is tender to the touch. The patient may die from coma, asphyxia, engorgement of the lungs or the syncope. But on or about the 17th day there is often more or less sudden amendment after a good sleep. The pulse falls, the skin becomes moist, the tongue clean and moist at the edge, the delirium disappears. Accompanying this improvement there is either perspiration, diarrhoea, or a deposit of beta-tunes in the urine. Convalescence sometimes occur during the progress of the disease. Such cases are almost always fatal within 24 hours but due to urine poisoning. Convalescence usually advances rapidly, 3 to 4 weeks sufficing to establish perfect health. Falling out of hair is almost the only sign to convince experienced. The duration of the fever is usually fourteen days, but never
longer than 3 weeks, often much shorter. The critical days are the odd ones, 9th, 11th, 15th, 21st, 25th, 31st. Relapses are therefore rare. The temperature in typhus ranges from 102° to 104° F. The skin is often throughout the whole course of the disease very thin, and the slightest touch causing pain, followed by a burning sensation to the hand. The ranges of temperature are considerable.

Some quite diagnostic of typhus. The fever as denoted by the temperature is maintained for a longer time than in future fever, without interruptions. A weekly periodicity may also be observed. If the temperature before the 4th day is on no evening above 103° to 105° F, the fever may be expected to run a mild course, especially if the increase of temperature takes place gradually. This of limited daily duration, during the beginning of the 2nd week. In mild cases, a slight abatement of temperature takes place gradually on the 4th day, more obvious on the 7th. This is followed at the commencement of the second week in a small rise in temperature of very limited duration after which the tendency to further decrease again appears for the
end of the 2nd o beginning of the 3rd week the normal temperature is again attained. On the other hand in allure cases the fever continues with great intensity at least to the 12th day for the most part through out the whole of the 2nd week. Defervescence never takes place before the first half of the 3rd week. In half to mid Feb. rare cases the temperature always rose above 104.7° F. Rarest reaches 106° F. The difference between the morning and evening temperatures amounts, from the middle of the first to the middle of the second week, to more than 1° F. After the middle of the 2nd week to a difference of about 1.5° F. Great differences happen also temporarily a character which distinguishes typhus from other fevers. But the difference is better shown by the defervescence which in typhus is invariably sudden whereas no gradual diminishings of fever are seen in typhus, the normal temperature being generally reached in 24-36 hours, sometimes in one night. The blood in typhus is microscopically altered. Amorphous heaps of sedeules replace the the normal roulcaus. The adhesion of the sedeules to each other, in imperfect roulcaus
Page 21
is far more complete than in healthy blood. The red cells part with their coloring matter more readily dissolution more rapid than they do in their normal state, as shown by the red color in the blood corpuscles. The deep darkly red hue of the flesh, if any, structure in contact with the blood. The blood drawn during life or found in the vessels after death is loosely coagulated or absolutely fluid. It is also more liable to become putrid, when taken from the body during life. The salts are rather increased. There is a reason to believe that the naturally fluid state of the blood in typhus results from an abnormal amount of ammonia in it, possibly derived from the decomposition of the urea. Evidence of an increase of ammonia in the blood in typhus fever.

Many complications may coexist with typhus of which Bronchitis is hypertensive congestion of the lungs are the most common. In addition to the diagnosis of their ordinary physical signs. Glandular swellings, especially all of the parotids are not uncommon. The interesting as forming a link of connection between typhus and the plague. Pneumonia is
not infrequently met with. It is diagnosed by its usual symptoms. There is rarely pain. The position of the patient allows to determine the place of consolidation of the lung the costal border being upon as usual. Gone the consolidation we meet with in pneumonia in a healthy man. It is only late made out by careful examination. Some mention Bouchard value to a tympanic clearness over the consolidated lung without any being present in the pleura, which has been accounted for by the increased pressure of the respiratory column of air in the permeable portion of the pulmonary lobules which become distended beyond their natural volume into a condition of temporary emphysema & produce which yields a clear sound on percussion. Gangrene of the lung may come on without any marked symptoms beyond the factied expectoration. If the gangrenous cavity does not communicate with a bronchus this is abort. One has to cut the small, pulvined, ghastly, countenance, the puck'ed skull trip, with sometimes nausea presuming to suggest the presence of an ominous change. It is often not recognized till after death.
The heart may also be affected with what Stokes has called "lympho softening of the heart." She is inclined to think that the muscles of the large and the cardiac muscles of the trachea are sometimes affected similar as well as the involuntary muscles generally. This complication has generally occurred when there was a great amount of the secondary lesion of the bronchitis or bronchiectasis. Its chief indication is a diminution of the inspiratory involvement or loss of the "cough." The wasting of the voluntary muscles is also great in this process. Convulsive cerebral affections are alike the most formidable to be complications of typhus. When they do occur are generally fatal except in epilepsies. They are due to the most violent state of the brain. Nervous system are probably always of organic origin.

The continuance of headache along with the delirium is diagnostic of some cerebral mischief. Sometimes the headache which precedes the delirium is very severe. The patient the face may be flushed or pale. The eye haggard and brilliant. The conjunctiva injected, the pupils contracted, dry, full. Sensible to light. Therefore the eye
are generally closed. The least amount of noise or sound makes the patient's respirations more frequent. When delirium comes on, which may be joyous, melancholic, furious, or tranquil, he repeats constantly the same words, talks of the same subject always. From this state the patient may recover which is indicated by return of the appetite, a fuller, more forcible pulse, tranquil countenance, natural sleep. This cerebral condition often influences the respirations, so that in the 1st week they do not exceed 20-24 per minute. But when delirium supervenes the pulse rises till become 30 or more per minute. Where there is great cerebral disturbance the respirations become rapid, irregular, expiratory, or fluttering. Phlegm is apt to follow. The breath is whistling, blowing. The lips close, the cheeks are distended, the nostrils dilate with rapid respiration. The breathing is irregular, a long phase being followed...
by a deep inspiration alternated by short respirations in quick succession. This has been called nervous or cerebral respiration. Sometimes the respiration is so

sloped diaphragmatis, the respirator muscles of the trunk being paralyzed. The expired air has a peculiar odor like that emitted from the urine in diabetes insipidus. In this odorous substance the typhus fever

on is probably contaminated. The expired air of typhus patients contains less carbonic

acid and more ammonia than natural. Other specific diseases may be acute along with typhus. About one in 5 of those attacked with typhus die. It is somewhat more fatal in males. In youth it is far less fatal but in advanced life, adults, men, women. It is more fatal in the young almost certainly from its being so often associated with disease of the kidneys.

There is no constant or characteristic lesion in typhus. The most appearances may be summed up as a fluid condition of the blood, hyperemia of the cerebral mem-

brane, increase of intercranial fluids, bronchial catarrh, pulmonary hypersecretion, softening of the heart, lues, spleen, phlegmasia,
hyperemia, hypertrophyl of the Kidneys. The prognosis varies in each case, depending much on the presence of certain symptoms. Complications. The modes of death are various. 1. Death may result during the paroxysm fever from syncope or coma. 2. Death is generally due to a combination of syncope and coma. The patient is generally quite unconscious for a long time before death. 3. Death may occur from one of many complications which happen before or after the cessation of the paroxysm fever. The body loses flesh rapidly alike from diminished rigor mortis of food, spasm from increased rigor mortis of bodily structures in the form of secretory products. It is retained in the system for a short time of the quantity amount temperature with little change to body. In the Chy, Kidneys and bowels. The treatment of typhus is prophylactic & curative.

The prophylactic consists in 1. Preventing its origin by securing against overcrowd.

ing & ensuring good diet, ventilation & per.

Canal cleanliness. 2. Preventing its spread.

Securing plenty of fresh air. The patients should not be conveyed in close vehicles.
get a warm bath on their admission to the hospital. Their underclothes should be soaked in a solution of туи and
fluid of the strenght of half a drachm to one part of water, then boiled under a
steam and hung out to dry. Their upper garment should be exposed to a dry heat of 212° F. before allowing the patient to put on his
clothes again. He should have a warm bath. The bed room should also be thor-
oughly disinfected.

The Curative treatment according to William Palisot in "Oliveating the ten-
dency to die." So the physician he must as
certain the direction of that tendency. He
does not however do much cure our patients
as support them for the struggle keep
them alive while they are recovering. One
treatment if not a "do nothing" is at least
a "let alone" one.

The general indications for treatment
have been summed up as being a com-
bination of measures to reduce pressure
heat to insure proper secretions, to act on
the paralyzing nerves. Every chemical
agent which shall be found to promote
the elimination of urea without meral.
The destructive metamorphosis of tsetse will deserve a trial. The special indications for treatment are:
1. To neutralize the poison. Correct theossed state of the blood.
2. To eliminate the poison and the products of the destructive metamorphosis of the tissues.
3. To reduce the temperature.
4. To sustain the vital powers; alleviate the tendency to death.
5. To relieve the distressing symptoms.
6. To avert febrile local complications.

1. In belief that 'most diseases of the blood and typhus is due to the presence of ammonia in some unknown combination the use of mineral acid has been recommended. Dr. E. recommended phosphoric acid in 10 to 15-minum doses every one or two hours, believing that phosphoric assists a special influence on the bowels. But in the advanced stage of the disease, preferably if cutaneous, numerous petechiae or ecchymosis he present, he recommends sulphuric acid in 15 to 20-minum doses every one or two hours. Dr. F. Stewart has used with advantage H. Perchloride in 30-minum doses taken 3 hours. Aurelein prepares nitric-nitric acid in the early cases following being a favorite.
Mixture with him
Rp. Hei. Kydrioolca. mxx
Hei. Atrac. Al. m x
Ept. acidi. nitriæ r 3 7
Liq. Ammoniac. m xxx
Dried. Cap. lo. r 3 7

For haematia 3a quelques houë calamine.

1. In the more advanced stages of obscure cases when typhoid symptoms manifest themselves, dilute sulphuric acid combined with small doses of quinine. After.

2. To secure elimination regulation by cup. phlegm, plant. of alkaline salts, which are not now given in the past. To maintain the action of the kidneys, bowels ketu. Numerous recommends the proper action of the fluoride of sodium & giving 5 grains of nitrate of potash with half dose of the mineral acid, which has the advantage of acting on the bowels also. If the patient is prostrated the bowels delayed nitric ether may be substituted for the nitrate of potash, or nitric acid, which is prepared by boiling 2 drachms of nitric in one part of milk or a dose made by dissolving from one to two drachms of bitartrate of potash in one part of boiling water. The patient may be allowed
to drink frequently but should not take more than a wine glass full at a time. Others recommend some bitter, as Cascarilla Quassia, or a few drops of mineral acid in water which they say will often ease the thirst. Others again think Camphor mixture a specific against thirst.

Ice Plaffet has been recommended doing good probably by diminishing urea from the system. Under their use as beverage in fluids the headache has been removed the pulse become fuller, stronger. Mr. Glines thinks the use of large quantities of Salt, which increases the urine, helpful. If the patient is seen within the first 500 days a couple of Speculum or one grain of Antimony, or 2 couple of Carbonate of Ammonia, may be given followed by milk cucumber as lacteous oil. Phosphoric tallow, if failing these or in their place an enema.

Emetics are advantageous in as much as they relieve the patient to some extent by mitigating the headache & general pain, but the same time reduce the temperature, abate the thirst & quiet the gastric disturbance. They are homine causa indicae if the patient has passed the first week or is unusually
near. Exemptions in matters in the intestines ought both to be got rid of by gentle aperients or enemata. Purging is to be avoided.

Compound rhubarb pill once which tends to stimulate the peristaltic action of the intestines, followed if necessary to alternate with a small dose of castor oil or a small enema will prove beneficial. Diaphoresis is not late encouraged beyond the inevitable transpiration of the skin bio to be aided by tepid water sponging. It ought to be used 3-5 times a day. A quantity of body fluids or mucous acid may he mixed with tepid water, one tablespoon to the pint, which also contributes to reduce the temperature.

3. To reduce the temperature for which the external application of cold has been proposed and practiced to come to a great degree. Indeed it seems worthy of a more extensive universal trial than it has yet had. Cold to the head produces a greater degree of coolness and relief to the patient than one would imagine possible. But to do so the head should be held over the hot with a hairpin beneath it. Water pours on the head. Not as usually done by dipping a folded cloth in cold water, slaying it on the head.
which is generally soon converted into a
warm fomentation. Unless properly managed
it had better be left undone. For as I have seen
it done with a fomentation on the fore-
head the pillow poaks with water must be
productive of great discomfort to patient whose
suffering has little need of overeas. The oven
must be kept well ventilated both at a temp.
ivature of about 68°F rather below than a
bone it. six plants choose a hard, orspring bed
for our patients in preference to a feather
one. wash if we can 2 in the oven so that
we can change the patient from the one to
the other 3 or 4 times in the 24 hours which
give him a change of position. Room to
that greatly tends to relieve the mounting pains
exhanced after confinement. We do not allow
him to rise after the 4th day, using always a
despero. If delirious or the repet.
soon he plants not the fomentes in bed. Spon-
ing the bed with tepid water or tepid water
and sugar 12 or 12 th therefor is often extremely agreeable though
10 or the patient.
3. The vital powers must be sustained in the
first place by fast. For this purpose cura-
tblind should he given frequently at reg-
ular intervals. At least once every 3 or 4 hours
after the 4th day. Even arounag him from
sleep at these stated intervals to take his food
stimulants. The patient should not have
the overper, but after an hour or two at 2 hours.
You may give coffee in the morning, leafer,
or chister soup at noon, a
little arrowroot at 6 P.M.; coffee at 9 P.M.
less coffee saline can have a direct stimulant
action on the nervous system while, to gain
of circulation for the same time diminish the
transformation of the tissue elements. Eliminate
area from the system. When alone, or
heated up with an egg may be gained. As long
as the tongue remains dry, all solids pasture
must be prohibited. But as soon as the tongue be
comes moist, the appetite returns. A little
calf's foot jelly, chicken pomade, pot au shell jelly,
custard, e.g., arrowroot, breadlike pudding,
shaved apples, etc., may be allowed. Many fruits
any mashed fruit as tending to produce diar-
hea, flatulence, or tympanitis. But I am not
imagine what harm fruits can do if it is
quite ripe & epidermis of the wind fields. With
regard to drinks we will find the table 2
flavours of our patients vary much. Ice
should humor them in these as far as is con-
venient with their bellies. Some of these
most recommended. Drugs mentioned under the head of securing elimination to the skin on page 83. Stimulants are of the very greatest use, if administered with judicious care. They require the exercise of more discretion, experience, and careful watching of their effects. The guides for the administration of opium, as given by those rules may be thus briefly summarized. Opium is rarely required during the first week, but usually during the second. The dose may be commenced on the 1st or 2nd day. The indications for their administration are mainly derived from the state of the organs of circulation. They are called for if the pulse is rapid, hard, or soft, or compressible. If it is very rapid and especially if intermittent or imperceptible. If also a very slow pulse from 10 to 60 per minute, is a stronger indication for them than a rapid pulse. If the cardiac impulse is first found to be weak or absent. A violently pulsating heart will not be the ease with cold surface, cold breath. The pulse demands the fourth from the first hour. In both its judicious use the prognosis in such a case is very doubtful. Stimulants are also required if by raising the patient
to the prone erect position a tendency to syncope is induced or great prostration is manifest, with diminished strength of the pulse. The darker and more opaque the iridescence, the greater the necessity for stimulants especially if petechiae are numerous. Profuse perspiration with no amendment in the general symptoms requires an increased supply of stimulants. Coldness of the extremities, stupor, coma, delirium, torpor, pulsus tumultuosus, involuntary evacuations, the symptoms generally of the typhoid state indicate the liberal administration of alcohol. In delirium we must be guided in their use by the pulse. If after trying them the patient becomes tranquil the dose may be continued. But if the reverse the must be discontinued. A dry, brown tongue is also an indication for their use. If it becomes clean moist at the edge under their use then they are beneficial. As a rule complications increase the necessity for stimulants. Flarger quantities are called for if pneumonia, empyemias, bronchitis, pulmonary hyperacidity, pulmonary inflammation, malarial swellings, vesicous or local gangrene should supervene. Persons accustomed to
the use of stimulants at the age require
them part in the former in large quantities.
If the skin is dry, burning, the usual
Dean's compound specific gravity, plants
much albumen, so if there is suppression
of urine, with throbbing head ache, inside
delirium, stimulants are contra-indicated.
Spirits ought to be given diluted in acc.
oda water unless there is much prostration.
The skin early flannel with perspiration,
when brandy or unlaced punch is the best
form of stimulant. The better to be given
then hour I more soon towards morning.
When the symptoms woe the quantity
should be diminished. The effect of the stim.
ulants require to be most carefully watched.
Four ounces of wine in the 24 hours is s.
tough to begin with, more than ounces
of brandy are rarely required in the 24 hours.
The skill of the physician is shown in
his knowledge of when to let the patient
abstain. Stimulants as Shane Said should be
given often frequent, in urgent cases every
hour. Rare stimulants must be persisted
with as long as the patient is able to pendlom.
Then when he is unable to do so, i. e. clumna-
ta which means have passed some.
some. The recovery of your patient will depend much on the surest. If there is intense headache it may be relieved by pouring cold on the head from a height, or if your patient is young rub heat a couple of fleeces to his temple. In the aged infirm warm fomentations to the head will afford relief. If the headache exists continue after the delirium has set in with a rapid pulse. If nausea, some calomel effervescing mixture with 15 minutes of hydrocyanic acid militing be given every 6 hours. Do cropping to the neck may give relief if the face is flushed, the conjunctivae red and thin thin hot rox. Some may require to shew the head from the scalp with a bladder containing crushed ice. But if anoxemia is the cause of the headache as seen from the state of the vascular system then stimulants are indicated. If the pulse continues to get weaker the stimulants must be increased. The headache in typhus nature all abates about the 4th day but sometimes it is Rendered greater by sleeplessness unless if there is pain repeat headache with a hot dry emin the good pulse again is indicated, then he combined with autemomy, if the delirium is noisy pulse cardiac nodal
pulses good. The following is a good prescription:  
Rp. Sej. op. ced. 3
Ant. Pot. Lart. qot. ii
Mit. Camph. 3/4 Met. tinct.
Sej. Semat. Cocculusque magnus omnium horæ donee ponimus superindue.
But if the delirium is slow, the Cardiac
impulse diminished. If the first pound of the
heart were or less mandible, the radial
pulse quicker & feeble, then a purin of glue
must be combined with stimulants. The
state often heart & pulse regulating the a.
Monoch. Thus Rp. Sej. op. ced. 3/4
qot. oct.  
Rp. Camph. 3/4
Sej. Ous. Collatania magnus omnium horæ donece
Ponimus superindue.

A pill composed of half a grain of peppa-
3 grains of Camphor, may be given. If the
approxe of urgent, the face lines Virgns
Congestion of the brain, stupor, marked
flushing, contraction of the pupil are pres-
tent, opium should not be administered in
any form. In such cases Belladonna is recom-
mended since may be given as follows:

Rp. Ut Belladonnae qot.
Lep. Hypothami qot.
Why?
Rib. Hypoarg. Qo xxx & la massa
quan in pilulas rep. dainde quarrum cum
means testia quaque hora.

When there is nervous excitement with
great debility, & delirium, tumors, car-
pholox, feeble pulse immovable first
sound of the heart. Small & camphor are
of great value 10 gr. of the former & 5 of the
latter. In cases of complete sleeplessness the
following combination has produced the
best results.

G. Aurum. Tart. Qr. 1/2
Rhei. Moseli Qo.x
Camph.
F. Apic.
Ag. Distil. 3/10

A similar draught may be given every 3
or 4 hours being at the same time dry cup.
purig. mustard poultice. Must compress wound
out of hot water, applied to the loin. Glee
sponging of the skin, painting the scalp,
trape of the neck with strong acetic
aceous
paraffin. Gouacs to the inside of the
thigh, poles of the feet. Triglae threesome, &
into application have proved useful. Attention
must be paid to the bladder so that it does
not become overstretched. When the pa-
treat him on his back, without delirium. The pulse is not above 100 per minute, small and feeble. The respiration is slow and impeded. The temperature not above 101° F., you may go on giving 1/2 of a grain of phosphorus, every 2 to 3 hours. Dissolve in almond oil. But if there is delirium it must not be quenched. Complications must be treated as the case. Cerebral breathing is the precursor of coma. The heat localized by a blister, latter comes & the evacuation of the bowels. Convulsions demand blisters latter, phosphate, calph, the face action of the bowels by enemata of turpentine or balsam oil by the mouth. Saline diuretics, dry cupping near the kidneys of the hot air vapor bath. Some little alcohol unless the pulse is very feeble. For partial pulse following the fever give mineral tonics to generous diet, with malt liquors. If this is insufficient give

vanigen, once venei, terephthale may be tried. If terephthale comes one give a combination of doner's powder, terephthalean, with a dose of an astringent mixture after each motion. For sympahtics give turpentine. During convalescence posturale should be practi-
tuted for Annie Stone's girls.