

Alfred Whittie



Liverpool March 29th 1865
159 Islington.

Gentlemen,

In fulfilling the
Regulations of the Court of
Examiners it becomes my
duty to address to you this
Thesis

The subject which I have
chosen is one of vital importance
to this locality, and as during
my professional career I have
had a great number of cases
under my treatment and have
given much time and attention
to the matter, I hope that it will
meet with your approbation
when I devote this paper to a
Consideration of

"Typhus Fever"
"with especial reference to the
manner in which it has existed
during the epidemic now visiting Liverpool"



Taking for granted that I may be considered pretty well versed in the nature of this Disease I shall, not, in the accompanying remarks be elaborate as to its general history, but confine myself more particularly to describing the results of my personal observations, reporting several Cases typical of the phases assumed by the prevailing Typhus specifying the Treatment adopted, and furnishing some Statistics which may be considered explanatory.

I purpose also laying before you, as succinctly as possible, other matters of the highest social importance in immediate Connection with the Subject, and shall conclude this Thesis by some few practical remarks of a remedial and preventive Character

It will be unnecessary for me to discuss at any length the History of this disease, or to quote the different opinions that have been held concerning the nature, action and seat of Typhus; — it will be sufficient for me to consider it the effect of a Poison *Cui generis*, which is capable of assuming a severe malignant or a modified type; at one time attended with Concomitant and dangerous Complications, again followed by fatal Sequelæ, or presenting such striking features of diversity and even Contrast, that one might almost be led to suppose it a disease of a totally different character.

The result of my experience, has, however, impressed me with the belief, that although the character of this disease may be varied by numerous Contingent Causes, such as

age, Constitution, previous habits of life, Locality &c, under all its modifications the identity of the disease is preserved.

While it is of essential importance that we should possess correct definite ideas of the predisposing and exciting causes of disease, nevertheless, as in the case of Typhus, great diversity of opinion exists among Physicians; many theories having been advanced and defended by men of undoubted learning and authority without any definite result being attained; I shall not recapitulate but dismiss this portion of my Subject, by saying that while Typhus is now universally admitted to be the offspring of some subtle and deleterious poison, it still remains an open question what the nature of the peculiar morbid influence is.

This great Emporium of Commerce now the chief port of intercommunication between the New and Old Worlds, has during the last eighteen months, suffered most severely from the devastating effects of an epidemic Continued fever.

That this has been Typhus I shall prove indisputably, from a perusal of the following attendant Symptoms.

Here I must premise that the present Typhus has been distinguished by peculiar characteristics, and if as has been asserted on good authority, diseases have been assuming a more asthenic character for a number of years past, in the present epidemic that assertion is very decidedly verified by actual results.

Although so far it has been

of a very low and prostrating character, the cases that have presented Complications are proportionately small certainly not exceeding six per cent.

We have had Considerable determination towards, the Brain Lungs and Bowels yet not to a greater extent than would depend upon the general excitement of the System, consequent upon the introduction of the morbid poison.

The disease generally sets in suddenly, scarcely any complaint of the usual premonitory symptoms until they are affected with rigors, then all the signs of Typhus follow in rapid succession, such as the development of the Petechiae, increased heat of the surface, rapid pulse, great thirst restless nights and by the end of the next week that muttering and half conscious stupor, accumulation of

Sordes on the Teeth, dryness and dark brown appearance of the tongue with difficulty of protrusion, involuntary passing of the feces and urine, and other unmistakable signs which evidence approaching dissolution.

More frequently, after the critical period of the disease is passed, the clearing of the Countenance, the more natural appearance of the Surface, the normal action of the tongue pulse and other organs prognosticate the speedy return of the patient to a state of Convalescence.

The treatment I have adopted is essentially of a stimulating and supporting character from the Commencement of the attack.

I must here mention, that

as it has been my practice to employ very frequently, four prescriptions, and as in the Reports of Cases appended hereto, Constant allusion is made to these. I shall now give the separate Formulæ numbered consecutively one to four.

See pages 98. 99

Sive. poor has rather unenormably
 been designated "the unhealthiest"
 and a very recent writer has not
 scrupled to stigmatize it as "the
 dirtiest" Town in England

Whether these assertions are
 borne out by facts, I hope very shortly
 to show.

If true or even partially so, some
 existing cause might certainly be speci-
 fied; and here the two most probable
 influences, which suggest themselves to
 the mind, are, first, that either the
 physical position of the Town is
 unfavourable, or, secondly, that the
 Sanitary Regulations are incomplete
 and prejudicial to Health.

I shall consider these two matters
 in detail.

First as to "Physical Position"
 Situated on the Bank of a noble tidal
 river, on the summits and sides of gentle
 undulations, with the pure winds of

Heaven direct from the Channel
blowing over it for nine months of
the year;— surely this is an advan-
ageous site for a great and flour-
ishing port!

Now as to "Sanitary Regulations"
Liverpool possesses for each inhabi-
tant a continuous supply of water
in purity and quantity surpassed
by few other towns in the Kingdom,
a drainage system containing nearly
50 miles of Sewerage, with an efficient
staff of Sanitary Officers whose duty it
is to effect the immediate removal
of any substances prejudicial to health,
to visit and direct the purification of
all insalubrious dwellings, to super-
vise the food, in fine to take every means
of promoting the health of the inhab-
itants.

There certainly is no neglect
apparent here.

It must, I think, be evident

Cellars
Courts

that both as regards natural and acquired advantages, Liverpool, occupies a more advanced position than any other towns in the Kingdom and should bear a Sanitary Comparison with any of them.

What what are the simple facts? I have before me the Reports of our late Medical Officer Dr Duncan and from these I learn that Zymotic diseases annually Contribute to the list of Mortality, and that though at certain periods some of these may have an epidemic character, and at other times wholly or partially disappear, Typhus alone seems to have found a permanent resting place in this Town, and to have held its ground here unmolested, for many years.

To speak in plain terms then, there are certain localities here in which Typhus has more or less, continually existed.

Why such a state of things should exist the investigations of the Authorities have as yet failed to elucidate.

At a time like the present when the Municipal Body of Liverpool in common with most other Corporations of the United Kingdom are expending such immense sums of money in carrying out Sanitary Improvements and under the impression that they are removing the seeds of disease are contaminating our streams, polluting their outlets, and in some instances destroying many of the Animal and Vegetable organisms abounding in their waters, and when as in the present instance, we find whole Communities visited by epidemics, which in spite of such Regulations become Endemics; I think that it becomes the duty of every enlightened Citizen, more especially that of the Medical Man to Endeavour to find some solution of so difficult a problem.

The latter indeed, in my opinion, should not only search for the Cause of disease, but should endeavour to make himself acquainted with all the Social bearings of the question, and so not only, possess the power of restoring health, but also of preventing a recurrence of similar causes which may generate that disease.

This I have attempted to do and shall now detail the result of my investigations.

Many of the remedial measures, however, lie far beyond the sphere, of either Medical Man or Sanitary Officer.

Here, I may add, that many of the necessary Sanitary Instructions might easily, and with advantage be inculcated by the Medical Man if he availed himself of fitting opportunities: a suggestion in season.

ed in the way of advice. would be
 rried out cheerfully and readily,
 while the same directions promul-
 gated by the Health Officer are too
 frequently regarded as harsh
 injunctions, and as undue inter-
 ference with private arrangements.

The point which I shall now
 proceed to examine is

"Has this Epidemic been
 more fatal to persons in any partic-
 lar sphere of life more than in
 another?"

Some have asserted that
 typhus has been more destructive
 among the higher Classes; others,
 that patients in Hospitals have
 suffered more severely than those
 inhabiting ill-ventilated and impure

wellings.

To this I reply that the high-classes have indeed by no means escaped, but this difference appears suggest itself as to the manner in which the Fever has affected the two classes.

Among families in a more elevated position of Society, individual members have suffered separately, and the Contagion has not extended farther, whilst among the lower orders there has been greater collective susceptibility among the members of a household.

Why Hospital Cases have been so numerous or severe is self-evident.

I now come to a point of much importance in reference to the views I hold as to the predisposing causes of Typhus, and shall therefore be explicit.

As is no doubt universally known the Subject of Typhus has lately attracted the attention of Government, a searching inquiry has been made and the resulting statistics have been published.

From a perusal of these accounts it seems a matter of considerable doubt whether the disease has not attacked the impoverished Class of the Community with a virulence altogether out of proportion to that with which it has affected the higher Classes.

This conjecture is based upon the fact that the mass of the Fever Patients have been under the treatment of the Parochial Medical Officers.

There is however this proviso to be taken into Consideration.

Many of the Patients so treated doubtless were habitual paupers.

them occasionally &c.

But many have been classed as paupers who do not legitimately come under that designation.

Many of the lower ranks of the poor manage, although in a state of comparative destitution, to support themselves and families on limited precarious earnings, electing to suffer much privation rather than become recipients of Parish Relief.

On the advent of sickness, however, they are immediately pauperised, and this of course arises from the simple fact that disease has fallen upon them as unexpectedly as it was unprovided for.

This particular class of persons then, is the one, I doubt not, among whom the ravages of Fever are most excessive, and the serious or fatal cases most numerous

In order then to demonstrate
 is more clearly let us ascend
 higher in the Social Scale, and
 at the very next step we find
 the susceptibility to Contagion
 diminished in a marked degree.

The persons of the Class to which
 I now allude are those who either
 from better Circumstances, more
 provident habits, or greater foresight
 and sufficient self denial to
 avoid what produces (as I shall
 shortly prove) Self-imposed poverty,
 have enrolled themselves as
 Members of Medical or Benefit
 Societies, and in a state of health
 and comparative prosperity, have
 anticipated and provided for
 a contingency which has at one
 and the same time prostrated
 and pauperised their less provi-
 dent brethren.

At the same time I am bound

in justice, to say, that while I am prepared to defend in the fullest manner the accuracy of the views which I hold upon this point.

I must also admit that many of the provident class have been compelled from necessitous circumstances to become Recipients of Parochial Relief and thus swell the numbers of those classed under the head of "Paupers"

These impoverished Circumstances, arose from inevitable causes, principally want of employment added to this, sickness had fallen upon them, against which they had struggled for some time, exhausting their limited means and preventing them from continuing those payments which would constitute them Members competent to receive benefit from the funds of the various Societies with which they were connected.

From a Careful Consideration of these Circumstances I can however form but one Conclusion which I now assert, and this is, that Contagial or partial pauperism is highly avourable to the extension of the contagion of disease while provident habits engender a condition of life which forms a restrictive barrier to its uninterrupted progress.

Hence it would seem feasible to mark the line of demarcation, defining the position of life where the virulence of Typhus increases or diminishes.

One more remark before I leave this part of my Subject.

It is by no means a mere monetary question depending solely on the amount of a man's earnings whether he adopts these precautionary measures or glides slowly into a state of poverty and destitution

It has been indisputably proved
 by large employers of labour, men
 of a philanthropic cast of character,
 from actual personal observation,
 that the mere amount of a man's
 earnings was no criterion by which
 to determine the social position
 he occupied.

Many workmen in receipt of
 limited wages had well furnished
 houses, comfortably clothed families
 and abundance of nutritious food
 some even saving money; while others
 receiving in some instances, three
 or four times the former amount
 squandered a great portion of it
 abroad, and had at home to
 content themselves ~~the~~
 and innocent families in a miser-
 able dwelling, with a total inad-
 equacy of most of the necessaries
 requisite to preserve their bodies
 in a healthy condition

I now come to the question whether the malignity of an epidemic depends upon impurity in the water supply, or upon an inefficient system of drainage.

We fail to trace any apparent connexion between these as cause and effect, when we see many other towns infinitely inferior in this respect to Liverpool, entirely escape the Contagion which has devastated it.

During the present Epidemic, again, nothing has been observed to warrant us arriving at this conclusion.

In one solitary instance, indeed it did appear as if the night soil which was allowed to accumulate on the banks of the Canal in such quantities as to become an intolerable nuisance had some connexion with the

violence with which Fever raged in that locality.

Yet subsequent close investigation failed to prove satisfactorily any apparent or assumed relation.

I am certainly of opinion that the removal of sewage refuse will not lessen the possibility of a recurrence of Typhus.

It may result in the entire loss to the Country of Elements necessary to supply the food of our teeming population, it may be the wilful destruction of what should be a source of great revenue, but I am decidedly of opinion that the prevention of Typhus is not by any means dependent on questions of Sewerage, but that measures of any efficacy must be applied to a far

more-influential and difficult cause than this.

In all enquiries of a Scientific character it seems a very natural and fruitful source of Error to form Conclusions more hastily than a closer Examination would justify.

Some would dispose of this part of my Subject by saying that the prevailing Epidemic is the natural and inevitable result of the filthy and overcrowded state of many parts of Liverpool.

The instances adduced in proof of this Assertion are the Cases of the Borough Gaol a Building some four miles out of Town and an Emigrant Ship which left this port recently.

During the past year not a

25

Solitary Case of Fever has occurred in the Prison

When, on the other hand, the Ship arrived at a South American port, a Fever of a "horrible" nature broke out: - the inevitable result of overcrowding and uncleanness

I must Confess that this Argument appears to me far from Conclusive it may satisfy some but will not I fear stand the test of Scientific enquiry

In the first place, we have no reliable information that the Fever actually was Typhus; we may just as well assume it to have been a remittent Fever or malarious disease peculiar to that part of the world

Even if it was Typhus it is quite reasonable to suppose that amongst a large number of

Emigrants embarked from a port like this some germs of Contagion may have been imported into the vessel and that these gradually developed themselves during the voyage.

As to the absence of Fever from the Gaol this is readily explained.

The inmates of that Buildings are to a certain extent protected from the introduction of Contagion not only by the peculiar internal arrangements but by the Systematic Disinfection of all suspected articles of Clothing &c

In reference to this part of the question we have the testimony of Dr Trotter who, after a careful investigation not only of the case of a single Ship, but of a large portion of

the British Navy, including the Transport Service, arrived at the conclusion that if Typhus appeared on board a vessel it had invariably been introduced from some external source and that the amount of its subsequent extension depended altogether upon the adequacy and efficiency of the Sanitary Measures adopted.

Again I distinctly remember being present at one of Dr. Bennett's Clinical Lectures, during which he laid particular stress upon this point and for the purpose of enforcing his arguments mentioned the Montfaucon at Paris, the Bay of Naples as well many Italian Hospitals where the greatest amount of filth was allowed to accumulate and yet the name of Fever was scarcely known

It seems therefore that this solitary apparent instance of the production of Fever by filth and overcrowding resting as it does on vague and incomplete information can scarcely be taken as conclusive evidence.

I must here quote the words of the philanthropist Howard who said "if it were asked what is the Cause of Gaol Fever (Typhus) I might generally speaking refer it to the want of Fresh Air and uncleanness, but as I have found dungeons and prisons abroad as offensive and dirty as in this Country and yet Gaol Fever is there unknown. I am obliged to look for some additional Cause for its production"

Again in the words of Dr

Watson

"To clean, to drain, to ventilate all parts, and especially the poorer and most populous portions of a city is to promote their general salubrity and to fortify them as well as human prudence can against the Ravages of Pestilential Disease

But it is wiser and safer to advocate these measures not on the disputed opinion that the Epidemic Fever may be engendered by the impurities which they are intended to banish but upon the unquestionable fact that the Fever is fostered through these impurities."

To conclude this Section I will simply add that in this view of the question we cannot fail to recognise the practical benefits which may

accrue from an apparently
profitless discussion of an
unsolved problem, as in
the fable of the man who on
his death-bed advised his
Sons to dig for treasure, so
with Sanitary Philosophers
they may not indeed accomplish
the anticipated result, but
will confer incalculable bene-
fits upon Mankind as the
consequence of their
Scientific and Philosophical
Labours.

That the prevailing Fever has been highly contagious Cannot for a moment be disputed, and in my opinion this goes very far to disprove the assertion that Typhus is only contagious within a few feet of the Patient.

I can specify as the result of personal observation numerous cases where friends of the Sufferers have never been in immediate proximity to the Sick, but have simply Entered the room; they have nevertheless received the Infection

Washerwomen, again, who have cleansed clothes that had not been placed in the room till after the death of the patient have been prostrated by the Fever

I have Known Fathers, Mothers, children and Friends suffer in succession though all Known precautionary measures had been adopted.

I remember an instance where the Room was neglected to be lined, but was kept vacant for six weeks, the windows being open for most of the time, yet, at the expiration of that period, the daughter went to sleep in the Room and was seized

Again to show the contagious nature of the Epidemic more forcibly; in one case the Tenants of a House left it after they had recovered from Fever, and the Premises were closed for some time, but when the House was again taken all the new occupants were seized

I also record with sorrow, that six medical gentlemen, along with many nurses have fallen victims to the disease, contracted whilst in discharge of their laudable duties

Typhus is essentially a disease of adult age.

It would form a very touching Episode in its history were we to Enquire how many orphan children have by its ravages, been thrown on the benevolence of the Charitable

In the present Case the disease has more particularly attacked the young, especially children, more severely than those of maturer years.

This admits of explanation

when we call to mind that Curious change which is produced in the body, by Contagious diseases, especially the febrile exanthemata, and which causes, either an entire immunity from infection, or a greatly diminished liability to a second attack of the Complaint.

This being the case, we can readily see why the Epidemic has fallen more severely upon the new generation which has sprung up since the year 1847, and as these young people have generally possessed a constitution sufficiently vigorous to offer considerable resistance to the Contagion, we can understand why the rate of mortality has been unusually low, averaging only eight per Cent

There have, nevertheless, been

during the past year in Liverpool alone 1762 deaths from Typhus or in the aggregate nearly 2000 cases.

being what I firmly considered the primary cause of the present epidemic.

It compels more vividly the relation between the effect and the various contingent circumstances tending to produce the result. I may perhaps be permitted to expatiate rather fully on this point, but will confine myself as strictly as possible to facts which I can lay before you.

The other density of the population in certain districts of S. Wales exceeds that of any other district in the Kingdom and as the inevitable result of this superabundance of population, there exists a

I now approach a portion of the Subject painfully interesting, but which nevertheless demands the strictest investigation as being what I firmly consider the primary cause of the present Epidemic

To impress more vividly the relation between the effects and the various contingent circumstances tending to produce the result, I may perhaps be permitted to expatiate rather fully on this point, but will confine myself as strictly as possible to facts which I now lay before you

1st The density of the Population in certain districts of Liverpool exceeds that of any other Town in the Kingdom, and as the inevitable result of this Superabundance of population, there exists a

terrible overcrowding of the inhabitants in certain localities.

2nd The Streets, Courts and Alleys, where this occurs are in construction radically bad and in these abodes of poverty misery, vice and uncleanness are densely packed together myriads of human beings.

This I shall prove to be the result, in frequent instances, of intemperance, which by producing a state of self-imposed poverty, has provided for Typhus an abode so congenial to its nature.

I shall also show, that both in Epidemic and Non Epidemic times, it is in these very districts where overcrowding so prevails, that Fever is not only highly detrimental to the health of the inhabitants themselves, but that

The Community at large are so seriously affected by the evils emanating therefrom, as to make some Compulsory prohibitive measures a matter of national importance

First as to "Density and Overcrowding"

The population of this town naturally extensive is liable to augmentation of two kinds, temporary and permanent.

The former arising from various Causes may, to some extent, affect the Sanitary Condition of the inhabitants, but as the influence of the latter is durable. I will simply speak of it

Immigration from the Cotton Districts has not been appreciable and it is certain that an inordinate influx of Irish has not at the present instance, produced any marked effect.

The peculiar position which Liverpool occupies as a port of Transit and Emigration must always produce a fluctuating population and influence not only the prosperity but the Social and Sanitary Condition of the Inhabitants.

The primary cause of the overcrowding, however, arises from the fact, that there is in this Town a continual demand for labour, which induces persons from all parts of the Kingdom to Congregate here, with the hopes of obtaining permanent occupation.

These, not being skilled labourers, but simply Competent for manual labour, are on arrival here frequently doomed to disappointment; the labour market being overstocked, they at the most obtain two or three days' employment weekly, and out of this scanty pittance must support them-

Selves and families

Many prefer this state of penury to making an application for parochial aid, which perhaps under the existing laws could not be granted them, and when we call to mind that thousands are in this position and must totally depend on such precarious means of existence, not only for food, but clothing, lodging and all contingent expenses, can we for a moment wonder that these poor creatures are in a low state of health and have a predisposition to Contagious Fever

Hence from, in many cases, sheer necessity we find numerous families inhabiting one apartment of very limited dimensions, the whole tenement let and sublet to individuals, and families, all ages and sexes huddled promiscuously together in a manner

Subversive of cleanliness, chastity
and morality, not only engendering
dissipated, filthy and improvident
habits destructive to their own
existence, and that of the entire
Community, but also crowding
our workhouses, reformatories
and prisons and thereby largely
augmenting the amount of our
national expenditure.

2nd Constructive Defects of Houses, Courts &c

Taking Liverpool generally there are comparatively few large spots unoccupied by dwellings to serve as Ventilators to the masses of Buildings so thickly grouped together.

This is observable even in the better portions of the Town, but in the localities inhabited by the poor, the problem seems to have been how to compress the greatest number of human beings into the least possible space, and how most efficiently to pack them together with a total disregard of cleanliness, ventilation, or decency.

The unfortunate inhabitants are in fact in many instances enclosed hermetically, in so to speak, airless dwellings, and of

by chance, there existed at any period proper modes of ingress and egress, as land was dear and life cheap, and as it was a positive necessity that not an inch of available ground should be unremunerative to the owner every question of cleanliness, or Sanitary Regulations, if entertained for a moment, was soon forgotten in the greed for gain.

I will, in a few words, endeavour to show that this is no exaggeration.

The Court Houses in which large numbers of the poor live are what are called "straight^{up} houses," that is, the back wall, divides one house from the other which is placed to the back of it again, of course fronting in an opposite direction.

There is, thus, no separation between the houses, nor space there for the

yard, necessary offices &c.

These Courts have an entrance at one end from the main street, the other end being closed by a similar block of Houses to those before mentioned, or by the common privies and ashpits.

In other Cases the privies for the common use of the inhabitants are situated at the only entrance. So that all air entering must pass over this decaying excrementitious matter.

In other Cases, houses at one time intended for the occupation of the higher Classes, but by force of Circumstances altered into residences for the poorer, originally had some adequate means of ventilation by means of passages running through the house into the back yard.

This however was immediately

altered when it became necessary to crowd twenty families into the space intended for one, the back yard being then built upon, and the passage left as the only means of access and ventilation.

To speak more definitely, of all the Courts in Liverpool 95 per cent are so situated that ventilation is impossible, about an equal number have muddens within their confined area, about 60 per cent are entered by passages under the houses fronting the street in many instances less than four feet wide, while the proportion of Courts with proper appliances is at the rate of about 4 per cent.

In the top room of these houses there is no fire place, none can of necessity have back windows so that in calm days ventilation is unknown with a thorough current

of air these dwellings, would hardly be endurable, what then must be the effect produced when the atmosphere already impure from various sources, is being perpetually poisoned by the Carbonic Acid Gas, Nitrogenised products and other deadly ingredients which are exhaling from the persons and clothing of the pent up inhabitants?

I will not pursue this disgraceful theme farther suffice it to say that I shall presently have great pleasure in showing that such a state ^{of} Sanitary danger cannot be allowed to exist much longer

Intemperance is another and very powerful exciting and predisposing cause of the malady, and unfortunately a vast amount of this vice exists in Liverpool.

In order to show more fully the dire effects of this pernicious habit, I may perhaps be permitted to make a slight digression, and take by way of illustration the relative conditions of Liverpool

and Manchester as examples.

From reliable accounts we find that the former town supports upwards of 3000 Licensed Houses for the sale of liquor exclusive of Hotels and Beerhouses.

During the year 1864 there were brought before the Magistrates of Liverpool, to answer the charge of Drunkenness between fourteen and fifteen thousand persons.

In the City of Manchester which has a population little inferior to that of Liverpool, there are 1700 Licensed Houses and not half so many Hotels & Beerhouses.

The number of Cases disposed of by the Manchester Magistrates during the above period was 3400.

This disparity is so striking that it cannot fail to arrest attention.

The argument in defence of Liverpool is, that it has a fluctuating maritime population and that consequently the Statisticians as to drunkenness admit of extenuation or explanation.

I am sorry to say that this is not proved by enquiry which I have made, for from this I am enabled to assert that four-fifths of the number of those who have been incarcerated for Drunkenness are permanent residents in this Town.

Many of the working classes will immediately on receipt of their wages betake themselves to the Public House, continue in a state of Intoxication on Saturday and Sunday, spending perhaps a moiety of their weekly earnings and for the gratification of enjoying a debauch deprive

themselves of a large amount of the food necessary for the ensuing week.

It is a fact well known, that when in a state of Intoxication a man cares little where or how he sleeps off the effects of his excess, in bed or on the floor, under cover or in the street, wet bedding or dry, all are the same to him.

Thus by loss of money, and frequently of time their means are curtailed, destitution is increased and the habitual drunkard acquires a Constitution highly susceptible to attacks of Disease, like Typhus.

To such an enormous extent does intemperance exist here, that even paupers receiving their weekly pittance of out door relief, have been known to spend it in liquor immediately

The prevalence of this habit also explains the reason why the amount of our door relief has not increased during the present Epidemic.

Work is always obtainable here to a certain extent, and a man in partial employment knew very well that he could not send his wife and family for Parish Relief however they might need it, after he had spent his wages in intemperance on the previous Saturday and Sunday.

I have so far spoken of the propensity which the Male Sex evince for intoxicating liquors; justice, however, compels me to declare that Females also are addicted to this baleful habit.

Bad as an intemperate husband may be, when the wife becomes a drunkard, the Evil is in my opinion considerably more than doubled.

I must here mention one Circumstance which has just come under my notice in reference to female intoxication

Many of the large gin-palaces are in immediate proximity to Pawnbrokers' Shops.

It will scarcely be credited that in some of these Public Houses there exists a separate apartment known as a disrobing room in which (when women have spent all their available money at the bar of the Establishment) they deroude themselves of their under clothing, which is then taken to the Pledge Shop, by a person kept in the vaults for that purpose and the money thus obtained is used as a means of obtaining additional drink.

To my mind this is frightful to Contemplate

I might if it were not foreign to

my Subject dilate very forcibly upon the great number of children overlain by drunken mothers, but I am so convinced of the immediate Connexion between Intemperance and Disease, that even at the risk of being deemed prolix, I must be permitted to specify two more forcible instances of the argument I advance

It has been satisfactorily proved by the different House to House Visitors of Missionary and Charitable Societies, that in every one of the numerous Cases of Typhus they had relieved, intoxication had produced its inevitable results in debilitating the patient's frame, and in bringing him to want, and I can also bear my Testimony to the fact that I was never called to a Case of extreme poverty, when I did not

find that Drunk had been the Cause of such utter destitution.

From Hospital and Dispensary Reports I find again (and holding an Honorary Position in one of them I am enabled to vouch for the accuracy of the remark,) that 12030 persons were treated for accidents during the year 1864, of this aggregate number no less a proportion than 75 per cent were ascribed by the Medical Officers to the Effects of intoxication indulged in between Saturday night and Sunday Morning.

These, it may be asserted, are only local instances, it must however be universally admitted as a physiological fact, that in all diseases the Morbidity is at least three times as great among drunkards as among the population generally, therefore I assert that Intemperance deserves every Consideration.

Deficiency or vitiation of nourishment tends very much to spread the seeds of an Epidemic.

In order that the health of the body be preserved, there must be a certain balance maintained between the natural waste and the required supply.

A certain definite quantity of animal and solid food is necessary for the support of the human frame, which when in a state of health consumes such an amount of solid and liquid food as is adequate to ensure the proper discharge of all the animal functions.

When however the disease, Intemperance attacks its victims there takes place that inordinate craving for liquid stimulants to the exclusion of solid nutriment, which diminishing the desire for

Solid nutritious matter deprives the body of a considerable portion of its fuel, and thus weakens and debilitates it.

Hence in an attack of Fever, with the increased destruction of the body, and no appetite to supply the deficiency we must be prepared for fatal effects, and not anticipate any lengthened opposition on the part of ^{the} already effected human system.

Famine and Fever are as we know inseparable companions. The Potato failure in Ireland, the fearful Epidemic in India on the destruction of the crops by locusts, would amply prove this, but if more modern examples are desired I would point to the Case of the Federal Soldiers, taken

prisoners by the Confederates, who by deficiency of food and other causes have either succumbed ^{to} the fatal effects of Typhus, or if they have escaped death, have been reduced to a most frightful state of attenuation and disease, in some instances, leaving it doubtful whether we are beholding one of the human species or a member of one of the anthropomorphous tribes

Poverty, then, however induced promotes the spread of Contagion, by rendering the human system more liable to its reception, and bringing within the influence of infection a large number of persons crowded together in narrow limits, insufficiently clothed, without the means of

obtaining that artificial heat so indispensable to all who have not adequate nourishment.

Hence in the opinion of some supply a person with insufficient food, disease results; add to this primary cause, insufficient clothing uncleanness, ill ventilation and overcrowding, with an inadequacy of external heat, the result is Typhus."

I do not by any means vouch for the accuracy of this assertion, but as I have been rather diffuse upon these points I will conclude this portion of my subject by expressing a hope that I have satisfactorily proved the three following assertions.

1st. That in the present Epidemic the poor have suffered to an enormous extent

2nd That poverty is a condition highly favourable to the extension of Typhus

3rd That this poverty in by far the majority of the Cases, has been the inevitable result of Intemperance.

I have therefore come to the Conclusion that to remove a fruitful source of Typhus we must adopt some means of diminishing the evils of Intemperance.

How this may, in our own case, be, at least, partially effected, I shall shortly endeavour to explain

I must, here, before completing this portion of my Thesis, direct attention to certain phenomena of Typhus which have impressed themselves very forcibly on my mind.

At the same time I must be understood to say distinctly, that I do not advance the arguments I adduce, as a defence of any theoretical views I may be supposed to hold, but simply as crude ideas which might lead others to pursue the Subject farther, and possibly be ^{the} means of disclosing some particulars as to the latent Cause of this disease.

Typhus then is a disease of an Epidemic nature, and as such must have some definite proximate Cause, not dependent on such minor

exciting influences as difference of mode of life, diet or similar conditions, but as it attacks all indiscriminately and irrespective of prior condition it must be the result of some exceedingly powerful and universal principle.

What, then, produces so marked an effect upon the human frame as the atmosphere. That it does so by merely mechanical changes is evident from the fact that easterly or South easterly winds greatly increase the rate of mortality, that an alteration in the temperature influences human life is proved by the prevalence of certain summer diseases, and the number of deaths arising from increased severity of cold.

But does its chemical Constitution not produce a very marked effect, and one which if discovered might lead to valuable results?

It will unhesitatingly be granted that a proper proportion of its Constituent Elements is essential to the preservation of life and necessary for the discharge of all the animal functions.

But Supposing the natural ratio of these Elements to be altered.

Supposing for instance there should be an admixture of any foreign deleterious gaseous matter, or that one or other of the Elements should either be in a state of excess or deficiency?

Some effect must be produced

in the human system corresponding to the altered atmospheric Condition

Death would be the result of the admixture of a poisonous gas, a more active discharge of the animal functions the result of the atmosphere's possessing an excess of the vivifying influence, a more sluggish vital action the result of its diminution, either of which two latter states might be called diseases, and be attended with certain peculiar symptoms.

If as has been observed, the human frame may be regarded as a wonderful laboratory, and as chemical Science has thrown much light upon the Constitution of the various fluids and

and Solids Composing it
~~is~~ it not possible to carry
 investigation a little farther
 and throw some light on
 the Cause of disease?

In Typhus then I would
 ask does there not appear
 some connexion between the
 physical Condition of the
 patient, and this life giving
 element oxygen.

The dulness of the blood
 seems to show a deficiency of
 this Element, thus causing
 the peculiar hue of the sur-
 face, the petechial Eruption
 would almost seem the
 result of the blood's endeav-
 ouring to obtain from external
 sources, that oxygen it cannot
 receive internally, then
 again the Eagerness of the
 patient for oxygenated drunks

the curative effects of Chlorate of Potash, the diminution of the exhalations of Carbonic Acid, the increased amount of the Carbonates in the excrements, would all seem to point to the fact that a deficiency of oxygen is in some mysterious manner connected with this disease.

I again repeat that I have not investigated the matter in a manner I could wish but will leave that for those with greater facilities for study than I possess, I will therefore only hazard one more remark in defence of my theory that Intoxication is a cause of Typhus.

It has been proved beyond doubt that during the prevalence of Cholera

diseases ozone has either been in a state of excess or diminution.

It is also admitted, I believe, that ozone is produced from oxygen by atmospherical Electricity.

On the other hand, it has been asserted on good authority that the normal electrical Condition of the body is disturbed by habits of intoxication.

I may, I hope, here be permitted to say, that there appears to be to my mind some connexion existing between these various physical Conditions, to a certain extent hypothetical, but as many recognised truths were a few short years ago regarded as foolish hypotheses, may

we not hope that the researches of Science may hereafter throw some light upon the affair and explain to us much of the occult nature of disease.

It will not I hope be considered from the tenor of these remarks, that I am of opinion, that the causation of Disease can so readily be traced; as I said before they are simply crude ideas which have suggested themselves to my mind and as such I give them their proper value.

In the preceding pages, I have at some length given a history of the Conditions under which Typhus has for such a lengthened period been a scourge to Liverpool.

I shall now as briefly as possible state to what extent the precautionary Sanitary Measures which have been adopted have so far been, or are likely to be, successful in preventing the occurrence of similar Causes which at some future period might produce such fatal results as have attended the present Epidemic, and I shall then finally conclude this paper by some short remarks of a practical and remedial character.

The circumstances which influence the extent and violence of Typhus may be classified under two heads

1st Those with which the Municipal Authorities possess power to grapple
 2^{ndly} Social Conditions over which they possess no adequate control except indirectly, or in many instances solely by the exertion of moral influence..

Sanitary Regulations intended to prevent the spread of contagious diseases, not, being, generally speaking, of a nature calculated to produce an effect immediately apparent, it is necessary that I should here state what measures of this description have adopted by the Health Authorities, and what contingent results have accrued

During the last fifteen years much attention has been devoted

to the amelioration of the Sanitary State of this Town.

After a considerable amount of local opposition and engineering difficulty, an improvement in the water supply was effected, the Chief Source of that necessary Element being now the heights of Rivington distant about 30 miles of Liverpool, instead of, as formerly, from boring in the Triassic Formation on which this town is situated.

The result has been to supply a daily average amount of twenty gallons to each inhabitant, the purity of the water itself being nearly four times as great as formerly.

The Sewerage of Streets, removal of refuse and other similar operations, have received increased attention, and it is gratifying to record that considerable success

has crowned these efforts

The most important fact to be recorded here, however, is, that from the very Commencement of the period when these improvements came into operation, there has been a gradual diminution of the death-rate of the Borough

Previous to the year 1847 the mortality was about one thirtieth part of the whole population, since this time it has, if we except the two last years, been reduced to one thirty eighth, a diminution of mortality representing an annual saving of not less than 3000 lives

It is also a matter of deep significance that during this period also the number of fatal cases from Zymotic Diseases has been considerably lessened Typhoid Fever, has more especially

yielded to improved Sanitary
Conditions, and with a partial
result so cheering; may we
not very reasonably anticipate,
that, if in addition to the improved
Sanitary Regulations, we can
effect the Social Reform so impera-
tively demanded, even that dread
pestilence; Typhus itself, may be
wholly and finally eradicated

For many years it was a
recognized fact that the evils
arising from the imperfect construc-
tion of the Court Houses to which
I have alluded, were a main cause
of the high rate of mortality

Twenty years past, powers were
obtained from Parliament to compel
the observance of certain definite
regulations, but, I am sorry to
say, that although ^{an} increased
number of clauses, was added to
our Improvement Bill it was

not until the present year, that the Subject has received its full need of attention

By the Sanitary Amendment Act lately passed £100.000 can be devoted to the purpose of improving the ventilation of Courts and dwellings, or in flagrant cases demolishing them entirely

It is to be hoped that the Authorities, will now, at once, without hesitation judiciously exercise the additional powers vested in them, and so remove one great blot upon the Sanitary Escutcheon of the first port in the world.

Overcrowding, ill-ventilation and their inseparable Companion filth were also assigned as causes, Conducive to the spread of Contagion.

But how are we to banish them from the homes of the poor?

There, is very laudably, inherent in the breast of every British Subject, an idea, the natural result of the free air he breathes, that his home is really and truly sacred from ^{the} interference of intruders unless when a breach of the law takes place, and even then that the Sanctity of his threshold must be violated with due regard to Consequences.

This is no doubt a very correct feeling, and one which our Authorities seem very

undecisious of running Counter to.

But in this Case, the disease is severe, the remedies, to be effective must be promptly applied, and it seems futile to hesitate about violating the liberty of the Subject, when the lives of those very Subjects themselves, and ^{of} thousands of their fellow townsmen are at stake.

I without hesitation affirm that Compulsory measures of a moderate character are imperatively required, and in proof of my assertion adduce the following facts.

There are in this town a considerable number of Licensed Lodging Houses under constant and vigilant Supervision.

Limited as to the number of occupants, visited periodically arranged so as to secure perfect

ventilation, regulated by various Sanitary Laws, and their owners punished for any violation of the Rules of Health, we should naturally expect to see some result for such care and attention bestowed on these dwellings.

Now does this constant regard for the health of the occupants fail to meet with its due reward.

It must be here recorded as the strongest possible proof of the necessity of the System I advocate

"That, during the present Epidemic, out of 1200 Lodging Houses, there were only 24 Separate Cases of Typhus."

This is more remarkable when we call to mind the continual change of inhabitants, the increased facilities for the importation of

Contagion, and the fact that these very houses were formerly hot-beds of fever.

What then have been the preventive measures?

Constant supervision, white-washing, ventilation, prevention of overcrowding, cleanliness insisted upon, and when a case of Typhus did occur, a Suspension of the license, till the Medical Officer reported the Purification to be Complete.

This surely speaks for itself in language more forcible than any my feeble pen could hope imitate.

What difference of importance is there between the house where a man lives for a day, and where he lives for a week, if any certainly the greater the length of time he inhabits the house

the greater the necessity for increased Sanitary Regulation.

I contend then that this at once touches the evil; to remove the disgraceful overcrowding of Court House, so disparaging to morality and destructive to health; to save the lives of thousands of our fellow men, to confer an inestimable benefit on our posterity I maintain, that we must place these filthy dens on the same footing as Common Lodging Houses, and by moderate Coercive measures, Compel the occupants to Conserve their own lives, and prevent the spread of such fearful Epidemics.

But here the question arises, where must the Surplus Population go? If you diminish the

numbers of the inhabitants of Court Houses, you must supply them with additional accommodation.

This is easily answered, and were all men philanthropists and not so covetous after lucre, would be as easily effected.

Model Lodging Houses or Cottages have been erected in various parts of the Town, and it is impossible not to be struck with the air of comfort, cleanliness and respectability which characterizes both abode, and occupants; forming a glaring contrast to the dilapidated dreary, dirty appearance of Court houses and Court dwellers.

Yet the former dwelling place in a monetary point of view is as easily attainable by the

inhabitant of the Court as the wretched home he occupies.

Why not then build at once thousands of Model Cottages; It would prove a remunerative speculation to many who might be led to benefit the poor in order to put money in their own pockets, or surely some might be found willing to share the risk collectively.

Let abodes like these be prepared, at once then enforce the laws against overcrowding drive the now pent up inhabitants from their fetid dwellings to where they can have room to move and breathe, and one great incentive to Contagion is doomed, one principal nursery of vice and crime is destroyed, and one great step is taken towards improving the morality of the masses.

I shall now turn the subject of ventilation, and in order to show more clearly that any improvement in this respect must also be the result of Compulsion, I must be allowed to describe more fully the actual Condition of one of these Court Houses, premising at the same time, that an acquaintance with the State of one, affords a Knowledge of the Circumstances, under which all exist.

The Subletting of these houses, arises from necessity, or from a desire of making a profitable source of income.

Let us glance for a moment around the interior of these dwelling places of the poor

Each apartment we find occupied day and night by a certain number of persons;

every chink or crevice closed through which the external air can enter, in one corner perchance lies the poor sufferer on his bed of sickness, poisoning the air with the miasmata from his person or clothing, or it may be the mother in her hour of agony with no decent provision to seclude her from the eyes of her own children or from those of strangers.

In this room too under all circumstances, must be performed all domestic operations, in the midst of filth and contagion.

The above may be the case when the apartment is let to separate families, let us now then enter the next room, which is designed for the accommodation of casual

occupants.

Here we shall find adults and young persons of both sexes and various ages huddled promiscuously together, on straw, or on the floor, under similar conditions of ill ventilation as in the preceding Room. That this crowding together is not only prejudicial to health but subversive of all the better feelings of humanity cannot for a moment be doubted, but in order to show that what I have here stated is no exaggeration I will simply add, that in one instance it was found that one common mattress was used as the joint sleeping place of two young newly married couples:

The remedy I propose, in

Cases of this description is one of a simple character, and of easy appliance

As I have before stated Ventilation, must be Compulsory and independent of the Control of the occupants.

I would, then, at once order the insertion of plates of perforated Zinc surrounded by frames of iron, either in the wall of the Chimney at the highest part of Room, or in the ceiling where no chimneys exist. A similar apparatus so arranged as to prevent a draft should be inserted at the bottom of each door, and at the same time it must be made an offence punishable either by fine or imprisonment to damage or to destroy this workfully

Without this the owners of Property would only be put to expense and the desired End not attained.

The radical Cure, however, of this present evil, does not exist in any such partial measures;—to destroy the effects of ill ventilation we must provide more healthy and commodious dwelling places for the poor.

I now come to the consideration of what steps the Authorities have taken of a preventive character during the prevalence of the present Epidemic and shall condense this part of my Subject as much as possible.

The habitual limewashing of Courts and houses is insisted

on, facilities have been afforded by which articles of bedding and clothing can be disinfected, either gratuitously or for a trifling cost. Fever Hospitals have been erected, and assistance both in money, clothing and food has been granted to patients returning to a state of Convalescence.

District Nurses are being trained, additional Fever Wards erected, Charitable Societies are supplying to the poor nutritious food at a nominal cost, and both Benevolent Institutions and private individuals are endeavouring not only to prevent the extension of Fever, but to ameliorate much of the misery and want ~~with~~ which is the

inseparable Companion of an Epidemic.

These precautions have no doubt been attended with much Success; one main exciting Cause of Typhus, notwithstanding remains in our midst, mocking such feeble attempts to abate the virulence of what we might have prevented, and, strange Anomaly! without our attempting to diminish this dire influence we are at this present moment, affording it a tenfold opportunity of slaying its victims

I shall now conclude this paper by a short description of how our local Authorities are acting in the manner to which I allude

In order to view this question in all its bearings we must take into consideration various Circumstances, affecting the vital Condition of the inhabitants of this Town, in reference to the final Cause of which I now treat Intemperance

The health of Communities is influenced by various Contingencies beyond their Control, and if, as some Chemists assert, alcoholic stimulants are an absolute necessity arising from the peculiarity of our insular position, and from the peculiar character of our dietetic System, or even if in small quantities they are of a Condimentary nature, it would of course be foolish and injurious to advocate their total prohibition

Were, these, however universally admitted it by no means follows, that we should place in the way of

the poor increased facilities for obtaining these stimulants, or more than this, tempt them to indulge in their excessive and injurious use.

Although Laudanum may be a very valuable drug in medicine, ~~more~~ and of great use in causing a state of temporary torpor, none but a madman would advocate the opening of Establishments for the sale of Opium, in order that two thirds of the inhabitants of a great City, might for two days in the week be kept in a state of partial Coma.

Would it not aggravate his insanity too if he were at the same time proved to be cognizant of the fact, that habitual takers of this drug destroyed themselves body and soul, and that the votaries of this vice were so numerous

that the indulgence in it was a national sin in which it excelled all other countries in the world.

This may be considered too forcible language yet what are the Facts?

I have given some statistics as to Drunkenness, I must be permitted to adduce one more solitary instance

On the Sabbath Day in this Town there are 2800 establishments open for the Sale of liquor, ^{now,} Supposing that on the average 50 persons call for drink on that day we have nearly 150.000 persons engaged in buying and selling, what is proved to be the Source of much Evil.

at the same time we have our Medical Officers, our Sundry Magistrates, Ministers of

of all denominations, even the highest nobles of the land perpetually denouncing drunk as the as the Cause of disease crime, irreligion and national disgrace

We have our Stealth Committee, Composed of gentlemen, not only large employers of labour, owners of portions of this very Court property of which I have spoken, but even if Comparative strangers to the requirements of the people, thoroughly conversant with all the data of disease and intemperance, from the frequent debates and reports of their various officers.

These gentlemen must be well acquainted with the evils of Drunkenness, must be well aware that they are spending large sums of public money

trying in vain to eradicate from their midst the effects of Intemperance

Not only are the Health Committee, but the Town Council as a body and many other influential gentlemen perfectly acquainted with these facts.

Yet many of these gentlemen, holding positions as Magistrates, having allotted to them the power of granting to certain favoured individuals a monopoly denied to any other line of Business, go on year after year increasing the number of Public Houses, granting licenses inordinately, in fact doing their utmost to increase an Evil, against which they are in another capacity vainly striving.

Unless this is stopped our streets will be crammed

with these Establishments each vying by its palatial Splendour, and various allurement to drag the working man down to misery disease and death and thus destroy him temporally and eternally.

The System is defended by some on the ground that the more public Houses the less drunkenness.

To this I would simply reply, that the Tradesman's maxim "Competition is the Soul of trade" is a more explicit answer than any I could give.

Others may say that they are doing this in order that the glaring inconsistency of the law be exposed, and Government be forced into a state of action.

This to my mind is similar to a very careful farmer putting a torch into an idiot's hand and sending him into his more apathetic neighbour's barn yard, in order to see how many stacks he may destroy, before the indolent farmer can be aroused.

I must here express a hope that I have now most clearly and definitely shown the position in which we are placed with regard to the vice of intemperance.

What alterations will take place, I of course, cannot say. Some change is imperative, and imminent; a modification even, of the Scottish law would be an improvement, in fact any restriction however slight would be hailed as a step in the right direction.

I am not however sanguine, new
have often interested motives,
Licensed Victuallers must on
the eve of municipal and
parliamentary elections be Con-
ciliated by Concessions and the
desire for power is great; of this
however, I am perfectly convinced;
till the Spread of Intemperance
is checked, farewell to the hope
of extinguishing such Epidemics
as Typhus.

I will now conclude this
paper by some few practical
remarks as to the improvement
of the moral and sanitary
State of the Class which has
suffered most severely in the
Epidemic.

The first step which I
should advocate as will be
gathered from the preceding

Remarks is the immediate adoption of moderately Coercive measures sufficient to ensure the cleansing ventilating and disinfecting of all suspected property, the placing of all lodging houses of every description under Sanitary Supervision, the erection of large numbers of model cottages, to be followed by the prohibition of families from living and sleeping in the same room, thus sending the surplus population to more healthy domiciles.

I would at the same time suggest the demolition of all the worst Court Houses, and the carrying ^{out} of some improved ventilating method, in those of necessity Compelled to remain.

The Public House nuisance too must be abated and there

There remains one more solitary point on which I should be glad to say a few words.

How is the habit of Intoxication to be stopped? Simply by Educating, training and amusing the people. Here it is that we may call in the aid of all Ministers of Religion. To be successful it must be one general missionary raid, irrespective of sect and party, but directed simultaneously against vice intemperance and immorality.

If we can impress upon the mind of a man that he is degrading himself by his vicious practices, we have partly worked out his reformation.

Let us make every allowance for the working man.

Tired of his perpetual round of labour, with no elevated

faster, no idea of pleasure but in many instances the indulgence of ^{his} animal propensities, whenever he feels wearied and seeks a change he enters the Public House there he readily finds something to dispel his Ennui, there in the midst of meretricious splendour, he finds a temporary oblivion for all his troubles, till he is thrust out penniless in the street.

But it may be asked, where is he to go? To this it must, unfortunately, be answered either to the Public House or to some worse place of resort.

I must be now understood to speak of the great impoverished class of labouring men, those who ^{are} always in rags and semi-hamperism, those who have been the favourite victims of the Present Typhus.

Enter our various places of worship you never see him there, he spends his Sundays lolling about the doors of gun palaces, or squatting listless down either in his wretched hovel, or quarrelling, or fighting with his fellows in their immediate neighbourhood.

We have established by grants of public money or acts of private munificence, Free Libraries or Museums, Public Parks, Playgrounds, Working Men's Societies, Concerts and many other similar institutions. The Arab of Society enters not any of these.

There are frequented with much profit and in great numbers by his more provident brother who has a decent Coat to his back and whom education has made "a better mechanic and

a better man"

I maintain then that to banish the vice intemperance we must fight it with its own weapons as it attacks with most violence a particular class, we must endeavour to fortify that particular class, and furnish them with means of resistance.

To this end I would demolish in toto those hotbeds of disease Court houses, and on their sites erect playgrounds, free baths, rooms for the amusement of the peculiar class of which I am now speaking, give them every inducement and incentive to spend their time pleasantly, make them feel at home, ^{and} gradually, by the inculcation of correct notions of Sanitary Science, and the laws of health, wear them from

their old pursuits and at one and the same time improve their social and moral conditions and fit them for the heaven to which they are tending.

This is no Utopian Scheme we at present voluntarily support by local rates many institutions for the Educational, Social and physical welfare of the higher class of working men, let us now endeavour to extend those benefits to their less fortunate fellows, and by the philanthropic and benevolent exertions of individuals and Communities aided by the influence of Clergymen of all ranks and Creeds, not only ~~to~~ elevate the standard of civilization morality and religion, but so train and direct mentally

and physically that great body of the people, whence springs the source of England's power and influence, that for the future, the great masses of our teeming population may, really, and truly, be said to possess,

"*Mens Sana in Corpore Sano*"

I have now, Gentlemen, brought my remarks, to a conclusion, and will terminate, this, to me, interesting, paper, by expressing a hope, that you may be induced to accord to me the gratification of signifying your approval of my humble efforts, and at the same time that you may think fit to employ the great weight of your influence in diminishing the evils, which I have so feebly depicted.

I have the honor to be Gentlemen
Yours very respectfully,
Alfred Whittle

Misplaced
(see next page)

No 4

Recipe

Potassæ Chloratis drachmas duas

Acidi hydrochlorici guttas decem

Atheris Chlorici drachmas duas

aquæ puræ quantum Sufficit
ad uncias octo

Capeat cochleare magnum
secunda quæque hora.

No 1

Recipe

Spiritus ætheris nitrici drachmas sex
 vini ipecacuanhæ drachmas duas.
 liquoris Ammoniac Acetatis uncias duas.

Aquæ Camphoræ quantum
 Sufficit ad uncias octo.

Capiat Cochleare unum amplius
 Secunda quaque hora.

No 2

Recipe

Potassa Bicarbonatis drachmas duas
 Spiritus ætheris nitrici semiunciam
 liquoris Ammoniac Acetatis uncias duas
 Aquæ puræ quantum Sufficit ad
 uncias octo.

No 3

Recipe.

Acidi Tartarici drachmam cum Semisse
 Aquæ puræ uncias octo

Capiat Semiunciam Misturæ.
 al Ralins Cum Semiunciam Solutionis
 acidæ.

Tribat in statu effervescentiæ
 Secunda quaque hora.

Miss Benbow At 19. Everton Road

This young lady came from Staffordshire on a visit to some friends in Liverpool

Had been out to tea, and on returning being caught in the rain, felt as if she had taken Cold.

When I was called in on May 15th I found her suffering from the ordinary symptoms of Catarrh, occasional rigors, sneezing, watery discharge from eyes and nose, with heaviness over the forehead

I ordered her to bed, prescription No 1 to be taken one ounce of oleum ricini, warm gruel afterwards, and as she complained of her feet being cold I directed the application of the hot water bottle

May 16th

On visiting the Patient to day, she expressed herself somewhat improved, altho' on examination of the body, I found, at this early period that petechiae could be distinctly observed on the skin.

These grew darker daily.

The skin had acted freely surface still perspiring, countenance flushed there was an anxious appearance about the eyes, tongue coated disagreeable taste in the mouth appetite entirely gone considerable thirst, intolerance of light

with pain over the eyes. Pulse 109. regular but small. Breathing more frequent than natural, had slept very little during the night, although tranquil. Said she was scarcely able to rise in bed without feeling faint. Water very scanty and ammoniacal.

I recommended Prescription No 2 a small quantity of wine, beef tea, arrowroot with lemonade, toast and water, Current tea &c to quench the thirst, head to be kept cool, hair to be cut and the Bowels to be kept open.

May 17th

The symptoms as yesterday, patient lower if anything, had passed a restless night, bowels somewhat relaxed.

The quantity of wine increased to half a pint, Farinaceous food, pushed on and the medicines continued.

I attended again the same Evening and in obedience to the wish of her friends had a Consultation on the 18th.

May 18th

Patient much weaker to day, surface dry and harsh, Countenance turgid, face flushed, eyes heavy and suffused. Tongue dark brown dry in centre, excessive thirst, bowels still relaxed.

Motions involuntary pulse 133 Small and Compressible, patient much weaker sleep of an unrefreshing ^{and frightful} character lying on her back indifferent to external objects, Considerable delirium, Short teasing Cough, breathing quick and laborious, water passed without knowledge of patient.

The prescription No 3 with one grain of Morphia was given. The body and extremities were sponged with Vinegar and hot water, a bottle of wine with half a pint of brandy were administered daily. Beef tea, broths, soups, and jellies were given frequently.

I saw her again the same evening. She still continued in great danger, but seemed disposed for sleep.

May 19th.

Had passed a better night, having slept for two hours, thirst great was now allowed to drink freely of beer in addition to the above quantity of wine and brandy. Was now taking nearly a quart of beer, a bottle of wine, and half a pint of brandy per diem, with as much food as she could be compelled to accept. The Bowels were improved pulse, still quick and weak.

20th and 31st

Considerable amelioration of the symptoms of the symptoms. Pulse firmer. Sleep sounder, delirium abated, Conscious of everything about her, and knew when the bowels were about being opened.

The same amount of Stimuli and food continued.

22nd

Surface moister, Countenance more tranquil, eyes clearer, appearance better, tongue moist much cleaner. appetite improved took food more freely, thirst diminished, bowels regular, Pulse fuller 98, Sleep sound and refreshing and lasting the whole night, no delirium. Breathing more natural and regular, Mucus less troublesome, Kidneys acted more freely, quantity of water increased and of better colour, all the symptoms evidently of an improved character.

The quantity of Stimuli slightly diminished, Medicines not administered so frequently, with Morphia omitted.

23rd and 24th

The patient still progressing favourably.

Prescription No 4 was now given

May 3⁵th

Sleep continuous at night. Stimuli diminished from day to day, whilst the quantity of food was increased

The patient's return to Convalescence was now very marked and at the end of three weeks she was enabled to return home

This case is quoted as I consider it of much importance, it being the only one in which I have seen the patient benefited by excessive Stimulation.

The same amount of Stimuli have been Employed with the Gentleman with whom I consulted, and I have observed, (both before and since the present Case) that they produced a decidedly injurious effect.

Mr. E. Greene At 48. Marlboro Street

This patient had not enjoyed perfect health for five years prior to the change of life. Was married, and had had eight children all her confinements having been favourable. Had suckled each of her children, the intestinal functions had always been properly performed in fact her health until the present time had been of the very best character.

Before I was consulted she had been visited by another Surgeon for six days.

On Sept 20th I was called in and on Examination found the Petechiae very well marked, Surface and extremities rough, dry and harsh, Countenance Cadaverous, eyes sunken and highly injected, Tongue, brown dry, shrivelled and tremulous, patient totally unable to protrude it, Teeth Covered with dark Sordes, Throat, dry, with a difficulty in swallowing, Diarrhoea, with involuntary motions. Pulse 98 evidently flagging Head Confused, Delirium, great deafness Patient lay on her left side, indifferent to everything around, when spoken to, gave short answers and relapsed into the same state again.

Considerable Cough existed with Bronchial Rhoncus, the inspirations were of a forced and abdominal character, slight expectoration.

of a tenacious kind, Water very scanty, and dribbled away, without patient's knowledge

Had pains in her back, on which I found large dark coloured patches; these ultimately sloughed very considerably

The above being the state of the patient I gave a very unfavourable prognosis

After having learnt that the usual febrifuge treatment had been adopted by the Medical Practitioner who had previously attended her

I prescribed Prescription No 3 with half a grain of Morphia, Eight ounces of Brandy, Eight ounces of Sherry Wine to be taken daily, Beef tea, arrowroot, Cornflour, calf's foot jelly &c to be given

A linseed meal poultice was applied to the back, as also cold spirits and water to the forehead, everything superfluous removed from the Room and a little fire lighted

September 21st

She had passed a very restless night, the temperature of the body appeared more natural, pulse as yesterday, Sleep troubled and unrefreshing, bowels not so relaxed, breathing a little more tranquil

The remedies were pushed on.

September 22nd

She had had a better night, the Countenance

was less cadaverous, the bowels had not been opened for six hours, and she was more conscious of external objects.

The back began to show symptoms of disintegration

The remedies were continued, arrowroot wine and brandy were taken more freely (a little bitter beer was desired instead of wine) plenty of nourishment was given. In all other respects, everything as before.

September 23^d to 27th

During this interval there was a slow but marked improvement. Skin rather softer, temperature natural, countenance more tranquil, eyes still suffused, tongue less dry, thirst considerably abated, bowels opened with oleum ricini. Pulse 84 fuller, sleep more refreshing, delirium less troublesome cough improved. On the back was a large dark slough, disintegrating an offensive smell. I ordered Condy's disinfecting fluid to be applied to this before the Poultice was put on.

A good nutritious diet was ordered with as much wine, beer, jelly, soups and broths as the Patient could take and the medicines persevered with

The patient continued to make slow progress nothing was altered till Oct 3rd on which day a large portion of dead Slough was removed with the aid of the forceps and Scissors

The prescription No 4 was then ordered, the poultice continued, a broiled chop or Steak was allowed, with wine and beer to be taken freely to counteract the effects of the discharge from the back

October 8th till November 4th

During this interval, only an occasional visit was made to inspect the back, many portions of dead integument were removed and as all the symptoms were indicative of a favourable termination, the patient also being in indigent circumstances, it was agreed that I should pay no farther visits unless there was an absolute necessity for them.

The woman afterwards became perfectly Convalescent, altho' Considerable time elapsed before the Sloughing ceased

From careful observation, of this case I am led to the Conclusion that the Several Complications produced a modification of the intensity of the Fever

J. Barker At 23. This was a young man of full habit, a native of the North of England, Assistant at a Millhouse. Never had any sickness prior to his present attack. On Sept 12th began to feel cold whilst at work, experienced shivering sneezing, watery condition of the eyes, and was so affected by lassitude and weariness that he was unable to attend to his work.

After trying for several days to throw this off, he found it necessary to apply to me.

I found the Surface considerably above the natural temperature, (although he expressed himself "Starved") Countenance flushed, Conjunctiva injected, Tongue Coated with a thick whitish fur, loss of appetite, disagreeable taste in the mouth, Considerable Thrust, Throat dry with difficulty in swallowing, bowels had been moved with medicine taken the day before. Pulse Small 132. Considerable pain in the back. Great pain also across the forehead. Complete prostration, Sleep of a very restless and unrefreshing kind. Slight Cough. Breathing 28 per minute regular. Water high coloured and scanty. Considerable pain in back. Was sitting up in the Room. I ordered him to bed, to have the hot water bottle applied. More bed clothes, cold vinegar and water to head, which was to be kept as quiet as possible. Prescribed No 1

Sept^r 16th

Skin had acted freely. Patient expressed himself somewhat relieved, though the head still kept very painful, pulse 124 - if any alteration, fuller had slept better, bowels were easily opened pain in loins relieved. The remedies were continued and ground arrowroot and broth were allowed

17th

Patient not quite so well as yesterday, face flushed, eyes injected, thirst increased, bowels again opened, motions dark and very offensive. Pulse rapid, had passed a restless night, prevented with difficulty from constantly getting out of bed: had a wild appearance with slight delirium

18th

Surface hot dry and flushed, Carotids throbbing. Eyes injected, intolerance of light more or less a peculiarly wild appearance of the Countenance, tongue reddish, intense thirst, head still very painful, rolling it to and fro, constantly desirous of getting out of bed, talking loudly and fancying he was about to be taken away. It was evident that the Cerebral complication was becoming most dangerous. I advised a water pillow, the head to be shaved, ice bladder being applied perpetually; hot bottle to the feet, bowels freely opened, the Room kept

dark and as quiet as possible, mustard applied behind the neck, arrowroot, broth, & beef tea given: black current tea, lemonade toast and water, and ice for the thirst; patient bit a piece out of the vessel from which he drank. Prescription No 2.

19th

Had had an extremely wild and restless night, had to be forcibly restrained in bed ice bladders constantly held to the head.

Face flushed, head turgid hot, eyes wild and restless. Surface perspiring, muscular tremors: pulse quick small and intermittent - delirium of a loud and muttering character, feces & urine passed involuntarily. dark and highly offensive excrements.

Six leeches applied behind the ears Mustard to calves of legs, beef tea, arrowroot and a little jelly forced on.

20th

A Somewhat better night. Leeches bleed freely - Remedies continued

21st

Still more tranquil night, occasional delirium, Sensible at times, rests tranquilly in bed for a short period. tongue Still Coated and dryish: pulse 92 and Compressible, evidently sinking. The whole fever appeared to be mastered by the counter-irritants

a little cherry wine was given in the
arrowroot, beef tea also given. The bladder
still continued, water pellow changed every
hour. The Medicine as before

22nd

A much better night, The patient perfectly
conscious. He knew me this morning
for the first time for some days, was
able to put out his tongue, and describe
a bursting Sensation over his eyes, also a
weight at the back part of his head.

The Surface and feet were now kept
warm, he being more tranquil. Pulse
continued to improve daily. Patient was
enabled to take more food, and could tell
when the bowels were going to be opened
he also asked for the utensil in which
to void urine

23rd and 24th

Continued to improve: the bladder
was now entirely removed, he desired
still to continue the water pellow as it
felt comfortable, the prescription No 4
was now ordered; Stimuli gradually
reduced, a more nutritious diet allowed
and the bowels kept open regularly.

The patient progressed so favourably
that he was able to return home by Rail
with his mother on the 3rd October and

went on extremely well afterwards

It was perfectly evident that the whole force of the Typhus was exerted in the cerebral complication, for when this subsided the patient recovered rapidly

I. Still At. 42

This patient was a man of full habit and had always enjoyed good health until seized with the present illness. The district in which he lived was an unhealthy one.

Feeling that he had taken cold he obtained from a druggist some Spir. Aetheris. Nit. and took it with some gruel on going to bed.

Said he had perspired freely, and felt so much better that he was able to attend to his Shop until the 7th Oct on which date, the Symptoms, which had been gradually increasing were of such a nature as to necessitate Medical Advice.

On examination I found him suffering from frequently returning rigors skin dry and hot, petechiae fully developed on the body, back, thighs & tongue coated, great thirst pulse 116 small and Compressible. Considerable dry and hacking Cough in fact all the well marked symptoms of Typhus.

I ordered him to remain in bed, have a hot water bottle to his feet, more bed clothes to promote diaphoresis. Hair to be cut close Mustard applied to Chest. Prescription No 1 with one grain Pulv. Opii and one of Specacuanha at bed time: diet to be light and farinaceous
8th

Free diaphoresis, and apparent improvement

altho' the Surface was hot and perspiring, Countenance flushed, eyes vacant, tongue Coated, Considerable thirst, loathing of food with slight nausea bowels Confined pulse 127 Compressible, headache restlessness and loss of sleep, cough looser, phlegm freely expectorated. Urine Scanty and high Coloured
 9th and 10th

Similar Symptoms as above. Thirst excessive patient supplied with lemonade, soda water beef tea, broths. Soups arrowroot, cornflour 8 ounces of wine and a little beer were given in 24 hours. Head kept constantly Cool with Spirits and water. Medicines & Farinaceous food pushed on. $\frac{1}{2}$ ounce Olan Rivini was also given
 11th

Patient much worse. Skin, hot dry and harsh the Entire body Covered with a very fine grayish crystalline powder. Countenance dull, eyes suffused and sunken, tongue brown dry & parched. Pulse 133 evidently sinking fast. delirium of a low muttering character great restlessness peevish at bed. Cough & mucus more troublesome with Bronchial Rhoncus, urine scanty, motion dark brown and highly offensive. I now increased the quantity of wine to a pint and substituted a little brandy in lieu of Beer. Beef tea, calfs

foot jelly, arrowroot & supplied freely
12th

The whole body, extremities, hair and beard appeared perfectly gray from the accumulation of gray coloured Crystals. Surface and extremities cold. Pulse small and scarcely to be felt.

Patient lying on his back utterly unconscious of external objects, being in a partially Comatose Condition; unable to Swallow. Sank into a state of Collapse and died in 56 hours from the appearance of the Efflorescence.

I report this for three reasons.

- 1st The Efflorescence appeared to have a depressing effect upon the vital functions.
- 2nd I had never before observed such a Condition of a Patient.
- 3rd It may be considered interesting on a Physiologic point of view.

Richard Bradbury Aet 34

This patient lived in a well sewerd and ventilated street, and being employed as a Boiler Maker at Birkenhead had to cross and recross the river morning and night

On October 4th he had not felt in his ordinary health and when on the Ferry Boat the wind appeared Considerably colder than usual, so that he was scarcely able to keep himself warm

He experienced fits of sneezing, his eyes were in a watery Condition, had headache and on arrival at home felt more wearied than usual with less inclination for food. Fancying that he had caught Cold, before going to bed, took a basin of gruel with a glass of rum in it. Feeling somewhat better and being anxious to attend to his employment he continued to do so till the morning of the 8th when finding himself totally unable to work he applied to me. Although he had been in the habit of drinking freely, had previously enjoyed good health, having only been subject to colds occasionally. On Examination, I found the Surface sometimes Cold, pale and Covered with Cutis anserinus, at other times, hot and flushed. Countenance dull and Confused, resembling a person in a state of intoxication, eyes heavy and suffused with a listless appearance. Tongue dry coated with a whitish fur, but brownish in center, entire loss of appetite, great thirst, bowels

had been opened with a little medicine: pulse 98 regular and full, loss of sleep, disturbed by dreams, waking unrefreshed and confused with an inability to find an easy posture in bed, imagined he could sleep when it was time to get up. Cough, short and teasing. Breathing 28 per minute, inspiration and expiration of a forced and abdominal character: the temples throbbing, great pain across the forehead, aching in the back and limbs, with a sense of lassitude and weariness, and a disinclination to exertion from a general soreness over all the body. Urine scanty and high coloured depositing a brick dust like sediment on cooling

I recommended the hot water bottle to his feet more clothes on the bed, gruel to be given from time to time, hair to be cut perfectly close, and ordered prescription No 1 with vinegar and Cold water to his forehead

Oct 9th

Skin acted freely, body covered with a very fine eruption exactly resembling that of Scarlatina a skin also congested, flushing of face modified tongue moist bowels somewhat more relaxed pulse 91, regular and full, he had slept a little toward, the morning and although there had been some slight delirium he described himself as much revived: he had a cough, pain of forehead was modified, but there existed great irritability and restlessness The medicine was

Continued with the addition of Oleum
ricini

Oct 10th

Surface moist but hot. The eruption quite
lumpy beneath the skin of a darkish color
like measles. Tongue dry and brown in center
entire loss of appetite, increased thirst, bowels
acted freely, indurates of a dark slimy offensive
nature. Pulse 125 and weaker. Had
passed a restless night, had had no sleep
was continually getting out of bed, and
delirium had increased

I ordered him arrowroot with a
little wine and prescription No 2

Oct 11th

Skin still hot with slight moisture on the
body. The eruption had now changed into
dark livid spots of petechiae. Countenance
dusky, eyes suffused and listless. Patient
insensible to all external objects, unless addressed

The tongue dry & brown, inability of protru-
sion. Slight accumulation of mucus on
the Bronchii - Bowels acted rather freely
Delirium, Restlessness and Debility appeared
to increase in the same proportion. Cough trou-
blesome, water scanty.

Prescribed No 3 prescription
Eight ounces of wine, arrowroot, beef tea, Corn
flour, Broths, soups or whatever of a similar

nature they could induce him to take.

Oct 12th

Symptoms, as yesterday with these additions;
viz; involuntary motions, diarrhoea and
deafness. half a grain of morphia was added
to his mixture, other remedies continued as before.

Oct 13th

Skin perspiring slightly, Countenance dusky,
eyes sunk and suffused, tongue dry tremulous
and brown, totally unable to protrude it;
teeth and mouth covered withordes.

Bowel, not quite so relaxed. Was lying on his
back with knees drawn up, constantly
shuffling towards foot of bed. Mucous accu-
mulation in the Chest, inspirations frequent
and abdominal, starting frequently from his
Semi-unconscious condition in a fright, low
muttering delirium, Considerable deafness
picking at the bed clothes with subsultus
tendinum, in fact every appearance of an
early termination.

I increased the wine to 12 ounces
argued on the beef tea, milk and lime water
left word they must perpetually be giving him some-
thing that he might have anything he wished for
and that I was to be informed if anything
occurred. I did not expect the Patient would
live till morning

Oct 14th

I found he had passed a better night, had slept several hours, had, they said, much improved after I left. He had had a pint of beer at 4 p.m. according to his desire, and a second in a hour afterwards, when he appeared to sink into a sound sleep for several hours. Slept till 5 his usual time for rising.

He continued to take food with stimulus during 15th 16th & 17th improving each day.

Slept sound during the night.

I prescribed No 4 and called occasionally, all patient quite convalescent

This case is quoted as illustrative of a large number, where the Petechiae were developed very irregularly, and although patient had been accustomed to drink; large quantities of Stimuli were not required, although the Fever was of a very malignant type