

1857
Thesis

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Remarks on the
Influence of
Alcohol

As an Agent
in Inducing Disease

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No subject in the present day
occupies more the attention a-
-like of the Philanthropist
the Divine & the Physician than
that of intemperance & therefore
I do not think any apology
will be necessary for making
Alcohol the subject of my
inaugural dissertation.

When we see the extent to which
the abuse of Alcohol is carried
the ruin it operates on the
human frame - the numerous
diseases which it induces &
the alteration not only in
the character of those diseases
but also the modifications
required in their treatment
it will be at once perceived
& readily admitted that it is a
subject well worthy of the study
of every well qualified Physician
as his prognosis of disease is nat-
urally affected by the vicious
propensity of intemperance

When we take into consideration
that we are placed in the high
position of guardians of human life
& are bound by all means in our
power to adopt measures in order
to secure the health & happy-
ness of our fellow men - it will
become us to study the awful
effects intemperance on the so-
ciety around us -

There is no scourge so fearful
in our day as that of drunkenness.
The pestilence may indeed sweep
across our island and in a brief
space sweep away its thousands
but its ravages are temporary &
short lived, but this is a scourge
which is eating into the very
vitals of the community & is
yearly consigning to an untimely
grave ^{yearly} its hundreds & tens of hundreds
whole nations have been almost
depopulated by its ravages,
and there is hardly a nation
on the face of the earth

where intemperance in some
form or other is not indulged
in — In our own country there
is not a doubt that it is
the most clamant evil of
the day, but in estimating
its effects in cutting short
the period of our existence
we must not overlook the influ-
ence which particular habits
of life have on the rate of mortality.
In calculating the period of
our decay besides noting the
successive changes the system
undergoes in early youth we
must bring into our consider-
ation ~~the~~ moral causes and
also the various accidents
and habits of life under which
the individual is placed & these
will be found to determine a
man's length of days as much
as the strength he has at birth.
Under such circumstances

intemperance which lowers
both the moral & physical
nature is surely a fitting
theme for a medical essay
While our attention is directed
to the improvement of the health
& comfort of the inhabitants
of our own crowded cities by sa-
nitary reform, such as drainage
from portable dwellings we must
not forget also to try & suppress
that evil of intemperance which
is the root of most of the evils
complained of -

Look again at this evil in
a new point of economy -
How are our hospitals overcrowded
our Lunatic Asylums filled
How various public Charities
overburdened by persons who
are the victims of intemperance
who from this cause entail
upon themselves and their
offspring disease & misery and

its worst form.

Is the removal of such an evil
not an object worthy of the ambi-
tion of the enlightened Physician
what pleasure could be greater
than by the suppression of such
a vice to check the progress of
this scourge & by this means
raise both the intellectual &
moral welfare of our fellowmen
It is an undoubted fact that
the intemperate, especially
in our large towns are far
more liable to the attack of
any epidemic disease than
the temperate part of the
community - My friend
Dr Balfour who had charge
of the Cholera Hospital in
1838 has kindly furnished
me with an account of his
observations on the habits
of the patients who came
under his care, during the

that epidemic. This investigation
was made with the most
scrupulous care - They are as
follows - The total admissions
into the Hospital were 367
and out of these there were
58 who were children under
16 years of age, so that we
have 295 adults - whose habits
were ascertained and of these only
28.5 per cent were sober, while
by their own admission 71.5 per
cent were of dissipated habits -
besides this it is curious to
remark that of the 58 children
nearly the whole number were
the offspring of dissipated
parents and of course were
exposed to all those privations
which tend to lower the system
render it more liable to disease
We could add many numerous
other facts corroborative of
the same thing, but we refrain

as we deem these special volumes and show the fearful tendency of intemperance in predisposing to disease. Although the vice of intemperance is only now beginning to attract public attention from both Statesmen & others to endeavour to provide remedies for its suppression it must not be considered that it is only of recent origin or confined within the narrow limits of any one country. It is a vice which can be traced back to the remotest antiquity and there is not a nation on the globe in which it is not practised. There is always some means devised to ~~produce~~ ~~the~~ produce the draft that intoxicates. If there could be such that antiquity would lend its authority to any practice

or justify indulgence in any vice
that vice would be drunkenness
We have no authority it is true to
whom we can point to prove that
our great antediluvian ancestors
indulged in the use of alcoholic
drinks, but we have our great
progenitor Noah exhibiting the
melancholy example of overindul-
gence in alcoholic liquor.

But whatever may have been
the facts in regard to intemper-
ance during the time of Noah
we have abundant proof since
that time - there is not an age
or a country which has been
without its stains at the shrine
of Bacchus & these stains have
not been confined to countries
plunged in ignorance or barbar-
ism nor to individuals belong-
ing to the lowest class of
society who from their moral
& intellectual degradation become

become an easy prey to this
sensual disease but we find
the same vice in the most re-
fined & polished age of Greece
& Rome & among the highest
most intellectual among the
communities - The monarch of
Babylon fell a victim to this
vice & the conqueror of the world
after having gone on from glory
to glory and wept because there
were no more worlds to subdue
was himself overthrown by this
enslaving habit & in more mo-
dern times how many bright
intellects have ^{we} seen ~~fallen~~ ^{faded} for
their philosophic greatness suc-
cumb before this fearful & con-
quering enemy; and as in ^{all} parts of
men so in countries none are
free from this scourge - and the
only difference is in the form
in which it is employed in the
various regions of the globe

In the present day we have an
infinite variety of intoxicating
liquors both here and on the
continent which has only repla-
ced the simple intoxicating
liquors ~~obtained~~ from of our ances-
tors obtained from the bark
Iquimpo - The vice extends to
very China and only varies in
degree if we go to the from the
equator to the poles for it
gradually increasing as we leave
the former & approach nearer the
latter ^{we have} among the negroes of
Barbados the fermented juice of
the ~~Cassava~~ Cassava, while
among the inhabitants of Ma-
nulla we have the liquor of the
Cocac nut converted by fermenta-
tion into Brandy - The inha-
bitants of Kamohatka make
themselves amidst their frozen
regions with a spirit distil-
led from various species of grapes

while there is less frozen north
bonds of Siberia prepare a liquor
from the *Trunus fruticosa* and
the other berries which are found
in their inhospitable regions
in order to invigorate their sys-
tem and those of Finland
indulge in Brandy & Beer to
render the ills of this life
more bearable. - Among the home
clans to whom wine is forbidden
we have species supplying that
necessity which their Prophet
attempted to prevent by his
regulations - The Egyptians
have recourse to *Margifera* to
produce ale, the inhabitants
of Monroa distil ardent spirits
from a species of fig, while the
inhabitants of Bengal have
made use of the flowers of the
Borapa from which they distill
an intoxicating liquor -
To enumerate all the plants

From which the inhabitants
of various countries prepare
interesting liquors would be
almost endless - The vegetable
Kingdom has been ransacked
and in every country species have
been discovered which can be conver-
ted into the coveted draft &
not only has the vegetable King-
dom yielded to the desires of
Man for excitement, but the milk
of sheep - & of man & the flesh of
Lambs even is converted in some
districts into those beverages which
in others are derived from plants &
fruits - But more horrible & health-
some still - such is the desire
and determination to obtain in-
ebriation and gratify the voraci-
ous appetite that even the
excretions of the body have been
converted into interesting liquors
The Saliva of the women of the
Linné Islands & after chewing

a species of pepper is converted
into the well known drug *Chava*
while the mines of the inhabi-
tants of *Haustatta* who have
partaken of the Quanta is employed
to produce intoxication - How
depraved must the desire for
stimulants be, when the human
being would thus degrade himself
for the indulgence of such a passion.

I will now proceed to the imme-
diate object of my essay as I
think nothing more need be
said to justify me in treating
of this subject. Before entering
upon the diseases induced I will
briefly dwell upon the Phenomena
Physiology of drunkenness which
in my opinion is a most proper
introduction to this subject.

Phenomena of Drunkenness

Before we proceed regularly to consider the effects of alcohol in inducing a diseased state of our system, and giving a particular account of the various diseases thus induced, we think it proper to give a brief outline of the phenomena observed in intoxication.

We are often told that there is intense pleasure in being drunk, but this, to a certain extent is a gross fallacy. The ecstatic pleasure which the drunkard enjoys, is not when the effects of alcohol have been fully developed; those pleasures only exist during the first stage of their development. The primary effects of alcohol when introduced into the stomach are

are to increase the heart's action, rendering it both more frequent and fuller, and also to produce a state of ~~intoxication~~ ^{excitation} of the other organs of the body, such as the stomach, &c arising from the increased quantity of blood which is distributed to them - we have also an excitement of the animal functions - the mind is in a state of increased or unusual serenity - the most pleasing liveliness is observable in the whole appearance - the individual is at peace with himself and all mankind.

All cares are thrown aside, & for the moment he fancies himself in a state of Elysian happiness, removed from all the anxiety and troubles of this lower scene. Such a picture, of course, does not apply to every individual; for he must bear in mind, that the state of intoxication is modified by the temperament of the person indulging in it.

The

The state just described will apply, more particularly, to those who are of a lively and cheerful disposition, those again who are naturally quarrelsome and illtempered become still more so, those of a warm, kindly disposition, if provoked, will not scruple to fight for a friend; but if not offended, they become highly talkative and confidential, and lay open the secrets of their souls to those around them. The modifications, however, produced by the temperament of different individuals under the influence of alcohol are so various and numerous that it would be almost impossible to enumerate them.

We think, however, that there is no time when a man's natural dispositions shew themselves so forcibly as during the stage of incipient drunkenness. The mind still continues to hold some control over the individual; he is able to think, and

and in a certain extent to reason; but its stability is shaken; the power of volition is weakened, and, although conscious that he is both talking and acting foolishly, he cannot avoid doing either. If at this time, the further use of the stimulus be prevented, the party soon recovers from its effects; but if the indulgence in its use be continued, a second stage is induced, accompanied by a train of entirely new symptoms. He begins to be affected with a singing in the ears; his reason is impaired - objects around him appear double; and their hue and shape are entirely altered. The power of distinguishing those around is impaired - one person is mistaken for another - the sparkling eye, observable but a short time before is now dim and glazed - the eye-lids droop over the eye and the victim appears as if about to sleep.

The

The muscles of the tongue refuse to obey the usual control exercised over them, and the speech is thick and indistinct. The other muscles of the body are also affected; he cannot grasp his glass, and, when attempting to raise it to his lips, the contents are spilt upon the table. He is unable at this stage, either to walk or stand steadily; and should any obstacle come in his way, he is sure to lose his equilibrium. In this stage we sometimes find nature come to the relief of those who cannot help themselves - the stimulus produces such an effect upon the brain, that Nausea is induced, and the stomach violently ejects the noxious element. Should this happen, the party is quickly restored to his usual condition, although, even then, some of the deleterious effects of his excessive indulgence, still remain as beacons to warn him not again to trespass on the forbidden grounds of inebriety. Should he not be thus relieved, and his potations still continued, he gradually loses the control
over

over both his mental and corporeal faculties, until, at length he becomes perfectly helpless: not indeed in a state of almost apoplectic coma, which is the next stage of Drunkenness; but in that degree of indistinct consciousness, which leaves no impression on the mind which can afterwards be recalled. He is put to bed, and now succeed those horrors which are the accompaniments of over-indulgence in intoxicating liquors.

Sleep, for a short time may bury all his sensations in oblivion, but it is brief - he awakes with a feeling of unusual cold over his whole body - his head throbs, and his whole mind is confused: he is only alive to a feeling of intense burning, extending from the mouth to the stomach; and, which readily suggests to his horrified imagination, the idea of that place, to which the Parable tells us the rich man was consigned, when, even one drop of water was prayed for as a relief from torment.

torment. But, as in that case water is no relief to him - the more he drinks, the more his horrible sensations increase. The fever which rages in his veins is not allayed - the throbbing of his temples will not cease, and he now feels, alas! too late, that those pleasures, which transgress the moral law given us by our beneficent Creator, entail upon us, even in this life, sufferings which our frame can hardly sustain.

The next stage that succeeds is one Coma which brings along with it a total suspension of all the functions of the brain; and this stage, which may well be denominated a state of 'beastly intoxication' (although, by the way, I may remark, that beasts have more sense than get into such a state) is not unusually accompanied with great danger to the individual. The whole functions of the Medulla oblongata, become affected, from the circulation of almost

almost purely venous blood; so that no nervous influence can be conveyed to the organs of respiration, and consequently the necessity of breathing is not felt. It becomes gradually slower, and unless some powerful reaction be established, it speedily ceases. In such a case, the general symptoms of asphyxia are clearly discernible after death. Such then is a very brief outline of the phenomena of drunkenness; and, although the pleasures experienced in the early stages may be of an ecstatic nature, yet we cannot help warning everyone to beware of indulging in such pleasures. We would have them to remember, that the boundary line between each stage is so slight, and according to temperaments, so various, that even one glass may precipitate them from the very highest pitch of ecstatic enjoyment, to the lowest depths of mental horror. Insanity. In considering the various diseases which are induced by intemperance, whether

whither as an exciting or pre-disposing
cause, there is no doubt that all of them
demand our serious and attentive con-
sideration; but as in an essay like
the present, it would be utterly im-
possible for us to enter into a full con-
sideration of each of them. We shall
as far as possible, give a brief outline
of the most particular complaints,
which it produces, & first then of
Insanity. Of all the affections to which
human nature is subject, there is none
which is at once more melancholy,
and at the same time, fraught with
the deepest interest, than that of
Insanity. Deprived of this faculty by
which man is principally distinguished
from the beasts that perish, the mere
form of humanity is, frequently, alone
that which he retains of his proud
distinction. His character as an
individual of the species is always
perverted, not infrequently, entirely
annihilated, his will which sits
towering

towering elevated the monarch of the mind if I may so say the power which says to the animal propensities, "thus far shalt thou go and no farther," is marked in every instance, and he becomes a mere child of impulse, at one time he thinks himself a King, a Deity, or a mass of matter his consciousness has fled; and his thoughts are directed from their natural course. The chain, which connected his ideas in their just and regular course, is now broken; his feelings are new and unusual, his attachments for those he once loved, and who were nearest and dearest to his heart, are changed into aversion and hatred. At one time all his energies were bent on promoting the temporal and eternal interests of his fellow men; he was looked upon as an ornament to society, and a benefactor to his country; and with honest pride and satisfaction, did his friends behold the praises, which were lavished upon

upon him by his fellowmen. Now
alas! he has become a stranger to all
their interests, and he looks upon the
good of those around him as a thing
of nought; he has become a pest to
society, and a disturber of its tran-
quility. The gentlest means used for
restraint adds fury to his delirium,
the advice of friends adds but fuel
to the fire. His original sensibility,
rendered more keenly sensible by
opposition to his usual gratification,
acting in conjunction with a morbid
excitement of the nervous functions,
causes him, at length, to give him-
self up to all the extravagances of
a maniac, or sinks him into the
lowest depths of despondency and
despair. Now perchance he is de-
prived of his personal liberty and
we see him retaining only the human
form—the divinity is gone, the ruins
only remain of the magnificent edifice of manhood
to remind us of its former dignity & grandeur.
and

and to rouse within our breasts tender regrets for the loss of what really constitutes the Man.

Having thus given a very faint and imperfect delineation of one of the most painful diseases to which the human race is liable, we shall now proceed to show, that of all the causes which incite this disease, intemperance is one of the most frequent. Dr Pritchard tells us that among the physical causes of insanity, intemperance is one of the most frequent, and that the use of ardent spirits, especially as exemplified in the Northern countries of Europe & America are the most injurious in their effects. It frequently happens, as a proof of this fact, that when these causes are removed, the effects gradually lessen or cease. Galen, also gives us some admirable observations on intemperance, and points out in a clear, and concise manner, the good effects of temperate living. The remarks of Pritchard are fully

fully borne out by the statistics of the Bishop of London, which appear to us, to settle the question; by this account - out of 1271 maniacs, 649 or one half were rendered so by intemperance, but this statement does not embody the whole evils, which intemperance inflicts on the intellectual faculties - for there are many injuries of these and many morbid conditions of the will ^{ferocious spirit of insanity} ~~functioning~~ caused by intemperance not included in this calculation. It is impossible to trace the many evils, which may result from inebriety, which may involve the serenity & usefulness, if not the sanity of the mind. In fact the changes of the moral nature which are produced by this cause and which lead to a perverted condition of it, it will be impossible for statistics even to gather. The statistics of our asylums also prove that intemperance is one of

of the most frequent causes of this affection, and, in looking at the tables published by the Metropolitan Commissioners of Lunacy in 1844, we find that 1799, out of 12007 cases, of which the causes were supposed to be unknown, were put down as being caused by intemperance, and 537 are laid to the account of vice and sensuality, in which we must include alcohol as having an important share in the production of the Insanity. In commenting on this table, Dr Carpenter remarks most judiciously, that of those which are set down to hereditary predisposition, the fact is notorious, that very often this predisposition remains latent, till summoned into being by habitual intemperance, and accordingly a great number of the 2526 cases, set down to the account of hereditary predisposition, should be attributed to intemperance; also of the 3187 which are marked as from bodily disorder

Disorder, and the 2969 said to be
owing to moral causes, we must allow
a considerable share to the effects of
Intemperance. Dr. Browne remarks,
"that the appearance of insanity is to
be referred not to one but to many
circumstances; to the tenor of a whole
lifetime and not to the occurrence
of a day or hour: to a multitude
of hidden springs, which can neither
be readily discovered, nor appreciated.
In a vast number of instances, the Sus-
ceptibility, however much it may be
aggravated, and augmented by the
conduct of the individual, has
been transmissible, and is transmissible
From the Vague records sent with
Patients to Asylums little inform-
-ation can be obtained as to the real
cause of the disease. Their own state-
ments must be regarded as apocryphal,
or be received with extreme caution.
This paucity of data, upon which to
found an analysis of the character
which

which is to be dealt with on a scheme for the amelioration of moral suffering, is often the result of negligence or ignorance, sometimes of that false shame, or fruitless caution which would keep family diseases under the same veil that conceals family misfortunes and mis-conduct. Such a course undoubtedly frustrates the great end in view, and withholds one powerful lever, by which the removal of disease may be accomplished, and the burden of regret removed, and sorrow cast off. Dr Browne, further remarks, that there is great difficulty in deciding what is the cause of the overthrow of intelligence, of selecting from a mass of events for long succession of depressing and debilitating feelings, that particular point where health and sanity terminated, and disease commenced, that particular state of

of affairs, or body or emotion, which
led to the final change and cat-
astrophe. The causes 'say he lie
deep, and must not be sought
for on the surface of society, in
the visible events, the misfortune
or prosperity of individuals, in the
sudden revolution of the wheel
of fortune, in the pain or the glut
of commerce; but in the frame-
work of the social machine -
in the prevailing temper and temper-
ament - the education - the trans-
mitted character of the gener-
ation, in the susceptibility & the
impressionability of the mass
He tells us that intemperance
is one of the most fruitful causes
of the disease, and it can be
clearly proved that intemperance
is one of the most fruitful
causes of repeated acts of intox-
ication, at the same time pre-
dispose, excite, and constitute
the

the main feature of the affection. In the annual report for the Royal Edinburgh Asylum for 1854 we find Dr Skel remarking that "Among the causes of insanity, intemperance continues to figure most frequently, as heretofore it was the cause assigned, in 22 per cent of the cases, in which a cause was ascertained, and in the case of males alone, 27-5 per cent or more than one in four, were attributed to this cause. In the Glasgow Asylum Report for 1854, we find the medical officer stating that among the exciting causes of mania, he had still to mention the abuse of spirituous liquors, as the most frequent. An American writer tells us, that no fewer than one third of the persons confined in mad-houses throughout the United States, brought insanity upon themselves, by the intemperate use

use of intoxicating liquors, I should here state that this gentleman is a Temperance Advocate and considering his office he may have exaggerated a little. But, if such is the case, our American friends are surely in a lamentable condition, notwithstanding all their protestations of sobriety, and their Maine Law &c. Dr Williams in the Medical Times, Vol gives us a table of the number of patients, admitted into the Asylums of this country & the Continent; Viz: Chateaubert Bordeaux, Turin, &c. United States, Palermo, Cass, Danzig, &c amounting to 5049 - 940 of which, intemperance in Alcoholic drinks, was found to be the cause. Dr Browne states that an examination of 57-520 cases of insanity, which have occurred during the present century in the public asylums of various countries

10,717 or nearly one fifth of the whole were caused by intoxication and it follows that every fifth lunatic who excites our commiseration and who is a burden upon the charity, the sympathy and the friends of the public is the remnant of a drunkard - a lunatic by his own act; and if such are the statistics of our public institutions what must be the proportion of which there is no record, for we know that the majority of the insane from whatever cause their insanity may arise reside with their friends or under the guardianship of strangers. It is enough for us to know that while inevitable misfortunes of humanity produce 40,000 lunatics in 50 years Drunkenness during the same period extinguishes reason in 10,000.

In

In concluding our remarks upon Insanity, we think it is clearly proved, that Intemperance is the prevailing cause; but there is a question in connection with the cure upon which we cannot pass without saying a few words. As to the necessity and prudence, of withdrawing such slaves to passion from temptation, and from access to all stimulants, no one will deny but the propriety of endeavouring to effect their cure in a Lunatic Asylum, has raised the question which is open to much discussion (but which we will not enter upon at any length) 'is this the suitable place for such individuals?'. We would remark that the decision of this question must rest upon the determination of the responsible, or irresponsible state of the mind, under such circumstances! Upon the face of

of the individual, acting under
such an impulse being sane or
insane. Many individuals taking
a very erroneous view of the matter
look upon the Drunkard as one
who is responsible for such acts
of intemperance and ought to
be punished as any other in-
dividual who criminally trans-
gresses the laws of his country
but I am inclined to take
a more lenient view of such
cases and consider that in al-
most every case of habitual
Drunkenness the party labours
under what has been denominated
Dipsomania and which in legal
fr parlance is called *dementia affectata*.
This affection consists in a strong,
internal impulse to indulge
in Stimulants, and which there
is an utter inability on the part
of the individual, to resist.
Such a tendency is very frequently
observed

observed in the children of habitual
drunkards, shewing that it arises
from hereditary predisposition; but
we likewise see this insane habit,
suddenly manifest itself in those
who have subjected their brain, to
a long period of mental excitement,
and thus produced some change
in the ^{condition} of the organ.

Even excess in venery, may induce
this unnatural craving, and it
is also observed after many other
changes which may occur in the
system. The question however still
remains, is the nature of this insane
propensity such as to justify you
in immuring such a person
within the walls of a lunatic
asylum, or should you not
rather provide a separate
retreat, for the cure of such
cases. The next affection which
will engage our attention is
one which is an almost unvariable
one

one, among habitual drunkards at one period or another of their debauched career, and is far too frequently one of the causes of the ultimate breaking down of the mind, which is exemplified in the disease we have already considered, Delirium Tremens is induced, solely, by the excessive indulgence in spirituous liquors. It is peculiarly a disease of the drunkard, or at all events the individual affected by it, must have been indulging to excess, previous to its invasion; sometimes, indeed, a peculiar state of the nervous system which simulated Delirium Tremens in many of its symptoms; but it is generally easy to distinguish between the two conditions in such cases, and the treatment to be adopted is very different. The

Delirium Tremens - Cont^d. The frequency with which a person may be attacked with Delirium Tremens, without producing any obvious permanent disease of the brain, or impairment of the mental powers, it is impossible to fix. We know a strong, powerful, Highland Cabman at present living in Edinburgh who has had upwards of 30 distinct and severe attacks of delirium tremens and although he still continues from time to time in the intemperate use of spirits the only effect which appears to have been produced on him by the frequency of these attacks is that during the last two or three years he has always been able to stop his potation without inducing this affection; he appears so well acquainted with its

Various

Various phenomena that he is enabled to indulge his propensity for intoxication and always stops short before the disease is developed. There are differences of opinion among the medical profession, as to the period when delirium tremens makes its appearance. The most generally received, and oldest opinion, and that which is usually held as the orthodox one, is, that this disease only makes its appearance, after the stimulus has been gradually withdrawn from the system; but while we hold that after the sudden cessation of the use of spirituous liquors, the disease will show itself, still we cannot help admitting that there are some grounds, and those strong ones for the opinion which is held, that this disease is the effect of the poisonous action of alcohol on the system

and

and that the cessation from
drinking was begun or rather
caused by the poison beginning
to take its effect that is to say
that the stimulant had been
so long indulged in that the
stomach had got pallid and
could no longer receive the
same quantity as it formerly
did or in other words that the
poisonous effect of the fluid
had begun already to develop
itself and a less quantity of al-
cohol was necessary to produce
the same exciting effect on
the system and therefore
the individual was supposed
to be labouring under the in-
cipient stages of this complaint
Whatever view we may take
of the cause of this complaint
whether namely, it arises from
the sudden withdrawal of the
stimulus or from the poisonous
action

action of alcohol on the brain it seems generally to be admitted that it is not at least of an inflammatory nature it appears entirely to result from nervous incitation but we cannot agree with those authors who state that any other stimulant but alcohol can produce Delirium Tremens; for the cases, in which the effects of such narcotic stimulants as opium, have been stated to produce this affection if we examine their history are found to be those of intemperate habits. The symptoms exhibited in Delirium tremens are such as I think bear out the foregoing statements - They are as follows, the appetite fails the patient complains of great thirst his sleep is broken and disturbed and he is frequently attacked by frightful dreams and the

grossing

Morning finds him restless and unrefreshed. he experiences great lassitude and frequently complains of a chill over his whole body. His countenance is anxious & pale and his manner when addressed is abrupt and agitated the pulse is usually weak and rapid the skin is covered with profuse perspiration his hands and indeed the muscles of his body are generally affected with a tremulous motion - he exhibits incoherence in his ideas and objects and persons which have no existence except in his excited imagination are visible to him; great instability of stomach generally exists and frequent retching and vomiting with a great sense of oppression at the pericardium the symptoms gradually increase in intensity and his anxiety restlessness and

and instability become more intense; the muscular tremor never for an instant ceases, but remains constant, giving in fact, the name to the disease; all his ideas which are entirely personal, have mingled with them something of sorrow; he has incessant talking, believing himself to be surrounded by imaginary beings, and most frequently these are either in the form of evil spirits, ^{or} and animals of unclean and hideous nature. There is generally fidgetation and frequent picking at the bed-clothes or grasping at objects in the air; the pulse continues rapid, small, and with a fluttering character. The tongue is foul, and usually dry and furred, and all the excretions from the body, are of an offensive and

and unhealthy nature. The slightest contradiction or attempt at restraint, only aggravates the foregoing symptoms. To attempt to reason with a person in such a condition, is the greatest folly. The extravagances and delusions, which pass through the mind of a person, labouring under Delirium tremens, are so numerous and various, that it would be impossible for any one to give a description of them all. He appears to be possessed of Devils, and truly there name is legion. These symptoms usually continue for four or five days, and if the case terminate favourably, ~~the first~~ the first sign of amendment, is the patient falling into a quiet sleep, from which he

he awakes a new being.
His delusions and fantasies
have left him, he is again
clothed and in his right
mind but greatly prostrated
both in mind and in body.
When however the disease does
not take this favourable turn
all the symptoms already
described go on increasing
in intensity his pulse gradually
becomes weaker and puts on
an intermitting character
the breathing is quick and
catching the body is covered
with a cold clammy perspira-
tion and in the midst of
his excitement death may
suddenly supervene or fatal
Coma may come on and
thus close the scene.

There are great differences
of opinion among the Med-
ical profession as to the
treatment

treatment to be adopted in this disease we do not intend here to enter into a full description of these opinions. It has been usual to give opium in large doses, in order to try and induce sleep, and at the same time to continue the administration of alcohol in gradually reduced doses, in order to keep up the stimulus, the sudden withdrawal of which is considered to be the cause of the disease. We do not agree with this plan of treatment. The exhibition of opium we look upon in most cases as highly prejudicial, tending to produce a congested state of the brain, and thus leading in fatal coma. Stimulants however, we look upon as highly beneficial in some cases of Delirium tremens, as a
General

general rule however, we would
condemn their indiscriminate
exhibition, as we consider this
disease to be peculiarly one of
the nervous system in which
from some peculiar action of
alcohol on the brain the
nervous energy of which is thus
weakened and a state of mor-
delirium induced we believe
that the best treatment to
be adopted will be found
to consist in the frequent ex-
hibition of small doses of
Tr Hyoscyamus combined with
Camphor & Sulep, accompanied
by the frequent administration
of beef-tea: at the same time
that we take care to attend
to the bowels by thoroughly
cleansing the stomach and
bowels of their unnatural
and unhealthy secretion.
By this treatment we will
usually

usually succeed in allaying the nervous excitement which exists, and restoring the stomach to its natural and healthy action, which have been hitherto suspended by the injurious and poisonous effects of the alcohol imbibed, and we avoid at the same time, the chances of producing congestion of the brain, which is the usual effect of the opium treatment: and also the continued irritation of the stomach, which the exhibition is sure to keep up.

Epilepsy regarded as it is by many as intimately connected with a disordered condition of nutrition of the cerebral substance will at once strike us as being a disease very likely to result from Drunkenness accordingly we find that it is a most common affection among drunkards

Drunkards, in many making its appearance on every occasion in which the use of spirituous liquor is indulged in others again coming on after the termination of every successive debauch and continuing sometimes for days and weeks in frequent and severe incursions of the disorder in all cases when epilepsy has once been brought on its recurrence is certain and the more frequently the party suffers from it the more liable he becomes till at length even although the original exciting cause be permanently withdrawn the disease has become firmly established in the system and the slightest excitement or disorder of the Primæ Viæ bring on a paroxysm or the may become regular in their recurrence, and they gradually
with

with their frequency impair
both the mental and the bodily powers,
until the party is left in a state of
complete fatuity. We have only to
look at our Lunatic Asylums to
have our statements fully borne out.
The most of the poor, fatuous &
imbecile patients within their
walls who have brought on their
disease by the intemperate use
of alcohol have been at one time
or are still the subjects of epilepsy
and it usually happens in their
case that their existence is ended by
the sudden recurrence of the
epileptic paroxysm when fit
succeeds fit with such rap-
idity and violence that we
can hardly conceive it possible
for the human frame to sus-
tain them & these are only
stopped by death suddenly
closing the scene.

Tremors - We have already stated that Delirium Tremens is marked by the tremulousness of the hands, tongue, &c. and that it is from the existence of these symptoms that it derives its name and we now come to consider another disease peculiar to drunkards in which this tremulous motion of the voluntary muscles is the principal symptom and which has been denominated "paralysis agitans". This disease is the result of the state of intense irritability which has been brought on by their intemperate habits and also from the great weakness of the nervous system generally which has been induced by this cause. We notice this enfeebled irritable nervous condition very well manifested in the case of those drunkards who are in a state which has been vulgarly denominated

denominated "greeting four" in this case it is the lachrymal secretion which is affected and the most trifling causes are sufficient to produce this melancholy spectacle. The incursion of this disease is very gradual. The state we have just described is it appearing in its most incipient stage; after a long course of habitual intoxication the party affected with this complaint feels for the first time that his power to grasp objects is not so great as heretofore; he cannot clutch them so firmly he fears in lifting them that they will fall from his hands. They often do so and in his anxiety to prevent such a catastrophe his hands begin to tremble and the very thing he was trying to avoid was always sure to happen. We have seen a young, powerful
otherwise

otherwise healthy man after
a week's debauch, in endeavouring
to raise a glass of spirits to his lips,
tremble so violently, that although
he grasped the glass with both
hands, its contents were almost
entirely spilled, before he could
get it the length of his mouth;
and we doubt not had the
party in this instance, con-
tinued the use of the in-
toxicating draught, he would
very soon have lost the power
entirely, of grasping anything
at all. An incomplete
degree of paralysis is produced
in such cases, which however,
is generally confined to the
extremities, or the parts furthest
removed from the great
nervous centre, and it is only
after the long continued use
of the stimulus, after this state
has set in, that at length the
the

the whole system become
affected with ~~the~~ general paraly-
sis. We may mention, that when
the disease first begins, a renewal
of the application of the stimulus
for the time being removes it,
but this is only adding fuel to
the fire, and it is from this
circumstance, that the drunk
-ard is gradually led on from
bad to worse, till at length
he is engulfed in the fatal
stream. You will find that
there is a general impression,
among those who indulge in
intoxicating drinks, that
what they call good spirits,
are a safe drink, and that
they will not produce these
dire effects, and that such
consequences are produced
by the indulgence in the
use of adulterated spirits.
There is no foundation for
such

Such an opinion for while
we admit that spirits which
have been adulterated with
copperas a noxious element (which
we are sorry to say is too much the
case in the present day with
the spirits which are kept in
our low public houses & con-
sumed by the lower ranks)
while we say, such adulteration
will hasten the melancholy
result already named, yet if
continued or indulged in,
even the finest malt whiskey
will have a similar effect.
There is a circumstance con-
nected with this affection, which
I have never seen noticed, and
it is this; that while the use of
good malt whiskey may be
indulged in to excess for a
lengthened period, without
producing any manifest
deleterious effects, now this
is

is not the case with spirits made from raw grain. The use of this latter very soon brings on the tremulous motion of the hands, and if its use is continued, it will very quickly induce delirium tremens, or some of the other affections we have already mentioned. Our opinion is, that this is caused by the quantity of the oil, of grain contained in such spirits, which is not the case if prepared from barley, which has been previously malted; and we know that this oil is a deadly and most virulent poison, and that too in very minute doses.

Apoplexy may be appropriately denominated the last stage of drunkenness. It is a disease frequently arising from intemperance. It is the complete suspension both of sensation and

And voluntary motion, while the respiratory and circulating systems continue in operation, in fact this disease completely resembles a person thoroughly under the influence of intoxication, that we can easily conceive how such an affection is produced. The symptoms which usually characterize this disease, namely, the slow laborious respiration, with the stertorous inspiration, and the puffing expiration, the contracted or sometimes dilated pupils, the flushed countenance often having a livid hue; with the involuntary unconscious evacuation of the secretions. These are frequently observed in persons, in a state of beastly intoxication, when there is no apoplectic lesion; and these symptoms do

do not appear always to pass rapidly off but continue for so many hours, and it is with difficulty that we can distinguish whether it is really a case of true Apoplexy or not; and indeed there are instances in which individuals in this condition, have been subjected to the most heroic treatment, under the impression that a serious lesion had taken place in the brain, and who have recovered from the effects of their debauch, to find that during their state of drunken insensibility, they have been cupped and blistered, or perhaps even their heads shaved, and that they had been subjected to all the appliances, which our art could supply, in order to restore them to consciousness. A most interesting case
illustrative

illustrative of this and at the same time of the fatal effects of alcohol occurred last autumn in Dunsfries-shire. The subject of it was a farm servant, pretty well up in life, who was addicted to the use or rather the abuse of spirits, more especially on the days when he had to go with the farm produce to the market; on such occasions he invariably managed to return home in a happy state of intoxication. Last Autumn the various servants united together to have an evening rejoicing on the occasion of their masters marriage. The flow of whiskey as might be expected was very liberal and the subject of this memoir indulged in it so freely that at length he was put to bed in a state of

of insensibility or as the people
denominate dead drunk
as he still continued in this
state in the morning the per-
sons about him naturally
became alarmed and after
spending some hours in
ineffectual efforts to rouse
him they sent to Dumfries
(about 7 miles distance) for
a medical man and for-
tunately the messenger who
was sent gave the Doctor
a hint of what was going
on the previous evening &
he took the stomach pump
along with him. On reaching
the place, he found the
patient in a complete
state of stupor, breathing
laboured, pulse slow, and
unable to swallow. it was
impossible to decide whether
it was a case of apoplexy or
not,

not, but as he knew the
cause he determined in the
first place to clear the stomach
by means of the pump. Having
accordingly introduced the
tube, he drew off a large
quantity of clear fluid
which, from the odour ap-
peared to consist almost
entirely of coarse raw
whiskey: The smell indeed,
was so strong, that it was
perceptible to all in the
house; having done this
he threw into the stomach,
a quantity of strong warm
tea, and almost instantly
the patient began to show
signs of consciousness, by roar-
ing out snatches of Bacch-
analian songs. When the
foreman heard this he said
"he is all right now Doctor,
that was just his way when
he

he came home from the fair -
The medical man however con-
tinued his exertions until at length
he succeeded in getting him to take
a little tea. Having then administer-
ed a smart dose of medicine to
clear out the bowels he left him
as he considered in a fair way
of recovery, giving at the same
time particular instructions
as to what he was to get. He con-
tinued very much in the same
condition, as when the doctor left,
until early the next morning,
when, as he appeared to be getting
worse, they again sent for him.
On his arrival he found the
patient rapidly sinking - he
had fallen into a state of
Coma, and notwithstanding
all the appliances which were
made use of, he sank and died
about four in the after-
noon. In this case it would
almost appear as if the al-
cohol

whol had acted as a direct
poison upon the brain, and
the Medical man states that
had it not been for the hint
which he got as to the cause,
he would have treated it as
a case of apoplexy or at least
congestion of the brain; for he
had never witnessed a case
in which the symptoms more
resembled these affections -
It is a pity no post mortem ex-
amination was allowed in
this case, as it might have been
discovered, that this man
really died from serous apo-
plexy, brought on by the drink
which he had consumed;
as we know there are cases
in which, after death follow-
ing intoxication, this serous
effusion into the Ventricle,
on the substance of the
brain, was the only morbid
symptom which could be
discovered

discovered. We can easily conceive too, how that form of the disease called simple apoplexy, where there exists merely a congested state of the cerebral vessels, might be induced by such a fit of intoxication, as that just described; and if such were the case we would anticipate such a train of symptoms as those which were exhibited. The sanguineous or common form of apoplexy, or that in which there is a destined extravasation of blood into the substance of the brain, is a very common disease among drunkards; indeed Mr. Irish has stated, that seven out of every ten Malt liquor Drunkards, die either of this affection or of palsy; and although this may appear to be an exaggerated statement, we do not need to be altogether surprised at it for if we bear in mind that
according

according to the shewing of Leber,
there is a gradual contraction of
the substance of the brain from
the alcohol, which is imbibed
gradually displaying the aquerous
fluid, which is naturally con-
tained in that organ, and
thus leaving the bloodvessels in
many parts of their course with-
out their usual support. There
will, under such circumstances,
be a greater tendency to the rup-
ture of the coats of these vessels,
from the stronger current of
blood sent through them,
caused by the increased act-
ion of the heart; at the same
time the coats of the vessels
themselves are apt to become
diseased in drunkards and
thus too makes them more
liable to be ruptured. The
alteration of the blood itself
may be another cause for
those morbid excretions in
the

the brain as we know that
Drunkards are very liable to attacks
from hemorrhages in various
parts of the body and again
from the researches of Armstrong
and others we know that the
intemperate are very subject
to a state of chronic inflam-
mation of the brain and its
membranes which induces
a kind of varicose state of
the vessels in which their
diameter is in some cases
increased in others diminish-
ed at the same time that
the substance of the organ
itself is in one place hard-
ened and another unduly
softened thus giving rise to a
greater tendency of this affection.
We must recollect also the
liability drunkards are under
of receiving external injuries of
the head which we can easily
conceive with such a diseased
condition

condition of the brain as we
have mentioned, will be far more
apt to produce fatal results than
in ordinary circumstances. —
There is no doubt, however it
may be induced, ~~the~~ intemperate
use of alcohol is universally re-
cognised by the Medical profession
as being one of the undoubted
causes of this disease, and where-
ever the party has been affected
by it, one of the first cares of the
Medical man, is that he should
abstain in future, from the use
of spirituous liquors, as indulgence
in its use even to a very moderate
extent, has been known to
bring on an attack of this
disease, in those predisposed
to it. We have thus concluded
our remarks on the principal
diseases of the Nervous System,
which are produced by the
inordinate use of alcoholic
liquors, and we would now
proceed,

proceed to the consideration of
the affection, which this abuse
produces on other organs of the
body. However before doing so
we will say a few words in re-
gard to that affection which
has been denominated Spontaneous
Combustion, the name
given to this affection conveys
a most erroneous idea as to its
Cause, for according to it we
would be led to consider,
that the patient Spontaneously
caught fire, without the ap-
plication of any external
flame; whereas in every case
which has been yet recorded,
there has invariably been found
to be the proximity of flame,
in some form or another,
either in the shape of a
lighted candle, or a fire.
It is difficult to say how
far we can trust to the various
accounts which have been
given

given to the so called cases of spontaneous combustion, but that there have been undoubted cases in which the external application of fire has lighted up a flame in the body of the unfortunate victim, which in an incredibly short space of time, has reduced the whole to a mass of blackened ashes, is a fact which cannot be denied. In all the cases which have been recorded, it is also an undoubted fact, that the parties so attacked were confirmed and habitual drunkards, it is curious however that in all those cases the parties were advanced in life and in every instance females; and we know of no cases upon record in which the subject was a man. It is very difficult to give any explanation of how in such cases the combustion of the human

Human body should be so complete that some particular change must have been produced upon all the tissues by the use of alcohol appears to be perfectly clear for we know the great difficulty there is in consuming a human body. This is well exemplified in the immense quantities of fuel that were required to consume the bodies of those who were burned at the stake; and we have also instances in modern times, where murderers have tried to conceal their crimes, by consuming the bodies of their victims - how difficult nay almost impossible it has proved, even by the use of the most intense furnace heat, to consume the parts, even although they were subjected to this, for many hours; whereas

whereas in cases of so called spontaneous combustion a few hours were sufficient to reduce the body to a blackened disintegrated mass. Another peculiarity which has been mentioned in connection with the cases recorded is that the flame which has been lightened up in the body was found impossible to be extinguished when cold water was dashed over the individual affected. It tended only to make the flame burn up more brightly the combustion appeared to take place over the whole body at once and the walls of the room and articles of furniture were subsequently found with a greasy blackened ash; the colour of the flame too has been described in some cases to have been of a pale red in others of a blue-
-ish

ish colour. Many theories have been suggested to account for this combustion - some have supposed it to arise from the whole system becoming impregnated with inflammable gas, such as phosphureted hydrogen, which on coming in contact with the oxygen of the atmosphere, immediately takes fire; and this combustion being communicated to the gas, which has spread through every part of the body, quickly leads to its consumption; but whatever explanation we may give of the cause of these phenomena, we are still in great ignorance in regard to this affection. The following, in our opinion, appear to be a summary of all that we know in regard to it, viz, in all the cases which have been recorded, the individuals appear to have been either
habitual

habitual drunkards or at
all events addicted to the use
of alcohol. In all the cases it
would appear that this con-
sumption took place in females
and therefore we may conclude
that men are not apt to be thus affected.
The women recorded to have
fallen victims to this disorder,
appear all to have been in
advanced life; the youngest
so far as we recollect not under
fifty. The consumption appears
to have been remarkably rapid
in most cases, and whilst in
many the consumption of
the body was complete, in others
it was only partial. The con-
sumption appears to have been
communicated with great
facility, and although in all
the cases, we think there can
be no doubt that it was com-
municated by some ex-
ternal flame: yet after it
was

was once set up the burning continued without the application of any further exciting cause. It would appear, that in most of the cases the clothes of the individual, and even the substances in the room were extraordinarily exempt from the effects of the combustion remaining, in many instances, unscathed by the fire which was consuming the body beside them. The extremities and the upper part of the head, in those completely consumed appear always to have escaped, while the rest of the body was completely reduced to ashes. In no case do we think combustion can take place spontaneously, that is without there being first the application of external flame. Most of the cases appear to occur during the

the clear cold weather of winter, and the flame as we have mentioned varied in colour in the different cases recorded. As already mentioned, water when applied, instead of extinguishing, tends to increase the flame, and even after the flame has ceased to be visible externally, invisible combustion, or rather consumption of the body appears still to go on. After the body has been consumed it appears to be reduced to a foetid mass, the odour of which fills the whole apartment and would seem almost to impregnate it, while at the same time, the walls and furniture are covered with a dark greasy impalpable powder. These seem to us the principle conclusions which we can draw from our present knowledge, in regard to this most

most extraordinary affection
It is fortunate it is so rare
and whilst we may never
meet with such a case, it is
still of great importance, that
we should be thoroughly ac-
quainted with all its phen-
omena, as such a case once form-
ed the subject of a criminal trial,
and it was the medical evidence
alone, in that instance which
saved a poor man from an
ignominious death -

Circulatory System - We
will now proceed to consider
the effects of alcohol on the cir-
culatory system. Its effects
upon the blood are most
important, when viewed path-
ologically - When we place blood
under the field of the micro-
scope, and subject it to the
action of alcohol, we observe a
marked diminution in the
volume of the red corpuscles,
at

at the same time as a certain quantity of the colouring matter is observed to be mingled with the Lig Sanguinis. We can easily see how deleterious an effect must be excited on the system from this circumstance as we know that these corpuscles are the most powerful agents in conveying the oxygen to the tissues and by this means securing the removal of their effete particles this will be even more manifest when we consider the results of the experiments of Dr Percy. In these experiments the fluid was found in an altered condition instead of the blood being in the solid clot it was fluid the same as is the case in narcotic poisoning. Dr Percy gives us many instances in which the blood was found to be quite fluid in the cases of the drops which he

he poisoned by alcohol. In one instance which he mentions of a gentleman who killed himself by an excessive dose of this poison he found the right auricle and ventricle and the ascending and descending bend of the aorta all distended with dark fluid blood and Dr Jones gives an instance of a man who died of Delirium in whom the blood was found quite fluid and very thin. This altered condition of the blood is produced by the alcohol becoming mixed with this fluid and also by its injurious action on the process of digestion preventing the proper chymification of the food. If we remember too the diseased condition of the liver and kidneys which it produced (as we shall subsequently see) in Dumsland and bear in mind at the same

same time the importance of these organs in removing the effete matter from the blood we will easily perceive how an altered state of this fluid will be produced but a more particular effect of alcohol on the blood is its power to increase the fatty particles which naturally exist in it. It is easy to conceive how by a slight alteration of the chemical elements of the alcohol may produce fat and although it was formerly denied by some that a similar change ~~by~~ the conversion of the saccharine elements of the food into the oleaginous was impossible yet it is now generally admitted that the views of Liebig on this point are correct. Again another explanation of the fatty condition of the blood may be

be found in the remarks of
Dr. Budd in regard to the great-
er ease with which some com-
pounds of Carbon & Hydrogen
are consumed by what others
are although of a similar
nature in consequence of the
different state in which they
are present in the blood that
is to say whether solid fluid
or gaseous he says as sugar
furnishes a material for
respiration which is soluble
in the blood it is acted upon
much more readily than the
insoluble fat which is thus
protected and alcohol has
a still stronger protecting
power for similar reasons
There is another peculiarity
in regard to the blood of
drunkards which it is im-
possible to overlook and that
is the venous hue which it as-
sumes in the arteries. This would
appear

appear to result from the oxygen
being chiefly consumed by its ad-
mixture with the ~~(fibrine)~~ was
found in an altered condition.
~~Instead of the blood being in the solid~~
~~clot it was fluid the same as is the~~
~~case in narcotic poisoning.~~ Dr. Percy
gives no many instances in which the
blood was found to be quite fluid in
the cases of the dogs which he poison-
ed by alcohol.) Carbon & Hy drogen
of the alcohol, but principally
perhaps from the imperfect elimination of
the carbonic acid, from the
lungs preventing the oxygen
from entering these organs, and
mixing with the blood. Dr. Grout's
experiments on this subject,
in connexion with respiration
appear to us confirmatory
of this idea. The primary
effects of alcohol on the cir-
culatory system appear to
be to as it is manifested
~~that~~ by the increased rapidity its
greater

greater fulness and also the flushing
of the countenance as the effects however
pass off, the circulation becomes slow
and languid. Such being the effects
of alcohol on the blood, it is easy
to conceive how the heart, the great
centre moving power of this fluid,
must be injuriously effected by the
overindulgence in intoxicating liquors.
Accordingly, we find that drunkards are
extremely liable to affection of this organ.
Hypertrophy is a frequent disease in such
persons, the increased functional
activity of the heart, caused by the stim-
ulants, produces a more frequent
contraction of the muscular
fibres, and there being at the same
time a greater resistance to the escape
of the blood, and thus induce this
morbid change. We have also Endocarditis
as a disease of drunkards, and this
may be induced by the direct contact
of the alcohol with the Endocardium,
or it may arise from a secondary
affection from some of those other
diseases

diseases to which such parties are so peculiarly liable such as Rheumatism &c. Disease of the heart however appears to be a very frequent effect of Drunkenness and Dr. Alison mentions that he has frequently seen this organ the first affected in the intemperate and that he has observed in such cases as often diseased as the liver - Fatty degeneration of the heart is another affection to which Drunkards are peculiarly liable - the muscular fibres appear to become atrophied and this fatty deposit then takes place and thus it is that in the case of Drunkards we usually find this organ pale and flabby the muscular texture easily broken down and the Cavities usually dilated. As with the heart so with the arteries they in like manner are liable to disease from the use of alcohol in many instances their walls are lined with atheromatous deposit and thus their Caliber is

is diminished and while the propelling power is increased, their capacity is diminished, and thus greater pressure is exerted on their walls, and it is easy to know, under such circumstances, how aneurisms and other lesions may occur in the vessels. The walls of the arteries at the same time, are subject to fatty degeneration, which increases this tendency to rupture.

Diseases of the organs of Respiration.

It is almost unnecessary for us to say, that the indulgence in alcohol is apt to produce disease of the respiratory system. If we remember what has been already said in regard to its influence, in producing a diseased state of the blood, we can readily conceive from the intimate connection between the lungs and the circulatory system, how these organs will be affected, when the ~~when~~ blood is in an unhealthy or diseased

diseased condition, and if at the same time we bear in mind the exposures to cold and damp, to which the drunkard is liable, we will readily perceive, that Bronchitis, Pneumonia, and Pleurisy are frequent diseases among that class. Phthisis too, is a disease of the lungs, to which drunkards render themselves liable - The frequent indulgence in spirituous liquors, naturally leads to the loss of appetite, and at the same time a vitiated ~~taste~~ state of the secretions is produced. We have thus imperfect nutrition, with a degree of mental depression, which is the natural sequence of Drunkenness, accompanied with a high state of irritability of the system, which are the natural exciting causes of this malady. Without remarking further on the effects of alcohol, on the organs of respiration, we will proceed shortly to

to notice those produced on the organs of digestion. Alcohol is a powerful irritant poison, and when taken into the stomach in a pure condition, produces all the effects of violent inflammation. Of course it is seldom presented to us in its pure undiluted form, but we judge from its effects, from the various experiments which have been made by Dr Percy and others. Such being its effects in its concentrated form, so we find in the usual form in which it is used, its tendency is, by its habitual use or rather abuse, to produce inflammatory affection of the stomach. The first effects that we observe after making use of intoxicating liquors are, an increased flow of the gastric juice, arising from the irritation induced in the mucous surface of the stomach this is frequently accompanied especially in those

those unaccustomed to the use of ardent spirits, by an inordinate appetite, and we frequently find when this desire for food is indulged, that the deleterious effects of the alcohol are to a great extent counteracted, this however is only the case in those who have recently begun to indulge in the use of alcohol, ~~or~~ do so only occasionally; the more frequently the stimulus is applied the greater the irritation produced, till at length we find the villus coat of the stomach, becoming covered with aphthous patches, at the same time that an erythematous flush covers its surface, and it is more irritable and tender than natural. If the indulgence in alcohol is still further continued, we find the gastric secretions becoming more vitiated, and a thickropy mucus exuded from the mucous surface. The stomach itself gets into a soft spongy condition.

- action, and unless the stimulus is stopped the whole organism of digestion become permanently changed - The experiments of Dr Beaumont on Alexis St Martin, sufficiently bear us out in these remarks, and we do not consider it necessary to do more than refer to these experiments for a full confirmation of our ideas. There is no doubt, the stronger the spirit made use of the more deleterious the effects, and the more rapidly are they produced, but there is no little doubt that however diluted the spirit, and in whatever form taken, if constantly indulged in, it will ultimately produce the same effects on the stomach. As in the case of the stomach, so with the large and small intestines, the inflammatory action extends to them and ulceration of their mucous surface

Surface producing dysentery and other such affections is a frequent complaint among drunkards. In the case of cholera it was observed that upwards of three-fourths of the patients attacked were drunkards which we think is sufficient of the tendency to disease of the bowels to which such parties are liable. From what we have said with regard to the effects of alcohol on the stomach it is easy to perceive that Dyspepsia must be a frequent affection of those indulging in frequent spirituous potations. It is a law of vital action that every organ which has been subjected to over-excitation is liable to a state of subsequent corresponding debility - This is the case with the stomach under the influence of alcoholic liquor for although we mentioned that the first effects

effects of alcohol were to increase the appetite, and if food was then taken, comparatively little injury might accrue, yet the frequent indulgence in it, by producing constant irritation, and a vitiated state of the gastric juice, impairs the power of digestion, and food taken remains long in the stomach, or passes into the intestine in a semi-digested condition. In the case of Armsteads too, a species of fermentation, accompanied by the generation of fetid gases, appears to take place in the stomach, as induced by the frequent flatulent ~~eructations~~ which they are subject shortly after taking food - This perhaps, to a certain extent may be owing to the chemical action of the alcohol on the juices of the stomach. The more frequently that alcohol is indulged

ged in, the less the desire
for food becomes. As in the case
of tobacco and opium, both of
which we know will relieve for
the time being the craving for
food, so with alcohol - a glass
of spirits will be more greedily
grasped at, by the ~~stomach~~ drunk
ard, than the finest dinner
that you could set before him,
because he knows from ex-
perience that his sensation
of hunger will be more quick-
ly allayed, by the former than
by the latter. It is a vulgar
idea although too true, that
there is no better sign of a sober
living man, than the taking
of a good breakfast in
the morning - You will seldom
see one who has indulged
deeply the night before, who
can take much food on
rising from bed - The stomach
is preloaded with vitiated
bile

bile and gastric juice, and if he attempts to take food the usual result is to produce sickness and vomiting - this vomiting is generally bile, mixed with tough phlegm, and until this is got rid of there is little comfort - too frequently in such cases, a glass of spirits or, as the old proverb has it, a hair of the dog that bit you is indulged in, sometimes alone, sometimes mixed with a tonic bitter. This gives temporary relief by adding a new stimulus to the stomach, but only in the end aggravates the evil, as the constant stimulation, to which the stomach is thus subjected ultimately terminates in its permanent impairment. It is in this way that we find that those who indulge constantly in the use of ardent spirits gradually become emaciated - there is a

a complete impairment of the organs of digestion, a disinclination for food, and spirits which they are constantly throwing into their stomach contain none of those nutritive elements which are necessary to repair the natural waste & decay of the system, and the natural result is the gradual enervation which we have remarked —

There is no doubt, that many drunkards get fat, but this we will find to take place in those who indulge in the use of wine, or malt liquors because in the case of those individuals we have the saccharine principle, which is mingled with the liquors they consume, becoming converted by the chemical action of the system into adipose matter which is deposited in the various tissues of the body.

LIVER. The use of alcohol is particularly liable to produce
Lipatic

Lipatic disease under all circumstances and in all climates, but more particularly is it so in warm countries. Some substances when taken into the body, from not being able to be assimilated, are destined to be excreted by the different excretory organs, and alcohol undoubtedly is one of these. From its chemical composition, it is unfit to enter into the renewal of the albuminous tissues, as it wants the element of nitrogen, and therefore must either be excreted or it may be laid up in areolar tissues in the form of fat to serve for some subsequent emergency. When therefore, we have this deleterious substance taken into the system in large quantities, the excretory organs are exerted not only to rid the system of the ordinary waste which takes place in the tissues, but they have also in

in addition to eliminate this
superfluous matter having thus
a double duty as it were to perform,
they are expected to render exertion
and according to the ordinary law
of all organs, they thus become more
liable to take a morbid action;
but in addition to the circumstances
mentioned above we have already
found, that in the case of alcohol
the lungs give off a less quantity
 CO_2 and consequently the Liver
is excited in a greater degree in
order to eliminate this poison;
it is it were is called upon to
perform the function of the lungs,
as well as its own and as the
lungs are dependent upon the
quantity inspired, for the proper
performance of their function,
it is easy to perceive how in
a highly elevated temperature
where the air is greatly rarified
by the heat and the quantity of
oxygen in a given volume there-
by

by diminished - the liver will be called into even greater exertion than under other circumstances and hence we can easily deduce the greater frequency of diseases of ~~that~~ organ in various climates. In addition however to Hepatitis and other diseases of this organ we may have the alcohol acting directly on the substance of the liver itself as an irritant poison we may have it also acting in a secondary manner by first inducing inflammation of the Duodenum and thence extending along the biliary ducts to the Liver and thus inducing inflammation of that organ - When however it takes place in this way in the case of alcohol we generally find that it puts on the form of chronic inflammation and not acute. This chronic inflammation however leads to a train of most disastrous affections
in

in that organ. Fatty degeneration of the liver is a frequent disease among drunkards. In their case we know the blood is loaded with fat and when under such circumstances, chronic inflammation does take place the fat will be more liable to be deposited in this organ. The liver itself may acquire a very great size but we invariably find that its power to secrete bile is greatly diminished. Other diseases of the liver are also frequent among drunkards - We may have what has been denominated the nutmeg liver which is merely a congestion of the veins of the Hepatic and portal system and as nothing is more liable to cause congestion of these vessels as the intemperate use of alcohol we easily perceive how this should be a frequent disease among such persons.

Cirrhosis. is another disease resulting from chronic inflammation which is caused by intemperance and from what we have already said it is needless to show how this should be the case. From the remarks we have already made in regard to the liver we may easily expect that jaundice is a frequent affection among the intemperate. Whether we adopt the view of the liver being an excreting or secreting organ it does not matter as the atrophy of the substance of the gland which occurs both in fatty degeneration & cirrhosis will completely prevent the performance of either function and the bile or at all events its elements will continue to circulate in the blood until eliminated by some other organ thus inducing the affection we have mentioned. Again another cause of this affection from

from the use of alcohol may be found in the enlarged state of the liver itself which by pressing on the ducts would prevent the passage of the bile or the thickening of the arterial tissue may press upon the bile ducts and in both cases the bile would be reabsorbed into the circulation. Other causes have been mentioned to account for the obstruction in the case of the intemperate; but we think those perfectly sufficient which we have already mentioned to explain the production of jaundice in such persons. The liver in Drunkards being so liable to become affected with morbid action - it is hardly necessary to mention that in their case both *Ascaris* & *Taenias* are frequent concomitants of a diseased condition of this organ. All the conditions which we know
mostly

Mostly conduce to these affections are present in the case of such individuals, and if general debility of the system, obstructed circulation of the heart, and through the liver, as we shall immediately see in speaking of the Kidneys. Bright's disease is a frequent result of indulgence in alcohol. In concluding this part of our subject, we may mention that both the Pancreas and spleen are liable to take on diseased action, in the case of the intemperate. The frequent use of alcohol produces an indurated condition of those organs, and they are frequently found to be much enlarged, sometimes weighing more than double their actual standard. The experiments which Dr. Percy performed in the case of dogs fully bear us out in these remarks.

remarks. We will now proceed to the consideration of the Kidneys. These organs perform a most important function in the animal economy in removing effete matter from the blood and such being their function it will be quite natural to expect that alcohol should be found in the urine of those indulging in its use. Many indeed have denied the existence of ~~some~~ alcohol in the urine of drunkards but we think that Dr Percy's experiments in this point have put the matter beyond doubt and we ourselves have frequently perceived a strong spirituous odour in the urine of parties indulging largely in the use of alcohol. The effect of alcohol on the kidneys is to increase their secreting power as exemplified in

in the frequent calls to urinate
exhibited by parties while in -
dulging in its use and this
excitement of their functions
when frequently repeated by keep-
ing up a constant irritation
in the Kidnies and causing an
increased amount of work
in these organs gives us as
we might easily expect various
diseases such as fatty degeneration
diabetes &c &c. We have noticed
one peculiarity in the case of
Drumstonds which we do not
think has been noticed namely
that while the quantity of urine
excreted during the time the
individual is indulging in
alcohol is greatly increased
the next day after a debauch
the quantity is distinctly dimi-
nished & it is not until the
system has regained its normal
condition, that the urine returns
to its natural quantity or
until

until the system has regained its normal condition a renewed application of the same stimulus again excites the kidneys to increased action.

Diabetes Mellitus which is a purely functional affection and where the urine is loaded with saccharine matter and greatly increased in quantity frequently owes its origin to intemperance. The ordinary causes of this complaint are excitement of the system followed by subsequent depression accompanied with imperfect nutrition and these we know are almost constantly present in the case of those addicted to intoxication and we may have it also arising in their case from the sudden check to the perspiration which they so often experience in passing

ing suddenly from the heated atmosphere of the 'Dram shop' into the cold atmosphere, thus throwing back upon the system what ought to be excreted from the skin, and thereby increasing the amount of fluid, which the Kidney is called upon to eliminate, and if this disease has once been fairly established, the more intoxicating liquor that is taken into the system, especially if containing to a large extent the saccharine elements, will only tend to increase the affection already lighted up in the system.

Bright's disease of the Kidneys, which is a sort of Chronic inflammation of those organs is one which, among other causes has for its origin, that of intemperance. Dr Christison states that up-
wards

wards of three fourths of the Cases which came under his observation had their origin in the abuse of alcoholic liquors and Dr Carpenter states that the experience of the English Hospitals leads to the same conclusion. This disease is allied in its character to that Condition of the liver which we have already described in so far as in both cases the secreting part of the organ becomes gradually absorbed and the fatty matter is deposited in the case of the kidneys in its cortical substance. and they have no doubt that those general causes which act so powerfully on the constitution tend to produce the disease in both instances. We find the bladder in the case of drunkards also liable to increase, This may arise from the direct action of the alcohol
in

in the urine upon the mucous membrane of the bladder, producing chronic inflammation of that organ, or we may have the inflammation of the kidneys themselves, extending through the ureters down to the bladder. The liability to this affection increases in drunkards, as they advance in life, and this is more particularly the case with those who, in early life have suffered from venereal affection of the genital organs. The deposit of uric acid Calculi may arise from the abuse of spirituous liquors, and as it has been observed, that there is a great connection between this tendency and that of gout, we can easily see ^{how} ~~from~~ this latter affection should so frequently occur, from over-indulgence in spirituous liquors. Excessive indulgence, more especially

especially when combined with
indolence, is undoubtedly the
great source of gout - and it
is on that account, that we
find it so much more frequent
in the upper, than in the lower
ranks. It is a disease which
appears to be owing to an excess
of Lithic acid in the system,
and manifests itself in inflam-
mation of the joints, & deposits
in and around them. Dr. Prout
tells us, that the lithic acid is
chiefly developed during the
accumulation of the albuminous
tissues, and such being the case,
we can readily imagine how
excessive indulgence in spirit-
uous liquors should produce
this affection, for this will act
both by deranging the digestive
system, and as we have seen
already by retarding the proper
oxidation of the blood, and
will thus prevent the lactic
acid

acid from being converted into such soluble compounds as would be carried off from the system. To prevent gout however, by intemperance, it is necessary that the liquor employed should be either in the form of the more acid wines, or in that of malt liquor. The use of ardent spirits alone will not induce this affection, and hence perhaps another cause, why this disease is so rare in the lower ranks, as they chiefly indulge in this form of drink; but in the case of parties connected with large breweries, and also in that of the London coal heavers, both of whom consume large quantities of malt liquor, this disease is not infrequent. The remarks which we have made in regard to gout, will equally apply to that of rheumatism as a disease of

of Rheumatism as a disease of intemperance. The diseases are so closely allied to each other, that it is needless to say more on the matter, than merely to add, that in addition to those causes already adduced, we have the frequent exposure to cold to which Drunkards are liable, as another source whence Rheumatism may arise. We will proceed now to make a few remarks, on the effects of drinking on the Sexual organs. When a person first begins the use of Stimulants, his sexual desire is augmented under their influence, and so much is the case that many a one of both sexes, under the influence of liquor have been led into excesses, which in their sober moments they would have shrunk from, and sometimes entail consequences from which they

they have never recovered. This however is only the case in the beginning of a career of intoxication or only happens to those who occasionally indulge to excess. If frequent recurrences had to spirituous liquors instead of excitement we have the very reverse the sexual desire becomes weaker and weaker until at length if drunkenness be long persevered in total impotence may be the result. This appears to be caused by the complete prostration of the nervous system owing to the constant state of over excitement in which it has been kept. I have no doubt however that in addition to this some morbid change in the testes may also take place although we have no data from actual experiment to prove this

this conclusion. There is no doubt, that in the case of drunkards the power of procreation is gradually but effectually impaired. It would appear as if no organ which performs any important function in the animal economy, but is in the case of drunkards, liable to put on diseased action; and we find in them, that the very skin is liable to various affections. The Skin is a most important & cautious agent in carrying off various effete matter from the system, and when it is diseased, grave internal affections, not unfrequently take place; and Vice Versa we not unfrequently find internal disease, mitigated, when eruptions of the skin have come on, and we know how frequently in our efforts to

to remove internal diseases,
we employ such remedies as
determine to the skin. —

Urticaria which is a disease
chiefly arising from gastric
and intestinal irritations,
frequently has its origin in
the abuse of alcohol. We have
also Erythema ^{which} may ~~also~~ arise
from this cause. The other
diseases which may be en-
umerated are Herpes. Eryzema,
^{Pemphigus, Ecthyma, Impetigo}
Rufsia, Lichen, ^{Pimples} also the
Acne Rosacea which principally
affects the nose, and which
gives the bright crimson colour
to that organ, in the case of drunk-
ards. Psoriasis and Pityriasis
are also two diseases caused by
alcohol. All these affections
may be produced either in
consequence of the deranged
state of the digestive system,
and the liver which we have
seen

seen are the common accompaniments of intemperate habits. Alcohol also acts upon the skin, directly affecting its nutrition, increasing its functions, and overstimulating the sudoriferous glands, and this being consequently kept up, tends to induce the affections we have enumerated. Another affection of the skin to which the inebriate are liable is Erysipelas; and it arises chiefly from the debilitated condition of the system, which is induced by intoxication; in small liquor drinkers especially the slightest scratch is sufficient to light up the most intense and often fatal erysipelas. In the case of the inebriate too, the skin is very liable to ulceration, and these ulcers are usually of a most unhealthy character and most

most difficult to heal. We cannot conclude our remarks in regard to the diseases caused by intemperance, without briefly alluding to the effects which the use of alcohol has on the secretion of milk. We know that many substances, given to a female, during the period of lactation, must find their way into the milk, which is secreted, as exhibited by the effects produced by them on the child - Purgatives for instance, taken by a mother, frequently act violently on the child, and are frequently in the case of infants at the breast treat secondary syphilis in them, by administering the remedies to their nurse and thus causing the child to take the remedy with the milk. Such being the case
with

with medicinal agents we can easily perceive how it should also be so in such a subtle agent as alcohol and many injurious consequences to the offspring may be induced by permitting them to imitate the smiles of an individual who indulges in the use of alcohol. Many look upon the secretion of milk at the time of nursing as being a drain upon the system and keep up the strength as they allege most injudiciously indulge in the use of liquor in order to keep up or increase the mammary secretion but this secretion is a natural process not a morbid action and there are few cases indeed in which the system is not adequate to the demand made upon it without the aid of any external agent. Other two considerations might

Might show that there is no
need of aiding nature under
such circumstances; during
fetal life a large proportion
of the nutritive elements intro-
duced in the parents system
went to the formation of the
child. This during lactation
is no longer the case and what
formerly went for the nourish-
ment and growth of the foetus
now goes to aid in the formation
of milk. Again during the
period of nursing the Cat-
amenia usually continue absent
and this drain to the mothers
system, is wanting. Nature thus
as it were puts the system in
the best possible condition for
sustaining this new secretion.
Besides this alcohol cannot
be expected to keep up a per-
manent augmented con-
dition of this secretion, as
we

we know it does not contain
the chemical elements for this
purpose, it may indeed
introduce fatty matter or
by consuming the oxygen
itself may prevent the waste
of the oily and saccharine
elements of the blood, but
by introducing no nitrogen
it does not add to the nut-
ritive elements indeed by its
deterious effects on the
general system it ultimate-
ly impairs them. In those
circumstances in which it
is necessary to administer
stimulants, alcohol is the
worst form in which they
can be given. We sometimes
find the system during
lactation in a debilitated
and emaciated condition
and then it may be necessary
to administer not only
Nutritious

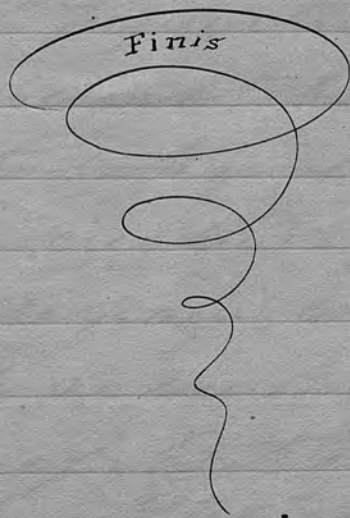
Nutritious diet but also
stimulants in order to increase
the richness of the secretion
and strengthen the body
and alcohol would not
supply the desideratum
req^d; under such circum-
stances wine or malt liquors
are the proper remedies
but even these must be
used with caution and
only to a moderate extent
as under their use we are
apt to have inflammatory
action set up, and then in-
stead of the lacteal secretion
being increased it will be
diminished or at all events
so altered as to be rendered
unfit for Infant life.
Like all other secretions the
milk becomes unhealthy in
the case of those who indulge
much in the use of spirituous
liquors

liquors and there can be
no doubt, that the best
nurses are those who never
use any ^{alcoholic} liquor whatever
and who live on light fluid
nutritious diet. at the
same time that they take
plenty of healthful exercise.
In the case of Drunken females,
we usually find their children
emaciated, and unhealthy.
They are peculiarly liable
to affections of the digestive
system, and frequently
in them, convulsions are
brought on by the deteriorated
alcoholic milk, which
they imbibe; and Dr. Worth
mentions, that he has seen
these convulsions, at once
removed by the child
being removed from its
drunken mother, and nursed
by a temperate woman.

C

I believe that it will
be found to be a fact
that children nursed by
a dissipated woman is
more liable in after life
to become a drunkard
than one nursed by a sober
one and hence there is
more truth than many
suppose in the proverb
"He sucked it with his
mother's milk"

Finis



In concluding my remarks on this subject I must guard against being supposed to be against the moderate & temperate use of intoxicating liquors. I cannot give in to the doctrines who are called ~~the~~ ^{the} Totalitarians. On one ground alone can I condemn such doctrines twofold & those are those of expediency & even their arguments in its favour confirmed to this I would willingly yield the point to them. We know that indulgence in intoxicating liquors grows with frequent repetition & there is no doubt that as man is better to refrain altogether very much the creature of habit it is better to refrain altogether or gradually acquire the habit of drunkenness. But when a man is supported by proper principle I do not fear for his acquiring such a habit & there is no moral evil in that person using the beverage.

Sanctifies of Providence in a temperate
moderate manner. We have the
example of our Blessed Saviour
who when on earth countenanced
by his presence the innocent use
of wine at the marriage ^{feast} of Cana
I contributed by his just miracle
to keep up the supply which
was too scanty. That this wine
was of an intoxicating nature there
can be no doubt for the Master of
Ceremonies pronounced it better
than what they had been using
I stated that it was not unusual
to keep the best till the last
We know that the beverages
by the Jews were similar to those
made in our own day which all
contain Alcohol.

Alcohol is condemned because
it is not a natural but an arti-
ficial stimulus We are told
that we are not at liberty
to employ any other than
natural

natural stimulants to produce
Pleasurable sensations for they
are the only ones which do not
injure the system & that whenever
we employ any artificial stimulus
we produce injury to the system
but they most distinctly to
deny the distinction they draw
if it is looked into it will be
found it is more imaginary than
real, for we find in the case of
vision that if light be too long
too intensely applied to the
eye, & it is the natural sti-
mulus of the eye it will induce
disease or impairment of that
organ & this is the case with
the other senses. Again food
is the natural stimulus of the
stomach, but I would beg to
ask Lee-totallus what kind
of food. He does not mean to say
that our ~~that our~~ Creator fur-
nished for us Roasts & Boils

no the only food provided meet the
productions of the earth, but he
must agree that there is any
sin in our using the ordinary diet
of the present day; or if he is
a vegetarian as well as a Te-
Totaler he cannot deny that
when he boils his food he is ^{not} using
natural but artificial food.

Those that argue in the way it
is done in the present day in re-
gard to alcohol should first set
the example ^{of living} on the production
of the vegetable Kingdom in the
condition they are presented to
him in nature & the Fair should
then believe him at least, to be
a conscientious although in our
opinion a very foolish man.

He looks upon ^{social} social enjoyments
in general as contributing to the
health of the human frame, as
we know that seclusion & depriv-
ation of spirits tend to induce

depression

whereas enjoyment & Society tends
to invigorate the body and as
wine has an exhilarating effect
upon the system we look upon
its use when kept within proper
bounds as highly beneficial—
As to those parties who hold
such extreme views as would ex-
clude alcohol from among the
list of Pharmaceutical agents
we have nothing to say to them
The concern it would be a mere waste
of time to endeavour to argue with
such parties. They would remove
from the hands of the Physician
one of the most powerful auxiliaries
he possesses in alleviating and
removing disease and often times
saving valuable lives.
In conclusion we think that
the moderate use of alcohol
is not to be condemned & that
there are numerous circumstances
in which it is both useful & necessary.

Patience Murray
Lunenburg