On
The Communication of Disease

John W. McLare
This is a subject of vital importance, not only to the Medical Practitioner but also to the
Public at large — a subject, an accurate
acquaintance with which, would have obviated
many of the evil consequences which an imperfect knowledge of had induced, with instances
of which the annals of Medicine abound.

At the same time it must be confessed
that the enquiry is one of extreme difficulty, if
properly carried out, owing to the well-nigh
impossibility of securing data of sufficient
value to enable us to arrive at satisfactory
conclusions — Owing to the difficulty of se-
curing reliable facts to set out with, many
conflicting opinions have from time to time been
advanced, partially defended, and it is only
within a very comparator, recent period
that anything approaching to a common un-
standing has been come to (this still there
is much to be done.) That only after patient
plodding, perseverance, of observation by various
scientific inquirers — Even in the present
day, much is the further investigation relating
relating to this subject — for many points connected with it we may be said to know nothing (no plausible theory be advanced) — such as how the virus of infection affects the system, the causes of many diseases, as of those denominated specific to any point, such as the we term still from many Poem I am only as it were approaching the threshold —

In the following pages it will be endeavored to give a general view of the spread of disease by what is termed Contagion and Infection with special reference to a particular disease or groups of diseases which may be said to dignify them as it were — some of these theories advanced by different observers will also be adduced, when these discussed —

Before entering it will be as well to state what is understood by the terms Contagion and Infection respectively — some they are held to be synonymous in one way they may be called so as will be explained below — they are intimately
it is not very easy to draw a well-marked distinction between these. There are many points characteristic of each. A disease may be contagious, not infectious; infectious, not contagious; or even both under certain circumstances. The term "contagion" is restricted by some to the communication of disease by actual contact or close proximity. Infection to the organism influences conveyed through the medium of the atmosphere. This latter meaning is the medium of communication in many cases supposed to be contagious in other cases.

In other words, it may be said, that when the transmission is effected by a material substance in contact, the term "contagion" is employed. This may be called "immediate contagion." On the other hand, when the transmission is effected through the agency of the wind or currents of air or at a distance, the mode of communication is denominated infection. This may be termed "remote contagion."
Does not lay out his opinion on the difference distinctly, whether not opinion may be.
That is to say, when the poisonous principle is volatile, capable of diffusion in the atmosphere, it is infectious, but when the diffusibility is absent, it is simply contagious. In this light, they may be viewed as modification of the same principle. But for our present purpose it is more convenient to view them as two separate conditions, the closely allied to each other. But in whatever way they may differ, in their mode of transmission, still, the way in which they are received by the system may be said to be the same.

The difference between them is well defined by an author who remarks, "Infection is what can may affect so as ultimately to taint pollute, or corrupt the body." "Contagion is an infection by immediate contact as a pollution by touch."

We will now consider some of the causes which, by no inducement, permit the spread of diseases. Bad air, bad food, habits of life, all favor its progress under certain circumstances; peculiar states of body, often the

7
as fear, agitation &c. when the stomach is empty. The system weakened, the absorbing surface leaves nothing to take up their attention at once; all these may be considered as the symptoms of disease. Peculiarity of constitution also predispose to it. Bad air in many cases also has its influence. Inhaling exhalations from the earth's surface are also hurtful. This seems borne out by noticing that on particular occasions, the disease seems confined within certain limits, to those avoiding that locality escape unnoticed. Those again who, often needlessly, venture without a sphere, often pay dearly for their temerity. In our large towns, when the streets are not kept in clean as they ought to be, especially in the narrow lanes, close localities with fewer trespassing particular thefts (if the too few for sanitary purposes) in front of or under particular dwellings — those in many cases get choked up with excess of matter from occultant vermin, &c., before phlegmata, which spread through the cough —
with their noxious exhalation— Decomposing
vegetable matter, both animal and vegetable,
permitted to rest undisturbed in heaps in close
street-disposal to the rays of a hot sun, as in
some Eastern cities cannot fail to make the
atmosphere more or less unhealthy. It is to
notice that that many years after the
large pits were closed their exhalation still
continued (in which the victims of the London plague
were buried) the exhalation from these pits
infected the neighborhood.

In our town, the causes alluded to give rise
to forms of a low type— Monstrous heaps of
country, stagnant pools of water, are also
forming causes— we have good examples of the
in the Pontine marshes near Rome, in the
marshes in Tuscany of the harmful effect of
inhalation & poison-laden atmosphere on the
population within its bounds—most of whom
are fishing, ferrying, in a most unhealthy
both physically & morally—no drying, but mere
by picking, the different ways in which the
human body may be attacked by disease
may be conveniently arranged as follows:

1) By the morbid impression of agents, internal, or self generated, or external & noephtic—
   The infection being limited to the individual & incapable of propagating itself.

2) By the pollution produced by animal effluvia—
   The infection being capable of propagating itself in certain known circumstances, yet propagating itself ly the healthy from those affected by the formentioned agencies—

3) By the morbid impression or contamination or pollution, arising from specific emanation or secretion—
   The infection presenting certain effects, held the specific & disseminating and continuing specific maladies—

(a) Infecting agent, consist almost entirely of decomposed & diseased organic matter, of animal effluvia, secretion, (as already stated)

(b) From these agents, which proceed from decomposition of vegetable matter, substances, or principles,
   Though they may affect the individual exposed to their acting cause—yet not capable, when not assisted, of producing these states of action.
or producing morbid influences, by which
they may be propagated from the sick to the healthy.

(c) Organic matter in a state of decomposition,
or diseases and animal reactions, infect the human
system, mainly during state of predisposition.
or of unusual susceptibility to disease, of which
state however we know only a few, of these
few not all the particulars.

(d) The morbid action produced by infecting
agents, generally assume specific forms,
according to the nature of the agent; so that,
the agent being known, we are in some measure
able to judge of its probable effect. From
witnessing its effect we may be able in
many cases, to come to a pretty correct conclusion
as to the nature of the agent at work.

So that of each of these separately and methodically
would accout to lay a time, accordingly they
will only be noticed incidentally, according as
they bear on the subject of our enquiry.

When a deadly disease is prevalent
in a locality, it is common to find that the
Morbid influences may be conveyed from the person affected, either personally or by articles of property such as apparel. These influences, of whatever nature, forever they may be (probably each differ from the other according to the class to which it belongs) are conveyed most probably in the form of excretion (secretion) as the case may be, in the form of minute particles which are either deposited on the individual, or on his clothing, when agitated in any way. These particles are dissolved & settle on some portion of his person—probably some abrading surface from whence they are admitted into the system. This is a general outline of how the poison is supposed to act, but will be noticed more particularly, further on (see page 32).

Disease may at different times in their character vary, but as it is said they have change, of the circumstances has been explained by some on the principle of physiological change. It is still less on a disputed point. But low on the theory, we notice that some diseases, as epidemics
noticed, the very fatal their outset, generally
pierced milder and more tractable, as they advance,
leading me to the conclusion, that their poison has
lost most of its intensity, it power having been
expeid on the first victim, in a short time
it disappears this dormant, until it receive
a fresh supply of active material.

In Cholera, we notice, the gradual decrease of
malignity, as mentioned above, yet it does not seem
to have the power of reproducing itself.

But those diseases which are supposed by
not the capable of reproducing their own virus,
may unknown to us receive a fresh supply,
from the source, from which they were first thrown
to erupt — as in case of small pox, which
from its first appearance, has incessantly
spread on its ravage, until checked by the
general adoption of Vaccination.

They are influenced, further, by states of the
system at the time of invasion. At one time,
its may resist the disease, but a week hence the
most fatal for its reception; sometimes
of the mere accused in the case of those in
charge of persons taking under disease, as in hospitals.) If an individual be long exposed to heat or cold, the nervous system becomes depressed, the nutritive function impaired. In many cases, Phthisis is brought on due to imperfect nutrition of the lung tissue, that in turn due to nervous depression. We often witness these as the result of cold.

In treating of the causes of sickness or disease as regards its infectious nature, we meet with many difficulties, in as much as, in many cases, we see disease arise without any assignable cause, and that in such cases which are many, reduced to much uncertainty and speculation. We may, however, say that in general, many that infection may arise from the following sources—which may be divided into:

1) Idiopathic infectants, or those which may produce diseases, incapable of perpetuating their kind, unless other cause be superadded.
2) Those which produce maladies, which may be perpetuated, under favorable circumstances, or in other words, they are Conditionally (Potentially) perpetuating Infectants.
Specific infectants, or those producing disinfectants, perpetuating their kind, both immediately and indirectly by what are termed fumites. Under the first of these heads we may consider Intermittent Fumigate Forms which first produced from a particular cause are yet incapable of communicating themselves unless the same cause be applied.

They depend for their cause on exhalation, emanating from the soil and are confined by the limits of the influence of the cause. Intermittent Fumigate Form or gas is produced in its initial form from a dry soil in which the primary material Læv pulsæ, is contained in a bed of slate or clay or solid rock through which the plaguing matter cannot penetrate, under the influence of heat or other cause the portion vapours ascend without the expansion of the atmosphere is necessary to the full efficiency of the poison — a dry caustic spot has been found most deadly in this respect, to support the view of its being local in its
Evidences and characters, it may be mentioned, that one side of a river may be monstrously able to give it, whereas the other may be perfectly healthy. Perpetual fever arises from causes much the same as this it.

The lower a locality is, the more liable it is to the kind of malarious influence. An elevation of a few feet may make a great difference in the comparative salubrity of two localities, this within a short distance of each other, this has been found in the case of some of our West Indian parishes town.

It is said the more favorable for the evaporation of these various vapours (irrespective of the day) the more (over persisting it would prove) in these hot climates at least to dissipate the inorganic much as it; the day time is sufficiently hurtful.

The healthiness of the opposite of a town may often depend on the direction in which the wind blows; as where there is a tract of grassy land in the neighborhood. If the wind come from the stagnant water, the town is unhealthy during its continuance from that quarter. If toward it, the reverse is the result.
The land and sea present one of use in contrast to the healthiness of many people.

If a sheet of water intervene between individuals, the force of emanation - the wind blowing from it, is much case paid the harmless, the water having the power of absorbing the noxious poison.

Trees, especially large spreading ones, are paid to be capable of retaining poison noxious matter and affecting those who rest under their shadow, as is customary in hot countries.

A fever or contagious disease may be produced secondarily; the give rise to the idea of having been communicated by contagion, this primary disease (indeed not contagious) being brought in by unfavorable circumstances, as to the mode of life: it may induce debility, a low dynamism, which though at first inapprehensible, if properly its kind, frequently under unfavorable circumstances comes on a more or less dangerous character, owing such circumstances a want of air; these cause may combine to produce the change mentioned above - the habits of life of the people concerned may also exercise an influence on it.
again the seeds of a disease may be present in a person's system, yet no trace of the disease visible. Many diseases have this property, which is termed the period of incubation of the disease, during which it is preparing itself for the end. In Hydrophobia which is a good example of the property of incubation, the poison is at first local. By proper means, it may be completely eliminated — in process of time it spreads and increases. The disease is fairly established. The period of Latency varies from 40 days to weeks to years and to many months. (J. J. 1897) In this point however we lack certain knowledge — the period probably varies according to the capacity of the constituent to resist the poison a certain amount being necessary. The period necessary for elaborating it (the virus) has in proportion to the amount — the proportion of the period to the amount of virus necessary may also, according with respect to other diseases — small polio encephalitis, its appearance on the 7th day usually but varies to 16th. 17th, 18th.
Vaccinia does not produce pus, its specific effect till the 3d day & comes to maturity (in form of pustule) on the 7th. But it is as well to have in mind that its efficiency is by no means in proportion to the celerity with which it makes its appearance. Pustules usually appear 14 days of incubation after its appearance on the 3d day. But variation occur pretty frequently.

A good deal of importance attaches to the incubation of diseases, or of the plague for instance, with respect to Demantia Syne. The 8th day may be set down as its average of appearance (after incubation), sometimes it appears as early as the 5th or 6th day. If this period were acknowledged universally much time & annoyance might be saved. The law setting the period of Incubation is 30 days, yet in spite of these regulations they are often eluded. The disease spreads in spite of the authorities. In many places the observation of the regulations is very lax.

Unnatural degrees of heat & cold, & also habits of...
indulgence in excess, as intemperance (of all other) are fruitful sources of disease— With regard to the virulent poison of contagious disease, the exhaled p Fear is capable of propagating them, and capable of dilution (although losing their energy according to amount) by the intervening atmosphere—so that if one were near enough to inhale the health of a patient poisoned, he would in all probability be poisoned with the disease, especially if he happened to be a dead one—a space of two feet is usually allowed, so that to beyond which such poison, (or if small part which is as active as any) may be said (the practice— All consent of air should be allowed, if possible to carry the poison-loaded air from us— Want of caution in this respect has proved fatal in a Medical Gale, as when examining the throat of those affected with Drapieria—in not a few casesthey have been known to have inhaled the poison while succumb under the attack— It mention (p. 16) that contagious disease
was often carried by means of Fevers — Homo — he asked what are Fevers — They may be defined as pores bodies capable of conveying disease — A very common form is that of merchandise with the introduction of which at particular periods certain of our greatest pestilences have been attributed —

The fatal plague which visited London in 1665 was traced or supposed to be, to goods imported from the East, from a place not to be mentioned, with respect to the poison they conveyed, it is said that a high temperature destroyed it — up to 130°F. Plague nostrums of all sorts are said not to have been checked in this way — but it is proposed to treat all suspected articles such as pillows &c. in a corresponding fire with the view of destroying the vitality of the poison — In India, it is said that the temperature is so high that it is with the utmost difficulty they can succeed in preserving any of the vaccine matter for maculating against small pox — yet small pox is very fatal —
The question has been put to us, Can any limit be placed to the period, during which a disease may last in animated beings? — It must be answered in the negative, because we find the period to vary so much, that no reliance can be placed on it. — If it is put from an animal poison may be obtained for years. — Smallpox is said to be capable of being preserved this for a period of 30 years; this reveries must be accepted with grace. — Certain forms of fever, one Brown, that have been kept about a room in which has been properly ventilated, for several years, much it will be seen depend on the amount of resistance to atmospheric air. — This along with a proper amount of fortification is the best means of dealing with this. — Not with regard to this subject a curious question has been asked us. Can bodies, which have been buried a long time communicate contagion? — There are circumstances in regard which would justify us in returning an answer in the affirmative. — Smallpox is said to have communicated
itself, after burial for one year, i.e., it is paid for 10 shillings. The last statement
levee in must be received with reservation
in the same way the Plague is said to be con-
tagious after death—
With respect to some contagious diseases,
we notice that after living once attacked by
an individual, they seldom do so a second time.—
thought, people, this contact are not wanted
but the former may be said to be the rule—
How is this explained? Possibly each
different disease requires for its support
in the blood—One of its constituents, i.e., the
chicane is eliminated, along with the poison
from the blood—when all the poison is elim-
inated, the disease is gone too. As long as this
ingredient is absent more action, for induction
is carried on as we shall afterward see after
the arrest type of the blood tissues, a Poise
represents it—As they may be stated the
amental as follows—he suppose that first
of all in all cases of malady action once,
a small amount of unaided material
is admitted into the blood, even in cases
where no trace of it existed in the tissues, prim
arily affected—after the liver cells reacquire
their former tone & function, nutrition is carried
on as formerly, & not a trace of it (the poison)
left in the system—yet still the trace or
influence of that unkind element, persists
the, is not removed or eliminated, but the
impression of it as if were still remains, & all
nutrition is carried on afterward according
to the change thus produced—seven years after
the tincture has proceeded in shaking off
the evil influence; the blood still retains
some trace of it—in the case of disease, to
which this applies. The change in the blood
remain, once for all—as has been already stated, after this, the formative process
is carried on according to the altered type
of new deviations from it—but fresh materials
are constantly being produced, of a nature
exactly similar to those altered by the disease
(No. 1-1.30). The new materials then according
to this view, are incapable of being acted on.
again by the same, or a similar poison, of the
individual is safe from the danger of future
attacks — this explanation is not plausible
but hardly satisfactory —

The atmosphere sometimes assists spreading
an outbreak of country, disease which
spread in a manner epidemically, but do not
appear from the mode of their infection. The
disease confined to particular spot, or the communication
chiefly or solely by contagion — instances of this
occurred in Eupipela, & Dampier at par-
ticular time, & some think in cholera.

But these the contagious are not solely by the
atmosphere in this case influencing their —

The influence of the state of the atmosphere
in disease is not yet, accuracy is still more
difficult, attention has only of late been paid to
it constitute a very instruction as well as

useful scientific study vis. that of Medical
Meteorology — In young persons, the
tendency to disease (of this character) is said to
be greater than in elderly persons — they
usually come off best, in this encounter,
except under adverse circumstances.
A proper quantity of pitch & pine oil is of great use in such fevers, in proportion as ventilation is good in the chamber, to save the chance of recovery. he said the favorable or otherwise—

As a type of purely contagious disease, small pox may be taken, which at one time was almost universal, & as uniformly fatal. Since its first notice, it has been always active, prevailing tenor in mankind, wherever it directed its steps, despopulating large tracts of country in a short time. Traveling along with frightful rapidity it swept with motion, it paused—for a fresh outbreak—its contagious properties are strongly marked in the rapid manner in which it terminates whole tribes who lived at a distance from its usual track. For whom the disease had probably been brought, so related maternal records instances, by a single individual himself affected—the readiness with which inoculation with it takes place, & its protection against future attack as in other contagious diseases all the point out of its contagious properties
The individual who first introduced it into Mexico, is said to have been a negro who was
laid off a ship crowded with passengers and small cases. In a short time it had made
millions of the natives, or said to have perished—
It is said the same powerful was that
of other similar diseases— or any other pair
in one accompanied with— By infrequent
it is said that two feet are the limit, beyond
the range can estimate or diffuse itself.
Beyond that, it is so diluted by the atmosphere
as the innocence. (So it is said)—
Drops of it, itself, immediately after
it has seared in the system, there a period of
incubation of about 12 days. The incubation
At one time it was the most dreaded
doing, people regarded it name with
horror, and to approach with a feeling almost to despair,
receiving it, progress with obtracy and, desist along
thirty its path with victim— Fear so profound
on the mind of many that they actually took
its every breath of understanding that most
extensive efforts to avoid contact with these
affected with it—
The fear of smallpox, in a great measure, abated, since the discovery of vaccination. One of the most inestimable blessings ever conferred on humanity. In countries which formerly used to be overrun with it, when vaccination was introduced, smallpox decreased. In this country, too, it is the presumed, the mortality among the unvaccinated is said to be one in 33.

A very large proportion indeed —

With regard to the question whether miasmatic may produce syphilis. Here there is still dispute. One party holding that syphilis may arise from the cause, other that it cannot be.

Idiopathic. It is probable that in many of these cases, form of a typhoid character was mistaken for true syphilis. Typhoid is held the capable of being produced by foul miasmatic putrid emanation.

The period of incubation is about a week, but it may be lasting about a person during the time he is exposed to the circumstances which he fancied thought on the attack.
at the ending of such period, to be ceased with the fever, the invasion is immediately attributed to the above mentioned circumstances—The former being entirely lost sight of—so that in such cases one cannot be very careful, just suppress his opinion till all the circumstances of the case have been fully investigated—Such fever are termed Pathogenic or Incendive as opposed to Epidemic.

But it may also be well to remark that this fever due to the above mentioned causes—yet it may be produced under certain circumstances, by mental depression, privation, etc. Accordingly it is found often among campaigning armies—the especially in the winter when the spirits being naturally low, under defeat of living imported food, suffering many hardships such as usually fell to the lot of the soldier.

In proportion as the victor circumstances increase so does it—till it disappears together—If the victorious army be in turn victorious the probability is that living, being better than at its command, the malady will soon disappear.
The modus operandi of the poison of its nature, late, naturally, excited, the attention of many observers, started their ingenuity to find out a plausible way of accounting for its invasion and subsequent phenomena. Many distinguished men have instituted researches, with that view. Among the rest, the celebrated Chemist, Liebig, who, as the result of his observations, arrived at the following conclusion:

With regard to certain Contagious disease, after one attack, being (more or less) prophylactic against further attacks, of the same malady; with respect to their passing certain periods of incubation, of continuing, then failing course till they terminate. With regard to these points, the theory, if admitted, will afford some clue—

His theory is, as follows—

He compares the action of contagious disease (i.e. of certain animal poison, whether communicable by contagion, or infection, introduced into the blood) to the process of Fermentation—

as produced by the Brewer, in his fluid, called technically, 'sweet' by adding to it a little Yeast.
The intermediate form of Matt liquor (wort) contains insoluble a considerable quantity of saccharine and other vegetable matter— the yeast having a peculiar action (from the change it undergoes) when placed in contact with saccharine matter (solution) — a breaking up of the original materials in the consequence, of a chemical combination, ensues in which a simple result is produced — namely, one equivalent of sugar being converted into 2 of alcohol + 4 of Carbonic Acid —

\[ C_6 H_{12} O_6 + H_2 O = C_2 H_4 O_2 \]

\[ C_2 H_4 O_2 = 2 C_4 H_6 O_2 + 4 CO_2 \]

But the gluten, which also is present in considerable quantity, has on its influence on the trans—formation, it causes the yeast to increase in size to an enormous extent, by uniting with the CO₂ which has been liberated, floats on the surface of the fermenting liquor — such being the pains of change in fermentation, by the influence of yeast, it forms, in Liebig's opinion but the type of what occurs in the other animal fluids, under similar circumstances —

He maintains, to use his own words:
"That a substance in the act of decomposition, added to a mixed fluid in which its constituents are contained, can reproduce itself in that fluid, exactly in the same manner as new yeast is, when some is added to a liquid containing gluten. He suppose that to cause the poison to multiply in the blood, a substance analogous to the gluten of fermentation is requisite; if it be present, the virus increases; but if not present, then, cannot propagate or increase—Thus he accounts for the production of certain disorders due to diastemata, which are not communicable from person to person—in proportion to the impurity of the ingredients taken up, so is the fatality of the disease, for the disease does not seem to occur unless the whole of that particular material is used up by it—If, however, the ingredient is wanting or reproduced, the disease takes place—When it is innocuous--The ingredient may be replaced sometimes may exist in some part or other; and at one time it is not at another. All this is very plausible and account of admittance, for sec. 1. 49.
inal circunstances which formerly we
inexplicable — such as the temporary or per-
manent protection, which particular contagious
diseases afford against further attacks of the
same disorder — the comparatively definite
incubation period of each, & the generally fixed
susceptibility — the greater susceptibility of some persons,
more than others, of their influence, & the fact
that an individual may be more capable of toler-
ating a disease, at one period more than another —

The Fermentation Theory which Lawson is only
analogical — is not admitted by Mr. Syme.

In his Pathology — he Lawson admits the hypothesis
of a fermentation material in the blood, the "not
essential to its integrity," the material, combines
with the Virus to excite febrile action, & increase
susceptibility, the introduction of that material, sub-
sequent immunity for further inoculation
is procured — he limits at the possible identity
of the resulting material with certain waste
of the tissue, as he term it. — He expresses
himself thus: "In early diseases, in infancy, &
till puberty, there are certain waste materials
which are, after all, the temporary cartilage, lose to waste away — the Thymus gland is to decay — Peculiar changes, referable to the nervous system, have to be accomplished, the effete products of these changes have to be eliminated from the system.

The second is the surface organs most prone to affection in the disease under consideration are those which are eliminative & depositories. These, whose normal products, can hardly be retained for any time within the body, much less out of it, without undergoing a putrefactive decomposition, which sufficiently stumps them with an excrementsitious character.

Bowels, skin, lungs, tonsil, are the favorite resorts of the putrid ferment, just as they are the surfaces by which, naturally, the organic waste of the animal tissues is eliminated.”

Mr. Pastet, view on the subject has been already noticed at pages 38 & 39 —

Other have tried to account for the action of such diseases, by suggesting the existence of certain fungi (as in cutaneous diseases), which
As if a particular species at one time, may
under certain modifying circumstances (such
as heat &c.) be transformed into new species,
into other genera— & as the genus or
species is, so is the form of disease—
This theory is more assumptive, our know-
dledge on this matter, not being, as yet, of a
definite character—
May not the following be plausibly admitted, to
the mode in which the & poison is conveyed, & ad-
mitted into the system—
It is well known that Carbon is a great absorb-
ing agent—in this respect, Larder, if at all, second to any,
Now, we find in many cases, that the cast off,
clothing, bedding, &c. these articles which have been
for some time, in contact with the individual
retain the taint they have received, with great
tenacity, so that many are filled with the distemper,
aparently in consequence of being for any length
of time (greater or less as the case may be) in intimate
contact with them— how these articles
are saturated with the inhalation of the patient
from the various surfaces of his body—
These exhalations contain Carbon, in disease
the discharge from these surfaces are more than usually
copious (at least during the dissolution of the disease) —
the particles of clothing, bedding, &c., also contain it, in
greater or less amount, for Carbon is essentially, the
organic element — These particles are so minute
as to be invisible to the recent eye, & when let
loose from any cause or other, float about
in the atmosphere as impalpable dust; when
the particles, thus loaded with the poisonous
material, float, or are wafted here
or there, they come into contact, more or less, with
some portion or other of the absorbing surface,
where it may be admitted into the circulation —
The heat of the body (or blood) act on these particles,
free the poisonous material, into the circulation,
wherea, the particles may again be expelled in
the usual way — The poisonous element may
very readily be supposed to multiply itself, if it
meet, with the favoring element, as stated above —
During the interval which intervenes between
the first introduction of the poison, & its being
able to increase to the amount necessary to
infect the system at large, the period of incubation may be said to exist—ref (i) the point of introduction of the disease into the body, of course, this theory  

also not applicable to those diseases only in which may  

be communicated directly, by inoculation  

in proportion to the amount necessary will the  

duration of the incubation be—e.g., a small pox  

node only may take pains admission fitting in this case, require time to gather strength  

The skin is supposed (the absorbing agent  

would seem to be) supported by the resistance  

accorded, of deadly diseases such as Plague,  

being it is opened, avoided by the precaution  

adopted (by some medical men) of enveloping  

those skin in a watertight proof case, & in  

other cases by ensuring the body on the side  

or grease so as to exclude the pathological concur  

ation—  

It is held by others that the nervous system is the  

root of ailment, formerly by the poison  

this connection with the nervous, he as well to notice  

the interesting experiments of Prof. Bernard, who  

found that, by inoculation, up to a certain point,
The sympathetic system he could produce a state of fear, our knowledge however on this matter is far from being satisfactory. The field of inquiry in this direction is still very extensive.

With regard then, to the question, as to a disease being contagious or otherwise, we may be guided by the following principles—

I.—That the malady should prevail, in a direct ratio of the intercourse between the infected healthy when a contagious malady is transplanted from one place to another, where, threads as it did in the former locality (when the disease has been carried by individuals from the one place to the other), then we may conclude that it is contagious—

II.—That perception or separation, Hippocrates, no thing who avail themselves of the opportunity is not proof but merely a prescription in favour of its being contagious—

but on comparison of numerous instances of that nature, we may come to the same conclusion—

during the plague of London Plague in 1665. Many families, that themselves up, like a beleaguered garrison, & only communicated with the outside
after the most careful precaution, —
If the separation were strictly maintained, the
usually escaped the pestilence which ight
III. There must be a predisposition to the malady,
at one time, at another (of which we have spoken),
some may escape for the present, but the few (down on a future day — Particular kinds of wind
sometime have an influence in this way —), but
are not the constitution: against for a certain
time — as in the Harmattan wind, as it is called,
which blows during certain periods of the year
on the Cape de Verde Islands — usually brings
the prevailing disease, fevers, &c., during its
continuance, affects with it. Those, previously affected,
get better by keeping themselves quiet well, but when
it has passed, nevertheless, return to their former
state (in many instances). The intensity of the disease
is, if possible increased — the poison may
not have been inserted in constitution, or intensity
of character, but the constitution during that period
has been so modified, as to bid defiance to the
disturber for a time — but when the influence is
removed, the liability returns again, as formerly.
in Plague Country, where it is infectious, it came on at stated periods, with an interval of immunity, and during it, those there wearing the apron of those who died of it, are not put down with it, until that period be passed. In order that a disease may be strictly contagious, it must be capable of reproducing itself. In cholera, this property is not clearly determined, accordingly, a difference of opinion has arisen as to its being contagious or not. From what has been observed of it, it does not seem to be capable of reproducing itself.Instances likewise are recorded which it is difficult to account for except on the other supposition — as when an individual passed with it, as if situated at a particular place, died, perhaps, from it, after his appearance. In certain other die of the same malady this the place was free from it. In cases of this sort, the mortality is seldom large the cholera having infected persons living from exhausted itself.

But when it assumes the epidemic form, then the case is different. It attacks all
people without regard to person;
but when traceable to a known cause, as mentioned above, it is a known fact to assume the epidemic form.

It is stated that it has a marked tendency to attack itself of particular localities, as, for instance, it may attack persons in their near vicinity, yet on removing to a short distance, all danger is obviated.

When it first breaks out in a locality, it advances with frightful rapidity in a particular direction, (said to follow the line of river, not certain however) making great inroads in its progress. After a time however, it, as it were, gets exhausted, its energy impaired, and instead of gradually diminishing in intensity, only lowers to break out on another occasion in the same or other locality with increased activity. It is almost Rable with regard to that these height, in the course of their duty, much into contact with it, as physicians, hence, in the great majority of cases — escape smothered, as indeed in the similar disease — made similar circumstance is often done, but in this case it
seems to me marked, compared with
the immoral tendency it displays toward
others——
With regard to those contagious diseases
which are strictly so, i.e. communicable by
personal contact, such as those connected
with the group of syphilis, the cutaneous
diseases, which are primarily communicable
to some extent to much space to discuss
them——so in that point nothing shall attempt
I fear——
At this point, while speaking of contagious
diseases, it would not be amiss to make
some mention, at least some of the ordinary
means which may be adopted, so as in some
measure to counteract the harmful effect of
the poison——as mentioned in a former
part. Good ventilation, is of paramount
importance, in such cases. In proportion to its
extent, so is the recovery of the patient. What
the matter complete——the good effect of it are
well illustrated by reference to the disease
called Miliary Form which, some time ago,
(upward of 60 or 70 years)
and if不方便 to personal women, they used to put confined, during their coral essence, in stifling apartments, the slightest breath of air, industriously kept away from them. A revolution in practice however set in, fresh air was admitted, the apartments, kept cool and fresh. The consequence was the almost total disappearance of the fever — so much better for ventilation —

When arriving what may be attempted with a view of prevention of disease — the practice of Vaccination for small Pox, Syphilisation for Syphilis might be noticed, but the discussion of these points would detain us too long — In addition to ventilation, we place upon it cannot be made fully available — other means may be resorted to —

In order to decompose the smallest gases in sick rooms, Chlorine & its compounds are used, from the well known property of the former, to decompose the Sulphuric Acid Hydrogen y form Hydrochloric Acid — the most common form in which it is used is in the form of
These apply to cases in which the disease has already located itself.

...will best ward off the attack, or prevent a course hitherto intact, from evincing...
Chloride of lime — which should be placed in a vessel of considerable size impregnated with water; a little acid should then be added which will liberate the chlorine in the form of vapour, which — spread itself over the apartment — mixtures of Hydrochloric & Sulphuric acid were also at one time much used.

At present there are several preparations called *Disinfecting Fluid*, which are very good & much used in hospitals, ships for general deodorizing purposes — amongst these may be mentioned Sir William Bums' in which the beneficial results are due to Chloride of lime — Another similar preparation & may also be employed for similar purposes is what is termed Cordis Disinfecting Fluid in which the active principle is Permanganate of Potash — the Permanganic acid being the chief actor. — These are a few of the means which may be employed with a view of diminishing the poisonous influences of foul emanations & unwholesome gases

John, Mr. McKean.