

Good. S. F. Ore.

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AN

INAUGURAL DISSERTATION,

ON

Hydrophobia

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Hydrophobia, signifying a dread of water, is applied to a disease arising from the bite, of, a rabid animal. It is contended by some writers, that this is the only medium through which the disease can be propagated, amongst the human species; and the proof of this, view, seems to be clear and conclusive. Yet, others have avowed the belief, and endeavored, to establish an idea of its origin, also, in a peculiar state of the system; because, they have met with cases of a similar character, and could not trace their origin to the bite of the animal.

In these cases, as, in many of an every day occurrence, the similarity might be ever so great, and still an entire different disease; which would sooner, or later, manifest itself, by some symptoms that would to

a close observer, define, the disease, and
~~and~~ prove the incorrectness of an earlier
diagnosis. Again, from the ^{unavoidable} and
confused state of the ^{unavoidable} mind of the
patient, no reliable information could
be obtained, as to his former history:

therefore, it would be difficult to ascer-
tain from him, whether, he had ever been
bitten by a rabid animal or not.

Various circumstances besides, tend to
disprove the opinion of a spontaneous
occurrence of hydrophobia in the human
species

It would be as reasonable to suppose, that,
all the symptoms arising from the in-
sertion of the virus of a rattle snake,
would spring up, 'de novo,' or, small pox, as
that Hydrophobia should spontaneously occur, and spread

itself over the country; in addition, nearly, all cases in which this disease has occurred, the cause in some way may be traced back to the bite of the animal, by an early examination.

As to the *physiological* nature of the virus there appears to be but little known, further, than that it has the appearance of saliva, common, to all animals; for, it is the saliva that contains the poison. Its chemical character is still more obscure.

If by any chemical agency it could be separated, and its properties defined, some clue might be had to a remedy, for the cure of the disease of which it gives rise.

^{was} The animals most likely, to be the subjects of communicating this disease belong to the canine & feline races.

It is maintained, by some authors, that other animals as well as those already referred to, may communicate the disease under consideration also; such for instance as the Cow, horse, &c, also, the human subject; this likely is true, but there are fewer recorded cases of this kind than the former, arising perhaps, from their having less proclivity to bite; but all wounds inflicted by any of these animals in a mad state should be regarded as dangerous and so treated.

It appears from the statistics of Hydrophobia, that the male animal is oftener found in this state than the female, the cause of which seems to be obscure, it may possibly be due to a stronger nervous influence.

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That it may occur ~~in the~~ in the inferior animals without a transmission of the virus from one to another, is, reasonable, since by observation it has been proven so far as could be done, that the animal may become mad, without, having been previously bitten; still, the disease may occur either way and symptomatically alike, in this respect, differing with the human species.

All that are bitten by a rabid animal do not of necessity take on the disease; many experiments have proven that the virus does not always take effect, arising, probably from a peculiar state of the system at the time of receiving, the wound, as well, in that of the inferior animals as the human species.

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The virus may be arrested by the interven-
ing substances, such as, the clothing, of per-
sons, and the hair or ~~ex~~ternal covering of
the inferior animals, thus wiping from
the teeth, as they penetrate, the saliva, and
preventing the insertion of the virus—
into the wound.

The season of the year that is most remor-
kable for the occurrence of the malady—
amongst the inferior animals is, reputed
to be in the spring and autumn.

Why this is so, is, not easily accounted for,
by any plausible reasoning any more,
than why the animal should become
rabid at all. It would seem that rabid
animals are confined to temperate climates
alone, since, the disease under consideration
is unknown, in either torrid or frigid Zone.

The avoiding of water by rabid animals, and the disgust at or antipathy to it in this peculiar state is, doubtful as they have frequently been found near it and even bathing in water; this is probably a superstitious notion prevailing with the ignorant and like, many others of a similar character without, the shadow of truth. It has been asserted, that the virus may be communicated by an animal without being mad, for instance, where a person is bitten, after exciting its anger by teasing, or accidentally, ~~passing from~~ passing near strange enclosures. Cases of such description are frequently noticed, in the public prints of the day, but as to their precise nature there appears to be, a want of authentic information.

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It is most probable those bitten were,
of a peculiar temperament, irritable, and
predisposed to take on disease from any
cause, and the result was the same,
as if arising from a wound made in any
way; For many persons are, so constituted, as
to become seriously ill, from the simple
sting of a bee, wasp, or, the bite of insects;
so, that it is highly probable the same
may obtain, in the instances above refered
to; but in every case of ^asuspicious char-
acter the evil should be anticipated, by
timely interference.

^{and} The time of incubation, or that interven-
ing between the bite, of the animal and
its appearance, as symptomatic, of disease
varies, as is observed in the reports of
different writers on the subject.

^{no} That it has no regular period of development, as measles, or small pox, is, evident from the great discrepancy of different reports, stating, its development, sometimes within a few days, at others, as long as two years or more; but it is not true, that the poison would remain in the system so long without development.

The wound when first inflicted, heals up, tardily, exhibits no sign of inflammation, or, disposition to become troublesome, and thus passes on without the slightest manifestation, constitutionally, or locally, of any serious mischief, untill, after the period of incubation, which is usually about 6 weeks or forty two days.

^{no} The symptoms are usually, so characteris-^{tic}

as to distinguish ^{Hydrophobia}, from all other diseases.

^{and} They are divided into two, classes, the first, are, itching, irritation, and some pain, also, twitching of the muscles near the wound, or rather, a reopening of the eschar, these occur before the more permanent symptoms supervene, rendering it probable that some active process takes place, in the part itself, though this does not accord, with the pathology of most poisoned wounds. The general symptoms are, ordinarily preceded, by giddiness, heat, chilliness, and a feeling of discomfort. This class of symptoms, ^{may} last, from two, to six days: then the second class, or special symptoms begin. They are as follows, viz., great nervous irritability, considerable

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mental derangement, spasms, especially of deglutition and respiration, increased vascular action, the pulse rising in frequency, sometimes as high as, one hundred and fifty; the breathing is aptly, compared to that upon entering the cold bath, or upon ~~passing~~ suddenly from a warm, to a cold, temperature. This occurs at irregular intervals, and may be produced, by, or increased, by pouring water from one vessel into another, with in hearing of the patient, or by simply calling his attention to fluids.

This phenomena is ascribed to a spasmodic contraction of the diaphragm, and usually, gives rise to convulsions, and suffocation, pain &c at the pit of the stomach. Very great sensibility of the

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surface is also present; the cutaneous nerves become so sensitive, as, not to bear the touch of the finger, a cool current of air, rustling of the bed clothes, in a word not the slightest touch imaginable, without its producing convulsions and severe agony.

The nerves of special sense appear to be no less impressible, a flash of light, or a sudden sound, produces a similar effect, as that of touch upon the patient.

The very great impression made by pouring water, or the rattling sound of, when poured from ~~two~~ different vessels, within hearing of the patient, seems to be due, to a sense of pain on attempting to swallow liquids; for the muscles of deglutition ~~are~~ are.

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spasmodically and painfully effected
in the attempt to swallow liquids of
any kind. A very distinguishing feature
of this disease, is great mental derangement,
a vague sense of the presence of the most
frightful beings, and impending danger;
supposing himself surrounded, by the
enemies of such a character alone, as a
deceitful imagination could conjure up.
These delusions alternate with fits of
frenzy. It has been erroneously stated,
that the patient would bark, and growl,
like a dog and endeavor to bite those near
by, at times; but the supposed barking
is only an effort at breathing and the
growling, biting, only, that of throwing
of the membranous mucus, that has
collected in the fauces.

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The symptoms nearly, or entirely, abate
sometimes before death; the mental
anxiety subsides; deglutition and breath-
ing, easy, and the antipathy to water
disappears, so, that the patient eats and
drinks, without the slightest incon-
venience.

It would seem, judging, from the symp-
toms that this is a nervous affection, and
is so regarded, by all authors; but why
it should manifest itself so peculiarly,
is a question that has not, nor may never
be satisfactorily answered.

It can only be said, that Hydrophobia
in common with all diseases has its
particular symptoms and modified
manner of development, in each case.
If a reason could be adduced, for the

special signs, it would perhaps suggest, a successful mode of treatment, or, at least, be a valuable auxiliary; whereas all efforts as yet have utterly failed.

Post mortem, examinations, have revealed nothing that even partially accounts, for the strange, phenomena, distinguishing this disease. The morbid changes which have been observed in autopsical investigations, are, congestion of the membranes, and substance of the brain, spinal chord, & effusion of serum; the oesophagus, trachea, and bronchi, are congested, also, the lungs, and the papilla about the root of the tongue, enlarged. The stomach sometimes contains a dark fluid, with purple spots upon its lining membrane, also, the same upon that of the bowels.

Now, it seems, from the report of every examination, that the above named lesions are not constant; never all found in the same subject, and in some instances not even one. This of itself proves that there is no reliance to be placed on such revelations, so far, as the true cause of such phenomena are concerned. Again, most of these appearances might result from other and simpler diseases, or, may occur after death from many causes; here, again then, the profession is foiled in its attempts at discovering any thing that would enlighten it upon the subject.

The above history is sufficient to discover at once the futility of attaching any importance to the pathology of hydrophobia.

Diagnosis, There are few diseases with which hydrophobia may be confounded.

The most difficult of distinction is imaginary hydrophobias for it should be denominated, (i.e.) the diseases, hysteria, delirium tremens, phrenitis &c.: the former probably is the one oftener mistaken for it, and is presumed to be the spontaneous hydrophobia, alluded to by writers.

If a person be bitten, anterior to the attack of either of the above named, diseases it is but natural to attribute the cause to the wound; and this alone is supposed to produce some of the symptoms, common, to hydrophobia, and probably settle the fact upon the mind of, both, patient, and physician of the dreaded complaint under consideration

From ^{the} Hysteria, it may be distinguished, by the inconsistencies characterizing Hysteria, the entire abatement of all symptoms, tranquility of the patient, forgetfulness of his condition, sudden paroxysms, and absence of severe choking sensations, also from all, in their great aversion to water. It may be distinguished, from Threnitis, and delirium tremens, by cerebral symptoms in the former, and absence of spasms, nervous excitement, & the pulse, in the latter. Prognosis, as already intimated, is always in the last stage unfavorable; some authors declare that no case has ever recovered; whilst, others contend for the contrary: the latter view is doubtful if not wholly unfounded for the following reasons viz, 1st It is certainly—

impossible to say, when the disease is pre-
vented, much, more when cured. & all re-
coveries are only comparative, & treatment
anticipating the disease, is all that exerts
any influence over it. and lastly, the
circumstances themselves, forbid, the
positive conclusion that the disease
existed or would supervene.

^{up}
Treatment. This is divided, into, pre-
ventive, and paliative; this introduction
is at once sufficient to inform us that the
cure of Hydrophobia is, at least, questionable if
not impossible. It may be prevented by
excision, or amputation. There is some dif-
ficultly however, here which is frequently
hard to overcome. viz., the proportion is
so widely contrasted, between, those subjects
and those actually taking the disease

as to give rise to the query, in any particular case, if let alone might he not escape the disease, and avoid the consequent loss of a limb, or, disfiguration by excision. Again, others aware, of the two evils and also of the fact that many escape, who are subject, might act upon this hypothesis, and refuse to submit to any preventive treatment.

The presumption is, that with a knowledge of the circumstances under which the wound was inflicted, to guide the Physician, it would be better to attempt the preventive treatment in three cases, unnecessarily, than to suffer one to die in consequence of its neglect.

The part bitten should be thoroughly washed, and then a probe passed to the bottom of the wound, then the incision made, so, as—

to include the entire wound, in order that all the virus may be removed. The mode of making the incision should be modified according to circumstances. After the part has been removed the wound should be freely cauterised, with *Potassa fusa*, Nitric acid, Nitrate of silver &c. The same treatment of cauterisation must be practiced when the wound is so situated, as to make amputation or excision impracticable.

¹¹⁹The palliative treatment consists, in keeping the patient quiet—removed as much as possible from the light, and noise of any kind— from currents of air &c. water should be given, or even brought, in sight of the patient with great caution.

Ice should be applied along the spine on both sides, throughout its whole length.

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The patient should be induced to swallow ice, as often as the state of his case will allow. Chloroform, & Sulphuric ether, should also be administered. In offering the last mentioned remedies, it is believed they are sufficient to accomplish all that could be expected, from any known remedies of the three kingdoms of nature, for the *Materia Medica*. has been perused in vain, in search of a curative remedy therefore it is deemed unnecessary to add, any more of the many of the futile remedies, recommended by authors. Waiting for future and more successful efforts in search of a curative for this disease, it is only necessary to add that these remarks are closed, and all, respectfully submitted.