

AN
INAUGURAL DISSERTATION

ON
Malaria

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BY
John Baxter

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Malasia

At no time since the commencement of my professional career, have I set down, to a task, with such depressing emotions, as now weigh down my spirits; nothing, but a sense of duty to the requirements of a law long enforced, from which there is no refuge, could induce me, to undertake a task so arduous; that of writing an acceptable thesis. And when I consider the subject, "Malasia," these too, are many startling facts, that stare me in the face. These may appear, to be, something presumptuous, in the idea of an emiric in the profession, choosing a subject, that has long exhausted the

2

skill and energies, of the ablest, and most profound, literary and scientific men, of all ages, Climes and Countries; in trying to detect the source from which Malaria emanates. In selecting this as a subject upon which to write a Thesis, I can but ask the indulgence of my readers for any deficiency of style or completeness of execution.

Malaria is known to exist in the atmosphere from effects produced upon the animal economy. By the aid, however, of the most powerful microscope or scientific chemical process, its presence has not, as yet, been detected. - We therefore, can but theorize. The most

general received opinion among
 our ancient brethren and many
 of the present day, is, that it is
 created by the decomposition of
 vegetable matter; that it is partic-
 les, of putrid animal or vegetable
 matter, dissolved, and suspended
 in aqueous vapor. This is only
 conjecture, as shown above, by nothing
 of the kind having been detected
 in the atmosphere by the most deli-
 cate, chemical or microscopic
 test; it appears to differ in no
 essential particular from the most
 solubrious air; be that as it may;
 it must be transmitted to the hu-
 man subject through the medium
 of the atmosphere.

That malaria is produced in

great abundance in districts where there is a luxuriant growth of vegetable ^{matter} ~~produced~~, and even decomposition of that matter going on; we doubt not, And we may go further; it may, to some extent act as an auxiliary; but that it is essentially necessary, in order to its production, we have good grounds to doubt. In all those localities where we find it produced in any great abundance, we find the four elements which we think requisite in the production of this poison; earth, air, heat, and moisture; a certain degree of heat and a certain degree of moisture are necessary; earth and air are also essential. neither

3

one, two, or even three of them would produce it; but requiring all four of the elements, as above named, in the production. We do not find the fever prevailing among sailors, when out at sea, where the last three of the elements are found at certain seasons, and in certain climates; but it is when they touch upon the coast, or land, that we find it prevailing among them.

In support of the position assumed above we would refer you to a few facts adduced by Dr William Ferguson, published in the Philosophic Transactions of Edinburgh On the history and nature of marsh poison.

1st That of an army encamping

at Rosendaal and Costerhout,
after a hot, and very dry summer.
The soil in both places were a
plain of sand with a perfectly
dry surface where no vegetable ex-
-isted, nor could exist, except a few
stunted heath plants. He, also, states
that this plain was universally per-
-colated within a few inches of
the surface, with water, not of a
putred kind; but of the purest
quality. Here among the Troups
these Malasial fevers prevailed to
an alarming extent; being almost
unprecedented, in the annals of war-
fare.

3^d That of an army in 1809 en-
-camping in a hilly ravine, where
there had been a water course, but

in consequence of a drouth, had
dried entirely up, with the exception
of an occasional pond of water,
along its course among the rocks,
so pure that the soldiers were an-
xious to camp near them for the
purpose of using the water, which
^{was} accordingly done; The consequence
being, that a number of the sol-
-diers were seized with a violent
form of intermittent fever before
removing from their encampment
in the morning. No trace of veg-
-etable matter ~~could~~ be discovered,
nor could there any exist upon
the half dried stony bed of the
ravine. Several other instances
of a similar character as related
by him. One other, however, I cannot

Refrain from mentioning; that of
 The river Tagus at Lisbon separating
 a perfectly healthy from a pestiferous
 region. On the side upon which
 Lisbon is situated is a hilly cou-
 ntry, the beds of the streams being
 rocky and unobstructed in their
 course among the hills; also, in and
 near Lisbon during the three months
 absolute drouth, they keep water
 in reservoirs, for the purpose of wa-
 tering their numerous gardens, these
 reservoirs retaining water, of the
 foulest, and most putrid kind,
 are placed near their houses and
 sleeping apartments, without any
 dilatorious effects from breathing
 the atmosphere. No fever of any
 kind was generated from this sou-

-see. While on the other side, with
a perfectly dry, sandy, plain it
is most pestiferous. Even the most
ignorant of the inhabitants know-
-ing that were they to cross the
river, and sleep on the sandy
shore, they would probably be sei-
-zed with a violent form of inter-
-mittent fever.

Now, these facts, and many more,
that might be adduced, like them,
go to show, most conclusively, that
the decomposition of vegetable mat-
-ter, is not essentially necessary
in order to the production of Mal-
-aria.

In many marshy districts, and
countries where there is a luxuriant
growth, of vegetable matter produced

10
we know malaria does exist; but from the fact of its being produced and in great abundance, in places and countries, where there is not the least trace of vegetable matter, we must set it down, as attributable to another cause, or to the four elements above named, which are always present when it is produced in any great abundance.

We find, also, many districts and countries where this vegetable matter is produced in great abundance and decomposition, as in the former case, going on; but without, the same results, having some of the forms of malarial fever. In the high upland piney coun-

-tries (some portions of them) we do not find Malarial fever existing from the fact, of one of the essential elements being absent, that of water, the soil being of that peculiar quality that will not hold the water or moisture.

In the district where I reside, (Marshall County Tenn) we had the past season an uncommon amount of "Malarial" Fevers, not owing as I conceive to any greater amount of decomposing vegetable matter that season than usual; but to an inundation of the Country with water in the Spring. Afterwards, say in June, a remarkable drought set in, and continued very warm and dry for a consider-

-able time; thereby, parching the surface of the earth, and causing a greater amount of the poisonous effluvia to arise. We had too, in this district a large pond of water, probably containing fifty acres of land, during the winter and spring season; but in the course of a very dry season, which was the case this, the water was all absorbed or evaporated; leaving the surface, formerly covered with water, dry and exposed to the scorching rays of the sun; the consequence being, that not one family, there being about fifteen families residing around and near said pond, and in fact hardly any one of any of the

13
families, escaped some form
of the Malarial disease; rang-
-ing from the mildest to the
most malignant form; commen-
-cing about the first of July
and prevailing until Autumn,
at which time, which is not us-
-ually the case, it subsided, or
at least was not ^{so} prevalent, with
but an occasional case or relapse,
which is characteristic of the dis-
-ease, without the almost constant
use of the specific, (excuse the
term), or some other antiperiodic
medicine.

The influence of Malaria upon
the animal economy is various un-
-der varied circumstances, not affect-
-ing the same individual in the

14
same way under different Circum-
stances, even in the same locality;
nor will it effect different indivi-
duals in the same locality under
the same circumstances in the
same way; owing probably to the
Physiological state of the animal
economy, of idiosyncrasy, temper-
ament, predisposition and accident-
al external causes. We see it at-
tacking, simultaneously, persons
in the same district, but not with
the same form of ^{the} disease. One
will be attacked, with intermittent;
The mildest form of Malarial fever,
another, under the same circumsta-
nces, will have a higher grade;
assuming the remittent form, and
a third may take on the malignant

form.

The class of diseases, produced by Malaria, are almost innumerable; if we take into consideration their various modifications.

Besides the many fevers; assuming almost an endless diversity of character in different localities, seasons, and climates; we find it, (Malaria), producing various other affections; both local and general. We may enumerate Dysentery, Cholera, and Diarrhoea, as diseases produced by it, affecting the alimentary canal. Among the diseases affecting the nervous centers and different branches of nerves; we may enumerate Hemiparesis, Tic-douleurux, Neuralgia and Sciatica;

all of which are by no means un-
-common in our own climate.

The primary Physiological lesions
of Malaria on the animal economy,
in the present state of our science,
is not very well understood; as
well as, many other things in regard
to Malaria. Under circumstances
of this kind, every person is at libe-
-rty to bring forward the hypothesis
that may suit his own peculiar
views of the subject. I, therefore
assume the ground, that the prim-
-ary effects of Malaria are upon
the nervous system.

We do not visit a patient aff-
-ected with any of the Malarial
diseases; but we see, I might say,
an actual demonstration of the

fact. We will take for instance; a person on the verge of a spell of intermittent fever; he experiences a sensation of debility, becomes listless, weak, languid and it is with difficulty he makes any bodily or mental exertion; begins to sigh and groan, and soon feels chillily, particularly along the back and course of the spine, soon these sensations become more decided, and generally the subject becomes very cold; their respirations are quick, and anxious. All of which is owing to an undue impression made upon the nervous centers, which reign over the respiratory and circulatory organs.

The early Cerebro-Spinal Man-

18
-ifestations are obvious to every ob-
-server in these diseases.

Through the medium of the blood, this undue impression may be made upon the nervous centers, without manifesting any particular tendency to change or alter the condition of the blood. The physiological standard of the blood is materially altered after a lapse of time, but this is, as we conceive, only the secondary effects.

We have many instances of medicines acting upon the nervous centers in this way, (viz,) Chloroform, Aconite, Prussic Acid, and Morphia.

Now, if these medicines, taken into the blood through the respiratory organs, act in this way; is it, but

reasonable to expect that the same effect may be produced by this peculiar poison, ("Malaria"), inhaled in the atmosphere, notwithstanding it exists in so small a quantity, that it cannot be detected by any Microscopic or Chemical test.

We will not dilate further on the Modus Operandi of "Malaria," as its physical or Chemical constituents ^{are} so little understood; but in obscure matters of this kind, we will always find those who prefer to bring forward some hypothesis, however frail, rather than be content and remain quietly in the dark on matters which, by their nature, are difficult or even incomprehensible. Jan. 12th 1857. John Baxter