AN

INAUGURAL DISSERTATION

ON

Miasmis

SUBMITTED TO THE

PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY

OF THE

University of Nashville,

FOR THE DEGREE OF

DOCTOR OF MEDICINE.

BY

Pike Brown

OF

South Carolina

1855.

W. T. BERRY & CO.,

BOOKSELLERS AND STATIONERS,

NASHVILLE, TENN.

It too often happens in the discussion of a subject upon which different opinions have been entertained, that we throw aside the philosophic spirit of investigation which should characterize us on such occasions, and blinded by prejudice seek to distort those general facts which should guide us in our judgement, to favour our own preconceived opinions. And in no other subject has this spirit of controversy been so greatly manifested, as upon the one we have chosen for consideration. That Miasmis, or Malaria as it is more generally termed, is caused by vegetable decomposition hardly admits of a doubt. But there have been writers in the world of Medicine who have exerted

all their mighty abilities to prove to the contrary. The proposition which we shall state is almost self evident, and it will therefore require but little reasoning on our part to maintain it.

Autumnal fevers prevail most, where the amount of organic matter is greatest, and least where it is least. Where do we find these fevers prevailing most? if we look along the valleys of our large tropical streams, we find them ravaging the country to a frightful extent. While upon mountains and the elevated regions of the north, they are almost unknown; very little prevails in the pine barrens where there is no undergrowth, and where the wild turkey can be tracked for miles upon the sand. Here we find health but go down upon the swamps where vegetation is abundant, and

where the funereal cypress, and the live oak are decorated with there sombre drapery of the long moss. which has been appropriately called the "curtains of death" There Malaria flourishes in all its virulence, and there fevers abound; these are the places from whence it wings its poisonous flight to the surrounding country, leaving desolation and death in its tract. And these are the places where we have the most decaying matter. The whole crust of this mighty globe itself is formed from the decomposition of organic matter; for where the rocky strata is exposed it begins to crumble, and this pulverulent layer immediately becomes the nidus of some kind of plant. Thus lichens cover the hardest rocks and by their death and decay add to the mineral matter, an organic element at once vegetable

and animal in its composition. In this way the spot becomes prepared for vegetation of a higher character; which in its turn decays and so on until the crust of the earth is formed. And the reason we have more of this in our Southern climate, is because we have more rain which promotes vegetable decomposition. And we have most of it along the valleys of our rivers, (where we have already seen there are more persons) which at each succeeding freshet bear upon their bosoms vast quantities of decaying vegetable matter, to leave them reeking in the sun on subsiding. Not only this but they overflow the plantations on their margins, causing destruction of the crops which has always been a fruitful source of Malaria. Such was the case with the Savannah River in August 1852, when

one of the highest freshets ever known in that river occured, and at the very time when the plantations along its bands were in a high state of cultivation, the corn was just ripening, the cotton was full of opening bolls, and the rice was almost ready to be reaped, when this tremendous flood came pouring in upon them and spreading devastation for miles. On the subsiding of the flood the crops which had been submerged by it, began to decay and malarial fevers prevailed that year upon the Savannah with unprecedented violence. The city of Augusta was entirely inundated, Broad street was waist deep in water, and all the cellars filled. Yet no fever was the consequence, the city was never more healthy than it was that year. Proving that vegetable decomposition along

the course of the stream was the cause of the fevers on its banks.

The surface water which has been so much talked about as producing Malaria, is only so, because it produces luxuriant vegetation which is destined annually to perish. Moisture is necessary to the evolution of Malaria because it promotes vegetable putrefaction: much moisture acts as a preventative. The fevers of the tropical climates never begin their ravages until the rains have ceased. Surfaces deeply covered with water evolve less noxious vapours than those partially covered, because the decomposed particles are not exposed.

It has been said that newly settled places are peculiarly subject to this disease. The reason of this is very obvious. for where

The ax and the plow of the emigrant have been at work then we find trees felled, and decaying in heaps, and the putrefying vegetation which had been lying quietly at rest is turned up and exposed to the sun. And then Constitute The the sources of sickness to the emigrant, and not the water running from the ends of the logs as some have said.

Hence after long cultivation these sources of Malaria become exhausted and the place becomes healthy

It has bun urged with much force that ip vegetable decomposition caused autumnal fevers. they would not stop when frost begins, and vegetable matters are killed by it. But this is no argument for decomposition would not have advanced far enough until the next fall. The

fevers are always lessened by setting fire to the woods and thereby destroying the leaves and other vegetable matter, which the planters in malarious districts invariably do, knowing its salutary effects.

The most probable reason why it occurs mostly in the fall, is that in spring and early summer the luxuriant growths feeds on this malaria, and in the fall when these growths begin to decline the malaria is left free, man consumes it and it consumes him

"Great lord of all things - yet a prey to all"

I shall mention one fact from Dr Drake's grate work on the diseases of the Interior Vally of N America.

The little bay of Pensacola has been for many years remarkably exempt from autumnal fevers. So much so,

That the people of Mobile and New Orleans have been in the habit of spending the summer at Pensacola. But what a different state of things ten miles farther up the coast, where the Escambia empties into the gulf, and forms extensive marshes by organic desposits at its mouth. A settlement was attempted here in 1766, by sixty French Protestants, in two months after the sickly season came on only fourteen were alive, And they all died in a few months from the effects of Malaria upon their constitutions. A settlement was again attempted in 1834, when the little town called Florida was laid out. and about forty houses built and occupied by as many families But year after year while the coast below remained perfectly healthy. they were scourged with fever. The place was

finally deserted by all who survived, and it obtained the name of the "Grave Yard". When Dr Drake visited the place in 1843, only two families were living in the vicinity.

He concludes his interesting account, by saying we are bound to attribute this fatal insalubrity to the extensive deposits of organic matter made by the river; for the same humidity of atmosphere and the same degree of temperature exist on the Coast above and below.

Those who reject the miasma theory entirely, and who believe in the cryptogamic origin of fevers, still hold that vegetable putrefaction is necessary to produce the fungi, which they say is the cause of autumnal fevers. And in view of the facts which have been submitted it would be unreasonable not to conclude

that decomposing vegetation is the chief element in the production of Malaria

As to the nature of Malaria we know nothing like analogous agencies like the contagious principles of Small-pox and Typhus, and like the epidemic poisons of scarlatina and cholera they are too subtle to be recognized by our senses, too fugitive to be caught by any of our contrivances. Neither the strongest power of the lense or the minutest analysis of the chemist have been able to discover the faintest trace of the character and composition of this invisible mysterious and stupendous agency And it is likely to remain so until the time when medical science shall have advanced so far as to verify the enthusiastic prophecy

of the venerable Rush. "That youth and the grave would never be associated."

When that time shall arise and the dark clouds which hover over the pathway of Medicine shall be dissipated by the effulgent beams of advancing science, then and not till then, will this invisible enemy be vanquished by the followers of Esculapius.