



AN

INAUGURAL DISSERTATION

ON

*the Aetiology, and Pathology, of
Bilious Fever.*

SUBMITTED TO THE

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BY

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OF

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Dedication

to Dr. John M. Watson, M. D. my preceptor
for his great kindness and many favours
that he has bestowed upon me— is

respectfully and cordially inscribed
By—

W. J. P.

Introductory

Bilious Fever is a most prevalent disease in the valley of the Mississippi. it is also a most fatal disease. it carries off the infant at the breast the old man, the tender youth, the young man and the man in the prime and vigor of useful life. it is the great destroyer in all our south-western States. the best minds of the medical profession have been devoted to its study; and to the means of subduing it. in both hemispheres and on both sides of the line. but yet it remains unconquered. we have ascertained pretty accurately the circumstance under which it takes its rise. and are general agreed upon the nature of its imaginary cause. great improvements have also been made in the mode of treating it and higher success crown'd the efforts of modern practitioners. but despite all it continues often to prove fatal and in one of its forms it is still the terror of south-western physicians.

Aetiology: nothing is better settled than
 that the poison which generates this disease is
 developed by the drying up of ponds and
 water courses in a fertile region of country,
 whenever under an ardent summer and autumn-
 mal sun, whenever moisture is present to
 cooperate with organic matter in warm weather.
 There is decomposition going on and is here
 found bilious disorders, especially by the
 bottom of streams or ponds recently exposed
 to the air and sun, does the poison of fever
 seem to be eliminated the draining of a
 mill-pond if done late in summer, or in the
 fall hardly ever fails to increase miasmatic
 disease far and wide among the inhabitants
 of the neighborhood -

It is very instructive and interesting, to notice
 how coincident are all the circumstances,
 attending the rise and propagation of bilious
 fever in situation so remote from each
 other for instance our country, the Valley of
 the Mississippi, and Italy, glance your eye
 for a moment at the Roman history, and
 there we learn that Campania, was once a

densely populated and beautiful country
 the site of thirty cities of Latium with its
 depending villages its now nearly a wilderness
 a long series of wars with their Roman
 neighbours laid waste its fields depopulated
 its villages and exhausted the resources
 and energies of the remnant of its people
 as a consequence the mountain streams
 which industry had confined to narrow
 channels spread unchecked over the lower
 valleys and formed anew the lakes and
 pools which had long been dried up the
 pestilence followed and quickly on the
 footsteps of war to complete the work of
 desolation.

a poisonous atmosphere was gathered over
 the Campagna and spread its baleful
 influence far around towns and villages
 gradually disappeared until the sites
 of many of them could scarcely be distinguished
 the progress of depopulation was at first so
 slow as to be almost imperceptible
 the outbursts were thinned by fevers which
 returned at the return of midsummer or of autumn

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gradually, compelled the inhabitants to retire
towards the center of population or remove
at once to more elevated and salubrious
situation By degrees the rage of the disease
extended drawing a narrower and still narrower
circle around the fated spot, y
ears might pass away before its hold was made secure
but its violence was redoubled as it approached
the centre, until one or two seasons were sufficient
to complete the work of destruction

But the Campagna thus desolated by malaria
revived when Rome carrying her conquest
beyond the confines of Italy, became the centre
of a great empire and with all its attendants
plowed in upon her people revisited its
deserted fields and rebuilt the villages
its streamers were guided once more into their
proper channels and the stagnant pools ceased
to send up their noisome effluvia luxuriant
harvest covered the beds of exhausted marshes
and the villas of some the first citizens of
Rome crowned many of the heights of it where
the pestilence but a few years before held
undisputed sway, and in this prosperous state

the Campania continued so long as Rome remained the seat of empire, but with the removal of the popes to Avignon commenced a new period of decay, villages were abandoned to the charge of indolent agents and slaves and fell gradually into ruin many of the villages were deserted and smitten by the reigning spirit of luxury and effeminacy, and guarded by an iron despotism all lingered on in a doubtful and precarious existence until the inroad of the barbarians completed the ruin of this country, the population of Rome itself dwindling down to seventeen thousand souls the Campagna was deserted except by a few miserable beings who dragged out an existence of thirty, or forty years, rarely ever reaching sixty years and thus with the neglect of its culture and the accumulation of water upon its surface the *ager Romæ* sunk again to the lowest point of desolation the facts are deeply interesting to the medical philosopher, it is seldom indeed that we are ever

able to trace ~~a~~ more satisfactorily, the connection
between the phenomenon of disease and
their causes and it is not the least interesting
fact in the history of this country, that
since the removal of the papal court to
Rome again there has been a gradual
improvement in the salubrity of Campania
that event, being followed by the return
of labours, to its fields, and the draining of the
pontine marches, by Pius, the 6th, that immortal
enterprise

the writer from whom I have quoted remarks
had it been followed up by the draining of
other portions, of the Agro Romano might
long since have reclaimed it
enough was done to show where the evil lay
and to indicate the mode of removing it
the malaria it is well understood is confined
to the low lands of the Campania, high
situations, are exempt from it, and it
would be easy, it is stated by writers who
have visited it to form a scale presenting
different points of elevation the gradation
of noxious, bad, suspicious possible.

good; and finally excellent air, monte, maro,
at the gates of Rome is healthy throughout the
year. the villages of Oreste, which stand
midway on the ascent of mount, sacrate
and yet it is decimated by autumnal fevers
seems, to be an exception here however the
peculiar structure of the mountains itself
affords an explanation of the variation. it is a
solid mass of nearly naked rock with but here
and there a scanty growth of shrubs and
low wood to shelter it from the exhalation
of the marshes below

the unhealthy season at Rome commences not
until towards the middle of July, the sheperds
remain with there flock through nearly the
hole month of June, taken the remainder of
the interime of good air. to gain the mountains
by slow marches

by this time the smaller streams and shallow
pools are dried up and the two rivers the unio and
the labig; they load the air with noxious exhalation
the degree of unhealthfulness of any particular season
dependes in a great measure upon the autumnal
rains, when these ar delayed or scanty, the

fever obtains a stronger hold and spreads with great rapidity, but an early, and great fall of water produces an immediate change in the atmosphere, not only cooling, but purifying it, and by renewing the half-drained streames, covers up the reeking sources of malaria

for fear I consume too much time in giving a history and physiognomy of a region so remote from the scene of my professional labour, I will now turn to the land of my nativity the valley of the mississippi

and we will find the same exciting cause as above described &

a long all our streames disease is said to be much more frequent since the shrubs and trees pringings there borders were cleared away, I could point you to a beautiful country seat which lies near a small river, that becomes stagnant in summer and autumn in early times and while the river was yet surrounded by a dense forest, the locality was one of the most healthy, in all that neighbourhood a case of fever for some years after a large family, settled

upon it was of rare occurrence, but as the fields were extended and forest removed the visits of this malarial became more frequent the trees which once stood between the dwellings and the river have now been hewn away and the wind laden with the seed of disease meet with no obstruction the place is subjected to autumnal fevers of a malignant type. this is but one of the innumerable instances that might be cited but so familiar must the observation be to all medical men that it would be superfluous to multiply examples the river to which I have just referred is quite noted for its insalubrity, and it is worthy of remark that it is also the site of a great many mills from ^{where} the first mill is erected to the mouth of the river hardly a healthy situation in the neighbourhood of it can be found

Another fact connected with the propagation of miasm of the highest importance is there dependence for Transpiration upon the winds a house built upon the eastern or the ~~northern~~ eastern bank of rivers or ponds receives the prevailing ^{winde} after they have swept these sources of malaria and will

No more unhealthy than one which stand in
 a southern or westerly direction from such
 collections of water houses so built as
 to expose there open doors and windows to
 the breezes coming over stagnant waters or
 marshes are more subject to fevers than those in
 the same village and on the same street which
 oppose their rear with closed entrances to the wind
 this is the statement of ^{the} historians with regard
 to Rome and it is the experience of all towns
 and villages where febrile disease have been
 generated by collections of stagnants waters, in
 Rome we are assured that the interposition
 of so slight a barrier to the poison as a piece
 of gauze spread over the window openings
 at night will protect the sleeping inmates
 whilst who sleep with their windows open
 and without such defence in the direction of
 the marshes are almost sure to be attacked
 by fever in all parts of the western country
 Situation to the south of streams especially
 if elevated: are comparatively better
 those which lie as far from the water north
 being unhealthy, situation east and northeast

we subject to fevers. and the explanation is found in the fact that the south and south-west winds are prevalent in summer. and autumn. with and interchange occasionally, of a breeze from the north-west late in the season

Pathology

This part of our subject has created, a great deal of Controversy, and is not settle up to the present day

So various is the opinions of the distinguished that I feel somewhat, ticklish, on entering upon this controverted point

but it is not my, intention, to present a history of all the theories of fever which have been proposed in various ages of medicine much less to attempt an estimate of their several merits. this I should deem a most unprofitable consumption of time and especially, when it is as pecious as at the present so I shall confine my, remarks, to my, own opinion the poison producing, fever seems to exert its first influence upon the nervous system hence the languor headacha dulness lose of, appetite.

disturbed sleep, and general malice, the
 precursors of an attack of fever the nervous
 system is marked by a peculiar law that of
 periodicity, or intermission it is active reposes
 by turns: repose is essential to its health
 intermission being an attribute of the tissue
 which sustains the first morbid impression.
 the same character is stamped upon the
 disease all essential fevers exhibit this
 tendency, and in one type the intermission is
 complete all diseases located in ^{the} nervous
 system are intermittent notwithstanding
 that the cause may be permanent
 as spicula of bone for example irritating
 the brain will excite epilepsy, recurring
 at distant intervals though the irritation
 be always present and in like manner
 coma, cataplexy, and hysteria recur periodically
 while the cause of irritation may be permanent
 organic lesion. in fever the system of nerves
 controlling animal life being depressed
 all parts of the system the skin the viscera and all
 the organs of circulation are disturbed
 with it for it is not mere depression of action

it is action also perverted. congestion of
 the viscera abdominal, thoracic and cerebral, occur
 which changes of temperature irregularities of
 all sorts of fatigue, etc.
 and these congestions being repeated to be followed
 still by violent reaction. lesion at length
 are established in some system of organs and
 becomes independent force of irritation reacting,
 upon the cerebro-spinal axis and increasing, and
 perpetuating, the morbid commotion that
 the intestinal canal should become most
 frequently, the seat of this local inflammation
 would be inferred a priori. if post-mortem
 examination had not established the fact
 from the circumstance of the extreme excitability,
 of this tissue and that its peculiarity, under
 the influence of aerial vicissitudes of mental
 emotion of fatigue and of food and drinks
 all these in fact become the exciting, cause
 of fever when the nervous system is labouring
 under the effect of malaria they often hasten
 the attacks of which the premonitory symptoms
 had been for some days in existence and
 by irritating the digestive apparatus they favour

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Congestion and inflammation in that system
thus we have two classes of phenomena conjoined
in fever.

the first irritation of the nervous system
induced by the impulsion of malaria
the second congestion or inflammation of some
part most commonly, the mucus lining of
the stomach and intestines or of some of
the associated organs but after also of the
lungs and of the brain and its membranes in
the chill the nervous system is depressed and with
the action of the suffering organs falls below
the healthy standard reaction follows
the chill and the diseased organs also reacting irritate
the nervous system still further and excite
the heart to a more violent action

The End