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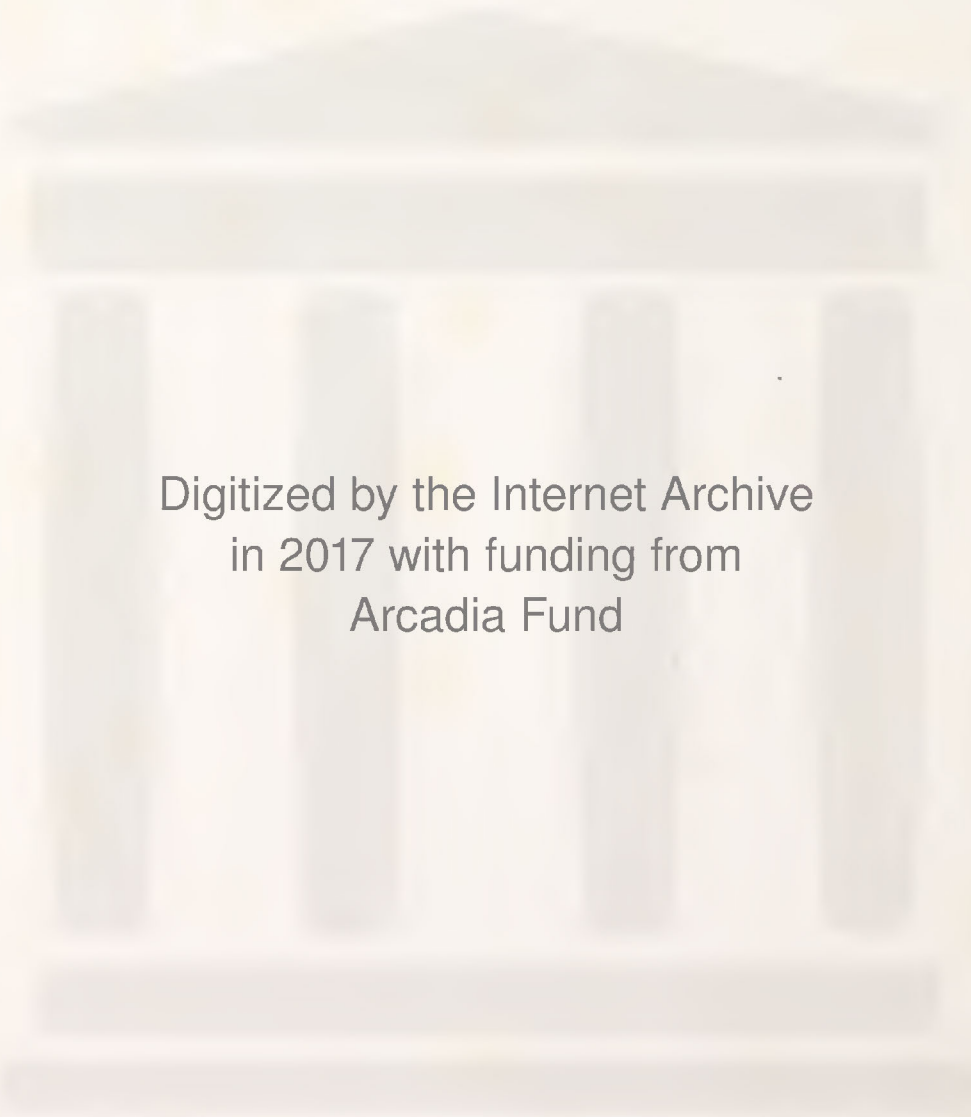
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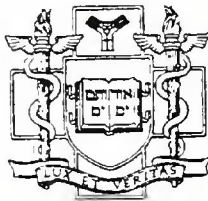


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A Dissertation
on

"Yellow Fever."

By

J. S. Bradley



Yellow Fever

In medical literature this affection is now so well known, and so universally recognized by the name at the head of this page as to render unnecessary an enumeration of its synonyms.

In America it is met with habitually, in the West India Islands, the Atlantic cities, and Gulf shores, south of Charleston, the latter included. It has occasionally been seen as far north as New York, and Boston, and on the Mississippi, as far up as Memphis; which has been its northern limit in the Great Valley. It has also appeared in inland towns, and on plantations, near the river banks.

It is probable that 15 miles is so great a distance

as has been known to exist between navigable water and the locality of an epidemic.

It frequently originates and prevails extensively on shipboards, when the affected vessels have lately been to ports where the fever was raging. In some very rare instances, it has occurred in vessels, without the operation of external agencies, as the case cited by ("Dr. Roche") relating to the Brigate General Greene which left Newport for Havana, before reaching port. Yellow fever appeared on board, although it was not prevailing in Havana at the time. When occurring thus, in a majority of cases, it begins in the vicinity of the pumps and main hatchways where the shell of the ship is most

dependent, where, consequently, there is the greatest amount of moisture and heat.

Whenever it may occur it often exhibits a remarkable tendency to limitation, of space, for example on Bay Street, Savannah, in 1854 within the space of two blocks, the majority of the cases occurring in the first three weeks of the epidemic, was confined to that locality; and in 1853 all the cases were confined within an area of four squares, in the north eastern part of the city.

It is commonly met with during the latter part of the month of July and continues usually till the appearance of frost, as in Augusta Ga. in 1854 after the first frost, which oc-

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-curved in the early part of
November, no new cases were report-
-ed.

Some authors assume that
a certain degree of heat is ~~is~~
necessary for the developement
of the disease, also that warm
wet weather, is propitious to its
developement; but the testimony
of Dr Blair of Adenaram, Dr Bond
of Savannah and others, conclusively
prove, that more or less rain,
or a greater or less degree of heat
has very little to do with the
production of Yellow Fever.

Neither age, sex, or condition
are sources of exemption from
this dread scourge; It may occur
and prove fatal at any time
of life; in the costly residence
of the wealthy, as well, as the
humble home of the laboring

man. That men die in larger numbers than women admits of self evident explanation.

Most writers on the subject, agree that in comparison with other races, the negro is least liable to be attacked with the disease. In this country, this exemption is in direct ratio, to the amount of african blood, the more the caucasian the greater the liability. The full blooded african rarely contracts the disease, even though freshly imported from his native country, and placed in the midst of an epidemic.

Of all persons, soldiers, and sailors, suffer most from Yellow Fever. It is also very fatal among prostitutes, many cases have been cited in some of the Spanish

visitations, among those suffering from venereal or chronic diseases. Any occupation which tends to lower the standard of vitality, is a powerfully determining cause of the malady. Excessive indulgence in sexual intercourse should be especially regarded in the same light.

Residence in Yellow Fever countries for a long time is acknowledged to exert a certain prophylactic influence. Thus in healthy years what are called sporadic cases, are confined to strangers, and in years when the disease does not prevail so generally as to amount to an epidemic, the serious cases are confined to the unacclimated. In epidemics the natives and old residents are frequently ~~not~~ mildly attacked; but strangers

are generally seized, and have in fact to bear, the violence and malignity which belong to the fever.

A person may be said to be thoroughly acclimated who has previously had Yellow Fever. Instances it is true, are recorded in which two well marked attacks have been observed, but the testimony of all extensive observers, goes to prove the extreme rarity of such exceptions to the general rule. And in my opinion, I doubt if the removal to, and residence in countries exempt from Yellow fever, ~~are~~ has the effect of lessening the prophylactic influence of acclimation.

Our knowledge of epidemic influences, is altogether too limited to arrest our attention here; nor

can we foretell whether or not ^{the} yellow fever will prevail in any given year from our present acquaintance with its nature and history.

Yet it is to be hoped that the day may arrive when our ignorance on these points will be enlightened. Miasmatic fevers have only to be understood, to be distinguished at once from the disease under consideration; the following principal differences it will be well to bear in mind.

Yellow Fever is almost strictly confined to large cities, miasmatic fevers are more prevalent in the country. In miasmatic fever one attack invites another, in Yellow fever one attack prevents another. Miasmatic fever may be cured by some of the preparations of bark. Yellow fever cannot be

cured by these means. and finally
as cited by Dr Arnold. Yellow fever
has never been known to prevail
where bilious ^{fever} was not endemic. Bil-
ious fever in its most malignant
form, is known to prevail where
Yellow Fever has never been seen.

The much vexed points of
the contagiousness and communi-
-cability of Yellow fever have been
elaborately, and learnedly discussed
and from our present knowledge
we should infer that there is
no danger in allowing contact
between persons ill of Yellow
fever, and others in good health
the latter being in places where
the disease does not exist epidem-
-cally; although it is probable that
certain articles of merchandise, of
dress, or of bedding, may ^{be} every
material which under peculiar

circumstances tend to develop the fever. Infected ships are especially to be dreaded, and to abandon strict Quarantine restraints, would be to put a price on human life, and barter it for trade.

The symptoms are various. The attack may come on suddenly, as is commonly the case; or it may have the usual prodromata, of febrile affections. Usually a chill is the forerunner of the violent pains in the eyeballs, over the forehead, or in the neck back and limbs. Neuralgic symptoms are scarcely ever absent; it is observed that the first manifestations of the fever, usually occur in persons during sleep, having gone to bed in apparent good health; in malarious affections the majority of cases

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commence during the day, thus
is afforded another element in
which they differ from the fever
under consideration. When the
premonitory symptoms exist they
are either neuralgic or the pa-
-tient complains of languor, anorex-
-ia, furred tongue, chilly feelings.
The inevitable chill may be pre-
-ceded two or three days by these
disordered conditions.

After this succeeds the febrile
^{stage} furnishing as a rule no extreme
heat of ~~the~~ body, nor quickness
of pulse - in fact many times
the ordinary pyrexial phenomena
are so slight as to afford no
indication of the gravity of the
case; even if there is undue heat
of the skin, it seldom lasts
beyond thirty six hours, when
it is followed on the cessation

of the fever, by a decided diminution ^{of temperature} below the healthy standard

The capillary circulation is easily congested, and irregular in its distribution, there is great tendency to a fall of temperature in parts of the body left uncovered a short time, this point is of importance in the treatment.

The febrile stage is succeeded by that of calm or apyrexia in which many or all serious symptoms may seem to subside - and this may be the commencement of convalescence; but it is too often the prelude to the third stage that of collapse and death.

In yellow fever the pulse is accelerated, but according to general ^{rules} not to that degree as in nearly all other diseases of a

febrile, or inflammatory nature,

It is said to vary in different epidemics in regard to strength, sometimes being full hard and bounding, at others small soft and easily compressed, and sometimes feeling as if the artery was filled with gas, so remarkably unresisting is it to pressure. Great muscular soreness, also is often complained of.

The state of the tongue varies, it is usually covered with a white or yellowish white coat of epithelium until the latter stages; when it ^{may} be red and natural in size, at other times large, flabby, milk white bearing marks of the teeth against which it has pressed; Sordid is rarely seen; in the last stage

the tongue may present the dry and brown appearance of typhus.

Anorexia generally characterizes the disease till convalescence commences. Rush mentions the fondness for tobacco some showed that came under his observation

The thirst is usually not very great, yet ^{it} has been observed to vary in some epidemics. nausea and vomiting will almost surely command our attention in a well marked case of yellow fever; gastric disturbance being one of the early symptoms; at first the matters vomited are the contents of the stomach, then mucus and bile; and according ^{to} Blair the ejecta thus far are of alkaline reaction.

Emesis may continue from first to last, but usually when

the stomach has been well emptied, it becomes quiet and remains so, till from the second to the fifth day, when without apparent exciting cause it becomes irritable, and a clear opalescent acid fluid is ejected; this has been called (white vomit,) and Blair states as his belief that this is coincident with the clearing off of the tongue. Exceptionally bile is ejected at this stage, and in such a case may be regarded as a good prognostic element.

When the emesis continues any length of time of this character, the ejecta is apt to contain small snuff like specks, forming a sooty sediment, when this is seen black vomit may be confidently looked for

The ejecta is not always black but may vary from the color of strong coffee, to a dark green, blood coagulables though undoubtedly present in black vomit, do not present a normal condition; the abundance of the ejecta varies greatly, yet the irritable stomach in this stage rejects even the most bland fluids.

When an abnormal state of the bowels exists, costiveness has been the rule and diarrhoea the exception, Dr Blair says in his account of the alvine dejections "ordinarily the stools first observed were those produced by calomel and castor oil early prescribed; these were bilious, and not worthy of particular description, occasionally in the early stages a greater or

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less quantity of dark matter ~~in the~~
appeared in the evacuations, this
is the first tangible morbid product
of the disease and highly diagnostic
of the first stage, the appearances
are similar to those produced by the
use of preparations of Iron; or they
may be blackish brown, or gray
and putrescent; after the cessa-
tion of these melanotic stools,
the dejections become of a dirty
gray color, and on standing,
deposit a sediment revealing with
the aid of the microscope crys-
tals of uric acid, and the
triple phosphate properly belong-
ing to the urine; as death
approach's the discharges become
scanty brown black or streaked;
and in all cases of fatal termina-
tion, suppression ~~is a~~ of the urine
is a usual accompaniment.

To the eye and touch the abdomen presents nothing abnormal excepting the well known discoloration of the skin, that however is not always present, as a rule it appears in the latter half of the attack; but it may appear among the earlier phenomena, it is usually first observed in the conjunctiva and about the chin extending subsequently to the chest, where the color is usually deeper than elsewhere.

Epigastric pain, oppression and tenderness, are frequent symptoms, even when no complaint has been made - especially during the stage of prostration - very slight pressure on the epigastrium will cause pain distress and vomiting.

Flatulence often to an extreme degree has been observed to

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Constitute a very distressing symp-
-tom, and where we have cases
of unfavorable epidemic constitu-
-tion, hemorrhage is an important
phenomena, occurring as it may
from any mucous surface, or from
any wound or puncture of the
skin.

Since surgeon Collins of
the British Army, has given to
the medical world his investiga-
-tions of the urine in yellow
fever, much valuable information
has been acquired, with regard
to the kidneys and their secre-
-tions, in connection with this
disease; we now know that
uraemia constitutes one of the
most important elements in
yellow fever. Blair states "that
after observing eighteen hundred
cases of yellow fever, albumen

appeared in the urine of every fatal case of normal duration.

In the early stages ~~of~~ much apprehension is felt by the patient, as to the nature and issue of the disease, as soon however as the first stage is passed, the utmost indifference to life is manifested.

The expression has been much dwelt upon by authors. and while acknowledging its peculiarities, I can think but little of its importance, as it may be observed to differ with the stage or special nature of the case; cramps are not usually met with, Spasmodic contraction of the diaphragm causing hiccough is by no means rare, and belongs to the catalogue of bad symptoms.

Few diseases progress so rapidly and are of such short duration cases having terminated fatally in forty-eight hours, and the great majority not being protracted more than a week, in favorable cases of a mild character, convalescence has been established as early as the third day; in this particular epidemics vary greatly, some being characterized by a speedy return to health, while some put on the lingering type, the symptoms usually subside about the fourth day, leaving the patient stripped of all his strength, so that he is not able to sit up or take exercise, till about the eighth or tenth day, when recovery may be expected. Without sequelae of a serious nature

The period of incubation of yellow fever may be said to have for its usual time about a week although it may extend to twice that time.

As to the mortality of Yellow Fever, the usual law of grave epidemic is to be observed, the largest proportion of mortality occurring early in the visitation, and while some epidemics are noted for the comparative rarity of its fatal cases, others are rendered more justly terrible by its sweeping devastation, as in Mobile, during the summer of 1819, out of a population of a thousand souls one half of whom were acclimated four hundred and thirty died. (Lewis)

After what has already been said it would be useless for

me to allude further to the prognosis of yellow fever in general, nor need the matter of differential diagnosis claim our further care but let us look at the pathological anatomy of this dread disease.

If the pathological anatomy of yellow fever much has been made known, while much still remains for future research.

In the blood in the first stage nothing abnormal ~~was~~ was found except an occasional admixture ^{with} of bile, the alkaline reaction was always observed. - only in the last stages and Post mortems were changes observed; and yet ⁱⁿ some fatal cases there has been no abnormal change except the bilious tinge, and on the other hand some observations have shown a marked

change to have taken place in the circulation during the last stages.

The brain shows no special pathological condition; the stomach sometimes natural has frequently its mucous membrane thickened and softened with patches of ecchymosis. Hemorrhage is rare. The liver in fatal cases as a rule is in a state of fatty degeneration; in the gall bladder cases are exceptional in which normal bile is found.

The heart is as a rule soft flabby and its structure easily broken up.

Treatment. The treatment of yellow fever has varied much according to the theory of the practitioner and the peculiar nature of epidemics, many prac

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tioners encountering, mild types of the fever the normal tendency of which without gross mismanagement is to recovery, have systematically medicated their patients in some peculiar way, attributing to drugs what was simply a part of the natural history of the disease; and the course they pursued has been heralded to the world as the true and only one to be relied on, let me ask

Is there a possibility of carrying an abortive treatment? Can yellow fever be cut short? In the present condition of our knowledge, this question I think must be answered in the negative.

It is strictly a self-limited disease, to be managed, to be led, but not to be driven toward a favorable issue, at the

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present day no wise man would place reliance on calomel, on the lancet, on cinchona, &c as specific remedies.

Among the first necessities ~~to~~ in yellow fever, are to be reckoned cleanliness, good ventilation, quiet and good nursing, in bad cases where practicable there should be two nurses, one for the night the other for the day.

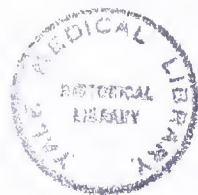
If the bowels are torpid they should be effectually moved as soon as the patient comes under treatment, this may be accomplished by the administration of 10 or 15 grs of calomel followed by castor oil or a saline draught. No other purgation will be needed unless to meet particular indications. Dr Stone of New Orleans recommends if the patient is seen early, to

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follow the above with 15 or 20 grs
of Quinine, to be followed by 10
grains more in 12 hours. Beyond
this he does not go, his theory is
that the medicine thus given promotes
and prolongs diaphoresis, and
that whilst this, continues the
patient is safe. During the
febrile stage, cold affusion or
sponging, is very refreshing to
the patient. The violent neuralgic
pains may be allayed by
the application of subacetate
&c. Thirst may be assuaged by
the prudent use of acidulated
drinks, barley water &c. Great
care should be taken to preserve
perfect rest of mind and body,
care should also be taken that
the patients do not uncover the
body or limbs, while any undue
weight of clothing that tends

to oppress or overheat them should be removed, pellets of ice are agreeable to the patient and may be allowed without danger, if nourishment is demanded beef tea veal or chicken may be given.

Should collapse occur or threaten it is to be met with active stimulants Brandy &c. Among the most distressing symptoms are nausea and vomiting this should be corrected if possible by giving perfect rest to the stomach and the administration of some of the many remedies that are known to be useful. Many suggestions have been made as to the proper treatment in black vomit, in this event let the stomach alone so far as the ingesta are concerned, the exceptional cases of recovery after this symptom appears, are due to non-medicinal influences.

J. S. ...



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