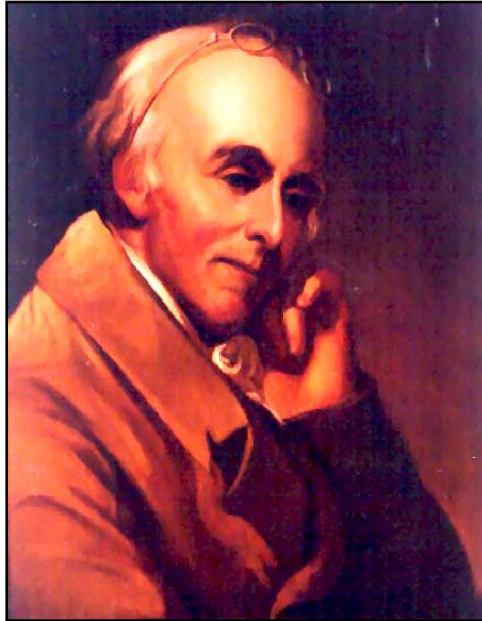


Yellow Fever – *The Scourge Revealed*



CAPT Stanton E. Cope, PhD
United States Navy





Dr. Benjamin Rush



USS Maine Explodes



Geo. W. Sternberg



Walter Reed Birthplace
Virginia





JAMES CARROLL, M.D.
Member of the U. S. A. Yellow Fever Commission. From a
photograph taken in 1901

Dr. James Carroll - 1901



ARISTIDES AGRAMONTE, M.D.
Member of the U. S. A. Yellow Fever Commission. From a
photograph taken in 1902

Dr. Aristides Agramonte - 1902

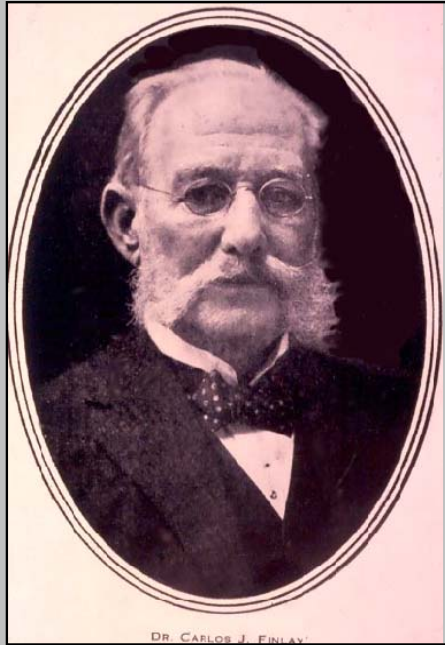


Dr. Jesse W. Lazear

Goals of the Reed Board

- Nature of *Bacillus icteroides*
- Perform bacteriological studies
- Explore the **theory** of insect transmission





DR. CARLOS J. FINLAY
Dr. Carlos Finlay

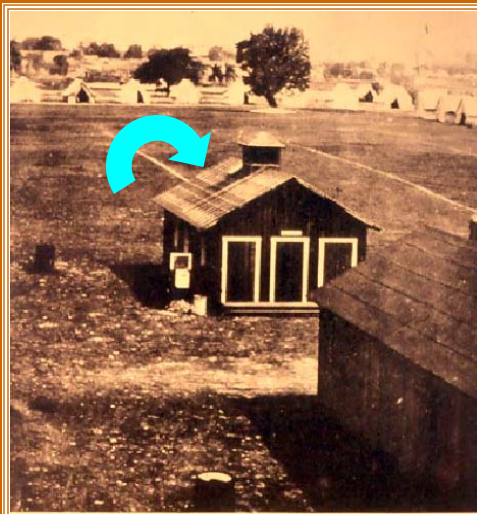


FIG. 19. The "Surgery," Second Division Hospital. It was Walter Reed's laboratory in 1900. (Army Medical Museum, Neg. No. 67355.)

Walter Reed's Laboratory - 1900

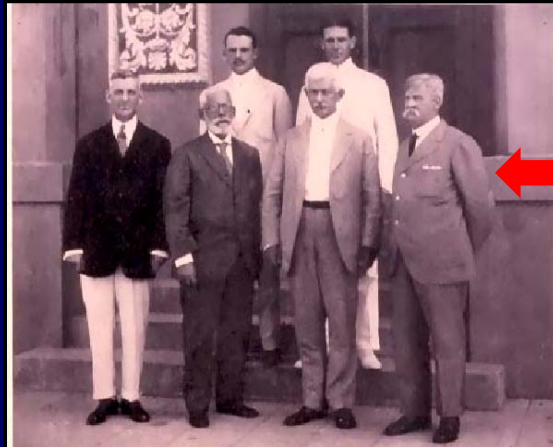
TABLE II.

No. of case.	Day of disease.	Time of autopsy.	Source of culture.	B. icteroides.
1	Seventh.....	2 hours after death....	Blood, liver, spleen, kidney.....	Negative.
2	Sixth.....	13 hours after death....	.....do.....	Do.
3	Fourth.....	8 hours after death....	.....do.....	Do.
4	Eighth.....	4 hours after death....	Abdominal cavity, blood, liver, spleen, kidney, bile, duodenum.	Do.
5	Fourth.....	.....do.....	Blood, liver, spleen, kidney, bile, duode- num.	Do.
6	Sixth.....	6½ hours after death....	Abdominal cavity, blood, pericardial fluid, lung, spleen, kidney, liver, bile, duodenum.	Do.
7	.....do.....	50 minutes after death.	Blood, lung, liver, spleen, kidney, bile, jejunum.	Do.
8	.....do.....	¼ hour after death.....	Blood, lung, liver, spleen, kidney, urine, small intestine.	Do.
9	Fourth.....	2 hours after death....	Liver, spleen, small intestine.....	Do.
10	Fifth.....	7 hours after death....	Liver, kidney, spleen, small intestine....	Do.
11	Third.....	¼ hour after death.....	Liver, kidney, spleen.....	Do.

1 Cultures from the blood during life had been taken by Dr. Lazear in three other cases of yellow fever, but owing to the death of our colleague, the necessary data as to the day of the disease on which cultures had been taken can not be ascertained. These cultures were negative as regards the finding of *Sanarelli's bacillus*.



75(a). Ronald Ross
1857-1932.



Carter

FIG. 7. Members of The Rockefeller Foundation Yellow Fever Commission, 1916-1918. Front row, left to right: Major Lyster, Dr. Guiteras, General Gorgas, Dr. Carter. Back row: Mr. Wriehson and Major Whitmore.

Rockefeller Yellow Fever Commission - 1916-1918

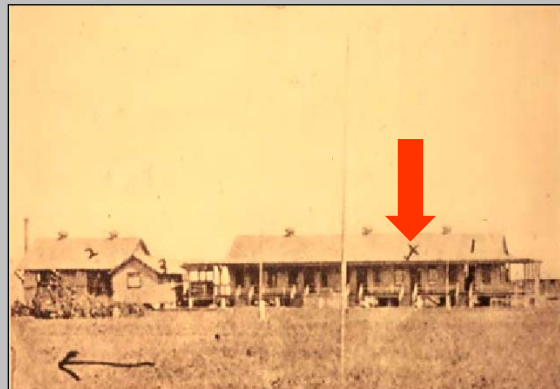
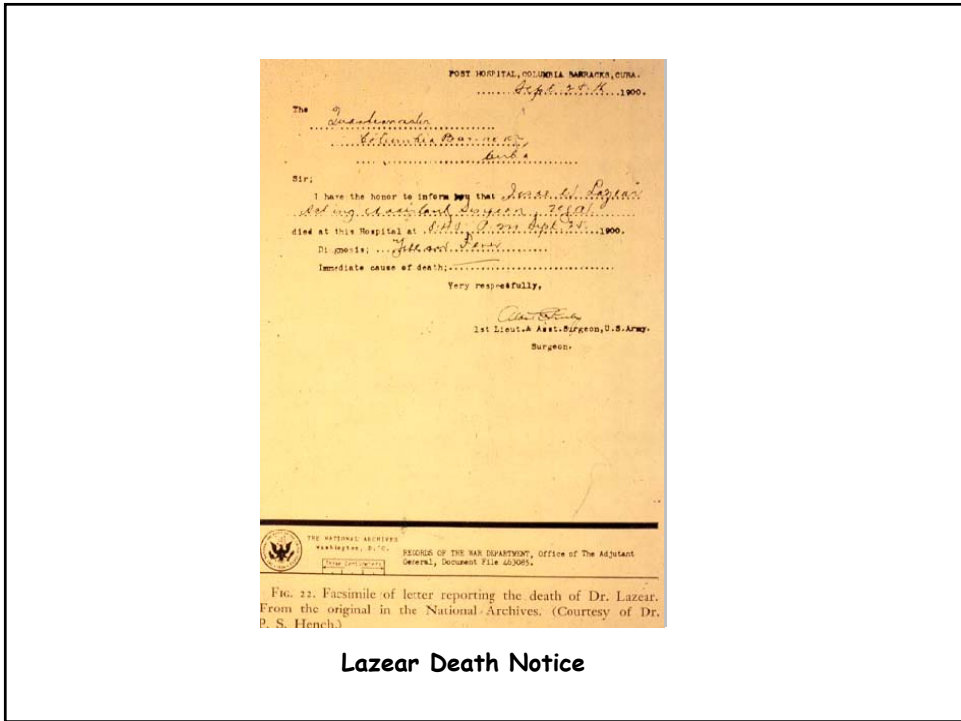


FIG. 18. Medical officers' quarters (building No. 108). X indicates Major Reed's quarters; the arrow points toward Dr. Lazaar's quarters; a signal corps telephone pole is prominent in the foreground. (From official reports.)



Lazear Death Notice

Compliments of the writers

[Reprinted from THE PHILADELPHIA MEDICAL JOURNAL, October 27, 1900.]

THE ETIOLOGY OF YELLOW FEVER.

A Preliminary Note.¹

By WALTER REED, M.D., Surgeon, U. S. A.,

AND

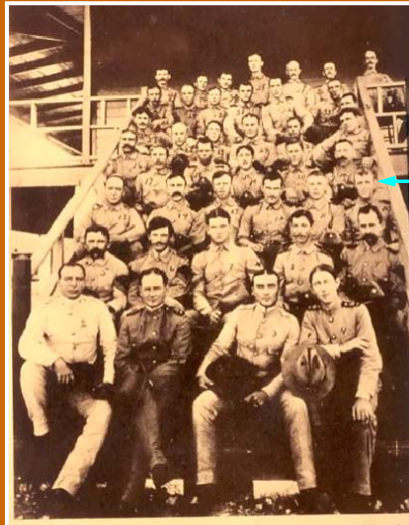
JAMES CARROLL, M.D., A. AGRAMONTE, M.D., JESSE
W. LAZEAR, M.D.,² Acting Assistant Surgeons, U. S. A.



CAMP LAZEAR

where the experiments with the yellow fever mosquito were first carried out and the transmission of the disease by this means proven.

Camp Lazear



PVT Kissinger

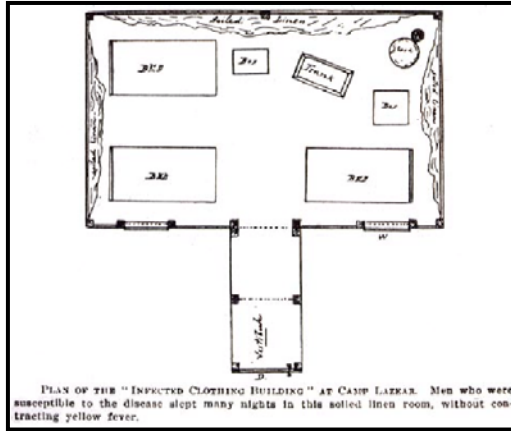
FIG. 24. The Detachment Hospital Corps, Columbia Barracks, September 1900.



PVT John Kissinger

Colombia Barracks,
 Guayaquil,
 Dec. 16th 1900.

My dear Dr. Gruby,
 Just
 a line to thank you
 for the mosquitoes which
 came safely several
 days ago, (which proved
 to be beautiful specimens
 of *C. fasciatus*), and, also,
 to tell you that the trial
is alright! our
 first case came down
 in Camp (Kieser)



PLAN OF THE "INFECTED CLOTHING BUILDING" AT CAMP LAEKAR. Men who were susceptible to the disease slept many nights in this soiled linen room, without contracting yellow fever.



CAMP LAZEAR

Building where the experiments were made which proved that yellow fever is not transmitted by means of infected clothing (fomites)

Fomite House

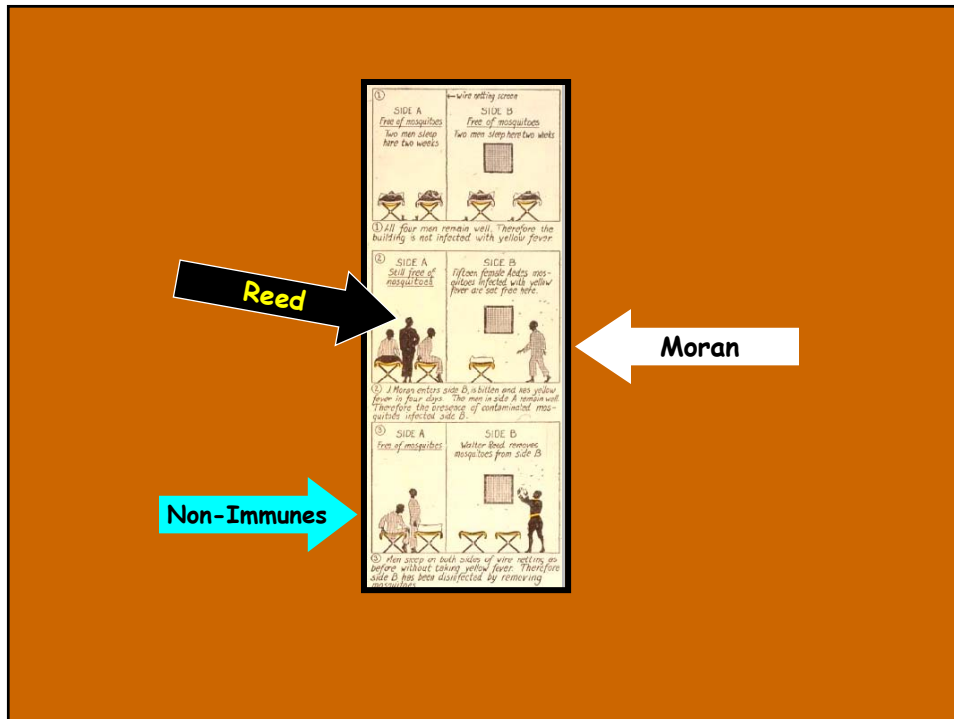
since except Finlay, consider
the theory a wild one!
Woke up in infected bedding
house are enjoying their usual
health, but much relieved
when told that *C. fasciatus* had
got in his work! Congratulations
are now in order - Love to
my boy - Sincerely, your friend
Walter Reed

Letter From Reed to Truby

Partition



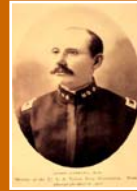
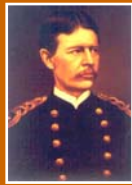
PLAN OF THE "MOSQUITO BUILDING" AT CAMP LAEBAR. The man who for a short time occupied the bed in room marked "A" became infected by the bites of mosquitoes previously introduced, while those, equally susceptible, who occupied beds in section marked "B" remained in good health. Only a wire-screen partition separated the two compartments.



Reed Board Conclusions 1 - 4

CONCLUSIONS.

1. The mosquito (*C. fasciatus*) serves as the intermediate host for the parasite of yellow fever.
2. Yellow fever is transmitted to the nonimmune individual by means of the bite of the mosquito that has previously fed on the blood of those sick with this disease.
3. An interval of about 12 days or more after contamination appears to be necessary before the mosquito is capable of conveying the infection.
4. The bite of the mosquito at an earlier period after contamination does not appear to confer any immunity against a subsequent attack.



Reed Board Conclusions 5 - 8

5. Yellow fever can also be experimentally produced by the subcutaneous injection of blood taken from the general circulation during the first and second days of this disease.
6. An attack of yellow fever, produced by the bite of the mosquito, confers immunity against the subsequent injection of the blood of an individual suffering from the nonexperimental form of this disease.
7. The period of incubation in 13 cases of experimental yellow fever has varied from 41 hours to 5 days and 17 hours.
8. Yellow fever is not conveyed by fomites, and hence disinfection of articles of clothing, bedding, or merchandise, supposedly contaminated by contact with those sick with this disease, is unnecessary.



Reed Board Conclusions 9 - 11

9. A house may be said to be infected with yellow fever only when there are present within its walls contaminated mosquitoes capable of conveying the parasite of this disease.

10. The spread of yellow fever can be most effectually controlled by measures directed to the destruction of mosquitoes and the protection of the sick against the bites of these insects.

11. While the mode of propagation of yellow fever has now been definitely determined, the specific cause of this disease remains to be discovered.

10. The spread of yellow fever can be most effectually controlled by measures directed to the destruction of mosquitoes.....

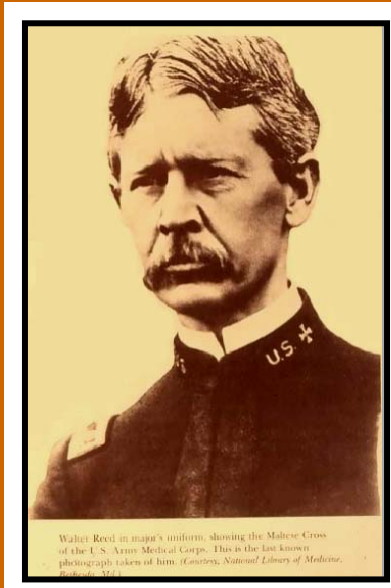


22 Total Cases Under Controlled Conditions

Mosquito Bite - 14

Blood Injection - 6

Filtered Serum - 2



Walter Reed in major's uniform, showing the Maltese Cross of the U.S. Army Medical Corps. This is the last known photograph taken of him. (Country, National Library of Medicine, Bethesda, MD.)

Walter Reed

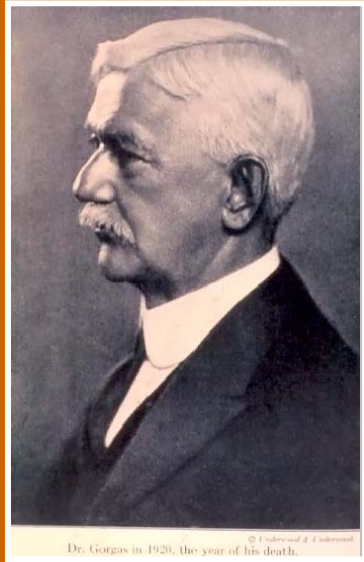


"He gave to man control over that dreadful scourge...."



3. The United States Army Yellow Fever Commission formed in 1900 and led by Major Walter Reed (A). Other members of the commission were Dr. James Carroll (B), Dr. Jesse W. Lazear (C), and Dr. Aristides Agramonte (D). (portraits adapted from bookplate, courtesy of Brown Brothers.)



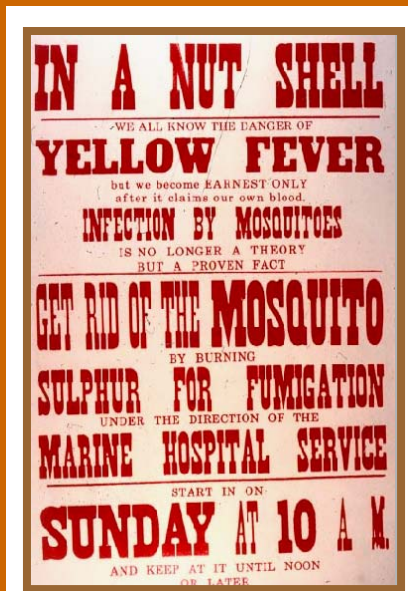


Dr. Gorgas in 1920, the year of his death.



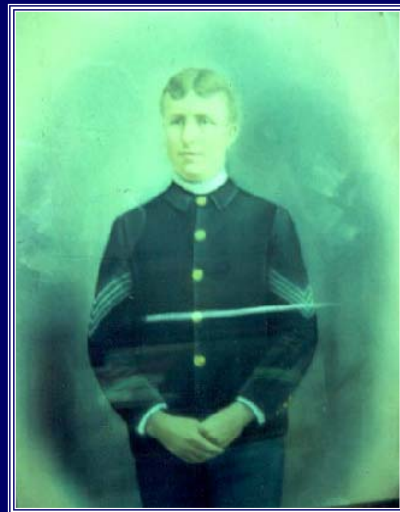
Panama Canal

Dr. William Gorgas -- 1920



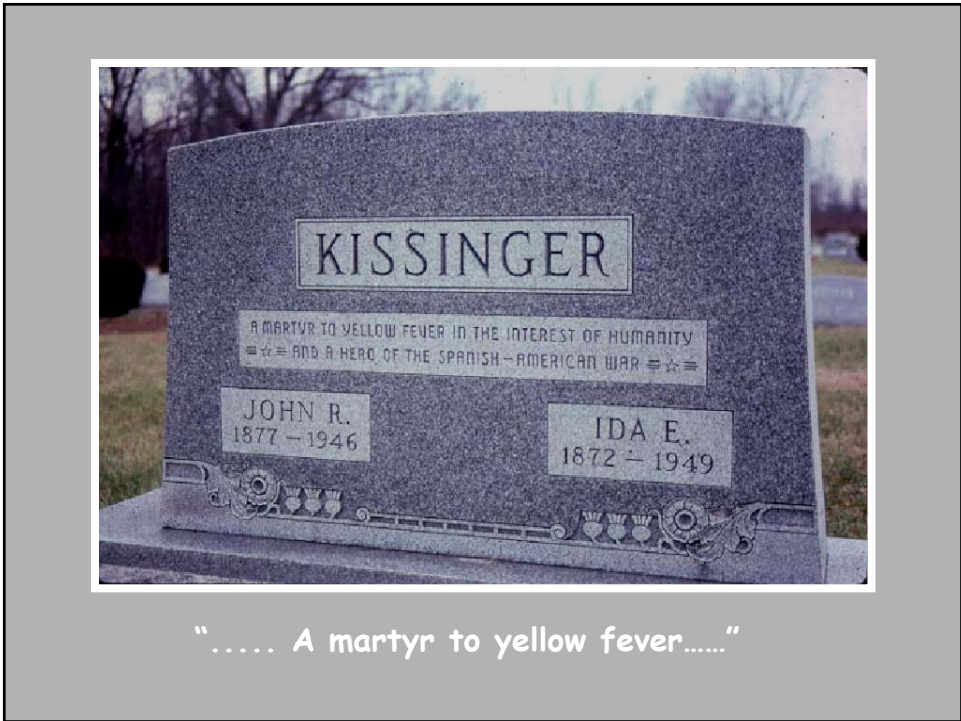


John Kissinger's Signature



PVT John Kissinger









“...swept away a hideous plague.....”