

10-53
(May 1929)

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

..... NATIONAL PARK

D-35
File:
Dry Tortugas
16 mm only

PC

FILE NO. 106-05.1

106-01.1

HISTORY OF FORT JEFFERSON

1867

IMPORTANT

This file constitutes a part of the official records of the National Park Service and should not be separated or papers withdrawn without express authority of the official in charge. All Files should be returned promptly to the File Room. Officials and employees will be held responsible for failure to observe these rules, which are necessary to protect the integrity of the official records.

ARNO B. CAMMERER,
Director.

FORT JEFFERSON RESEARCH

Memorandum No. 6, 1967

June 2, 1936

by

Dexter W. Woods

and

Enrique Esquinaldo, Jr.

Historical Workers

Edited and Revised

January 8, 1938

by

**Albert Manney, M. A.
Historian**

N. B. The research here represented was accomplished in records available at Key West, as an activity of Project 194, District of 5, Florida NPA. In June of 1936 the work was interrupted. The memorandum in its present form has been prepared in St. Augustine, Florida, at the request of Mr. Herbert Kahler, NPS; consequently there has been no opportunity to verify the documentation. - am

PREFATORY NOTE

Our researches in the history of Fort Jefferson were interrupted, I believe in June 1936, at a time when the memorandum covering the interesting and important year 1867 was not yet completed. Fundamental research, however, had been brought to a point of completion.

The present text does not pretend to cover exhaustively the history of Fort Jefferson during that year, but sets forth data in perhaps more summary and less intelligible form than they might have appeared had there been opportunity to complete the memorandum as it was projected. In other words, collations of pertinent data to evolve a clear-cut narrative have not been made; many questions remain yet unanswered.

Under the circumstances, it has not been possible to include many items important to delineation of this year's history. Much such material is to be found in Nettie Mudd's The Life of Dr. Samuel A. Mudd; the Doctor's description of general atmosphere and conditions at the post; his own reactions to various happenings, his descriptions of old Dr. Whitehurst, his descriptions of burials and burial parties and the sardonic humor which occasionally manifests itself in his writings.

There are many questions which suggest themselves: Who was the first victim? What were the names of the other victims? Who was Captain Grebbe? Exactly what was the garrison strength in August 1867? Was there any yellow fever in Key West the summer of 1867? Was Mudd's sickness yellow fever? How did the engineer laborers fare in the epidemic? Who were they? Were

* Neale Publishing Co., N. Y. and Washington 1906.

they prisoners? When did the engineer workmen leave Fort Jefferson?

For the historian, perhaps most important of all is the problem of defining Mudd's place in the history of that year. From his published letters, it would appear that it was a very responsible and heroic one, yet army reports and correspondence indicate that his role was a very minor one. Neither is he mentioned in engineer documents. Why?

Another question, difficult of answer, is suggested as particularly important to the superintendent on the ground at Fort Jefferson; every visitor asks: "Where was Mudd's room?"

Major E. George Enswald, whose inquiries were intensely stimulating to the Key West staff, and some of whose thought is projected in this work, appears now to be with Texas Military Institute at San Antonio, Texas.

In connection with the study represented here, it may be well to mention a map diagram prepared by me and submitted to Mr. Herbert E. Kahler during the prosecution of the work at Key West. This diagram purported to show the physical layout of the fortification and the progress of the epidemic from one point to another. It should be helpful in pointing out important physical relationships and in clarifying the general situation.

In conclusion, it may be said that during the researches at Key West, certain valuable materials not in the Key West Barracks Collection of Fort Jefferson Source Materials (which formed the basis of the investigations) were collected from various repositories in the United States. These materials are to be found in the files of the Research Division, Key West Administration of the Florida WPA; in the case of extremely im-

portant materials, duplicates will be found in the Barracks Collection, some in my own collection. Such material consists of transcripts of Midd letters found in Tallahassee, directed to my attention by Dr. Dorothy Dodd; extracts from the out-of-print Life of Dr. Samuel A. Midd; and transcripts of various official reports and letters obtained from the files of the War Department. My old correspondence file in the Key West office should contain a few leads which are yet to be followed. Secondary materials that might perhaps save future work on the part of a researcher are the notes of Messrs. Esquinaldo, Woods and myself, which are deposited either with the Barracks Collection, or in the Research Division office mentioned above.

C O N T E N T S

Prefatory Note	1
A. Material Covered	5
B. Content of Material Covered	6
Summary ⁷ - Army Activity ⁸ - Engineer Activity ¹⁰ - Intramural Relations ¹² - Instructions ¹⁴ Construction ¹⁶ - Armament ¹⁷ - Finances ¹⁸ - Estimates ¹⁹ Materials ¹ - Personnel ¹ - Prisoners ¹⁶ - Epidemic ¹⁷ Epidemic Sidelights ¹⁸	
Appendix I	41
Discussion of Diagnosis of Epidemic at Fort Jefferson as Yellow Fever	
Appendix II	
 Dr. Davidson's Discussion and Description of Yellow Fever	
Appendix IFA	46
Number of Yellow Fever Deaths in Havana, Cuba, 1865 - 1874	
Appendix IFF	48
Constructional Statistics	
Notes	55

Material Covered
18 May - 2 June 1936

Monday - Saturday, 18-23 May 1936

Notes taken: Letter Book (J-L 35), pp 450-454, jan - dec 1867. Post Order Book (J-L 37), jan-dec 1867. Unbound Letters received at Garden Key, (J-L), jan-dec 1867. Mudd, N (Ed): The Life of Dr. Samuel A. Mudd, Neale Publishing Co., N Y and Wash. 1908. Letters jan - 8 sep 1867.

Monday - Saturday, 25-30 May 1936

Notes taken: Letter Book (J-L) 39 jan - dec 1867. Property Book (J-L 41 py), jan-dec 1867. Post Order Book (J-L 42), jan-dec 1867. Mudd's letters from Garden Key, jan thru dec 1867 (J-L Excerpts from the Life of Dr. Samuel A. Mudd.)

Monday - Tuesday, 1, 2 Jun 1936

Notes taken: Return of Officers and hired men (J-Rn O H), jan-dec 1867. Ledger (J-Lex 13) pp 206-228, jan-dec 1867. Monthly Report (J-R or 70), jan-dec 1867. Photostat 1867. The Life of Samuel A. Mudd, pp 286 - 296. A System of Medicine. By Many Writers, Volume II, Part II, pp 313 - 345.

Post Morning Report Book (J-R 78), jan- 18 aug 1867.

B. **CONTENT OF MATERIAL COVERED**

7

SUMMARY

Construction played a minor part in the history of Fort Jefferson during 1867. Except during January and February, there were never more than 15 men employed by the Engineer Department.

1867 marked the climax in the dramatic history of the Fort. Though the number of prisoners incarcerated there was decreased after the first of the year, following events, incidentally involving political prisoners, gave the fortification a notoriety comparable to that of the French Devil's Island.

For on 18 August appeared the first case of a pestilence which raged nearly three months. The number of deaths mounted to 38; the total number attacked was 270.

Highest mortality occurred in the ranks of the recruits and officers and the first officer to die was the Post Surgeon, Joseph Sim Smith, whose place was filled by the hero of the epidemic, Dr. Samuel A. Mudd, so-called assassination conspirator, and prisoner.

(Material compiled under dates of 18, 19, 20 May 1936)

ARMY ACTIVITY

On 11 March Florida was placed in the Third Military District under the command of Major General G. H. Thomas, whose headquarters were at Montgomery, Alabama. The reasons for this measure were set forth as follows:

"...Whereas no legal State governments or adequate protection for life or property now exists in the rebel States ... it is necessary that peace and good order should be enforced in said States until loyal republican State governments can be legally established: ..."

1867 began with Brevet Brigadier General B H Hill, 5th U. S. Artillery, in charge of the Fort Jefferson Garrison. All subsequent commanders throughout the remainder of the year were of this same Regiment, 5th U. S. Artillery, and succeeded Hill in the following manner: First Lieutenant, Brevet Major Wallace F. Remdolph, 8 March; First Lieutenant, Brevet Captain George W. Grabb, 14 April, Brevet Major Valentine H. Stone, 25 April; Major George P. Andrews, 3 June; Stone, 26 July; First Lieutenant Paul Roemer, 23 September; Second Lieutenant H. I. Reilly, 15 October; Roemer, 18 October; First Lieutenant Edmund L. Cazalinaki, 20 November; Roemer, 22 November; and Major George P. Andrews, 22 November thru 31 December. 2

At the beginning of the year there were at Fort Jefferson 115 prisoners, 345 soldiers and officers comprising Companies D, L, K, M, and I of the 5th U. S. Artillery. Before the end of January fifty-off prisoners had been released; and on 11 March Company D was relieved from duty, leaving only L, K, M, and I, companies that re-

9

remained at the post until Company I was transferred to Key West on 6 November. On 26 November an order was issued reducing all infantry and artillery companies, except ten light batteries, to the minimum strength of fifty privates per company. This order, however, did not affect the strength of the companies at Jefferson. Even before the epidemic in August, the morning reports showed much less than fifty privates per company, including attachments. Prisoners numbered between forty-five and fifty throughout the entire year.

6

During August, September, and October, the Fort was ravaged by an epidemic of the dread "Yellow Jack". Brave officers and soldiers, hardened and experienced campaigners, were terrified and driven to hysterics by this indomitable foe. None seemed immune. Newly married officers lost their beloved wives, and subsequently their own lives. Doctors and children were attacked; some pulled through - others succumbed. Dr. Midd, a prisoner drafted into service after Dr. Joseph Sim Smith's death, dejectedly reflected the prevailing spirit of the post on 21 September:

"... Mrs. Stone died last night, and was buried this morning. Major Stone will leave at ten for the North to take his little son, and only child. I had a talk with him this morning, and gave my views of the situation. I told him plainly there was no abatement in the disease; that, instead of becoming milder, it was evidently more malignant. I told him in a short time the garrison would be without officers, and it would be death to any unacclimated officer who would be sent here; also that in this climate the disease was likely to continue an indefinite period, owing to the fact that there is not much change of temperature with the season... You can form no idea of the gloom that pervades this Godforsaken place..." 7

10
"...The disease thus far has destroyed one family Major Stone and wife, and made desolate three young wives, Mrs. Orr, the wife of Lieutenant Orr; Mrs. Smith, the wife of Dr. Smith; and Mrs. Gordon, the wife of Lieutenant Gordon..."

By 28 September, there were but two officers left, one at death's door and the other convalescing. (Material compiled under date of 31, 22 May 1936)

ENGINEER ACTIVITY

Lieutenant W. A. Jones, Corps of Engineer, continued in charge of operations at Jefferson until shortly after 18 February when Thomas Geraghty, Overseer, assumed charge subordinate to MacFarland's order from Key West. In the first part of December John F. Barker, clerk, replaced Geraghty in charge of operations, and remained for the balance of the year.

(Material compiled under date of 23, 25 May 1936)

INTRAMURAL RELATIONS

Only once during 1867 were the ever glowing coals of jealousy between the garrison and engineers fanned to a merry blaze; and as usual, the Post Commander's flaming anger leaped high - this time to lick up the presumptuous Engineer clerk at the fort and even singe the beard of Major Walter McFarland at Key West.

John F. Barker, Engineer clerk at Jefferson, was perfunctorily ordered out of quarters which were traditionally reserved for engineer occupation. He protested this order, but was nevertheless "busted out". Piqued, Barker wrote Bethel, clerk at Fort Taylor, exposing and complaining of the outrage. Major George P. Andrews, Post Commander, somehow divined Barker's writing and demanded that

12

McFarland send him either the letter or a true copy. McFarland, however, took Barker's part; Andrews then rose up in all his glory, declared his rank, position, authority and length of service (22 years); Barker, mere clerk, remained "busted out".

(Material compiled under date of 26, 27 May 1936)

INSTRUCTIONS

On 18 February McFarland sent the following instructions to his subordinate, Lieutenant W. A. Jones, Engineer Officer in charge of operations at the fort:

"...The Fortification Bill calling for appropriations

for the year ending 30th June 1866 has been defeated, and it is necessary to bring operations at Fort Jefferson to a close without delay. -

"To this end the instructions verbally given you when I was last at Fort Jefferson must be modified to some extent."

"1st - Let the plasterers continue work as I directed, until they have completed the middle and end portions of the section of Officers quarters they are engaged upon."

"2nd - Discharge at once, all carpenters except those absolutely needed to secure that section against the effect of storms - This must be done in the speediest and cheapest manner possible - by boarding up the windows so that rain cannot enter and injure the plastering. -

"If so much has been done towards putting in the sashes that can be accomplished at a cost equal to or less than that of boarding them up, then have the sashes put in - but not otherwise."

"3rd - Discharge without delay every laborer who is not absolutely needed in carrying out the preceding part of these instructions. - - No man is to be kept on time an hour after his services can be dispensed with. The surgeon, and clerk will have their time continued until the end of this month. -

"The overseer and two laborers will be retained on the rolls. -

"All carpenters and laborers discharged can have employment at Fort Taylor if they wish it. -..." 15

12
But on 14 March \$50,000 was appropriated for Fort Jefferson
15a
for the year ending 30 June 1862.

In June McFarland instructed Thomas Geraghty to apply to
Major Andrews for his designation of which barbette platforms
were to be numbered in the sixteen to receive new pattern pintles
16
and plates.

MATERIAL COMPILED UNDER DATE OF 28 - 29 MAY 1936)

CONSTRUCTION

Until the suspension of operations in February, ²¹ over fifty
men were employed by the Fort Jefferson Engineer Office in work on
the officers' quarters. Then ensued a lull of three months when
the engineer force was reduced to less than a dozen men, including
the overseer and a six-man crew for the service schooner. ¹⁷ Even
some pumps, boilers and pipes were dismantled and moved to Key
22
West.

In June came a blacksmith, who with the aid of two stone cutters,
managed to install sixteen new pattern pintles and plates before
18
the end of July. Plasterers and carpenters made their appearance
in August, and worked in the officers' quarters until September.
At no time, however, did the engineer force exceed fifteen men,
and it was reduced again to bare maintenance status of eight or
17
nine men for the months after September.

In December a report was compiled to show the condition of
the quarters:

1st Section (old portion) Head Quarters - Complete.
2nd Section One half finished complete and ready for
occupations. The floors laid throughout - plastering
finished with the exception of the three hallways of

13

the first and second floors. The window frames of the half section on the front of the first and second stories were set in place and finished on the inside. 3rd Section has no inside finish done to it, and I lack the iron beams for one floor, and the cornice on the rear.

4th Section has two rooms finished on the first floor and occupied as Engineer Office. Three fire proof floors to be arched - three chimneys to be topped out, and iron beams required for two passageways. Since 30 Jan 1867,

19
2nd Section Officer's Quarters finished completely.

The cisterns, which had given considerable trouble during previous years, were reported to contain 464,825 gallons of drinkable water.

(Material compiled under date of 30 May 1936.)

ARMAMENT

Major J. D. Kurtz, assistant to the chief Engineer at Washington, wrote McFarland on 26 August instructing him in mounting armament as follows:

"...In reply to your letter of 25th ultimo, giving the reasons why certain guns have not yet been mounted at Forts Taylor and Jefferson, I have to say that the Ordnance Department have for some time past assumed the duty of mounting all guns. But as no Ordnance officer is present, and the Commanding officers at those works have undertaken to mount them, you will render them the use of machinery, teams, and even men, if they require it, or you think it best. The cost of all such labor to be kept separate, and a return of it made to this office for the purpose of having it refunded by the Ordnance Department...."

"...At Fort Jefferson it is suggested whether the Quartermaster and Commissary store in the 1st tier of casemates may be removed to the 2nd tier, and these casemates supplied with guns. Your opinion on this point is requested.

"The three 300 pdr. rifles on hand at Fort Jefferson are intended for the centre pintle platforms at the bastions. It is understood that permanent stone platforms in these bastions have not yet been constructed. On the 10th of June 1861, a drawing, "giving details of roof drainage, barbette platforms etc., &c., of the bastions" was sent to Lieut. J. St. C. Morton with letters of that date. Since then the details for this

14

class of platforms have been modified and a new drawing will be sent to you as soon as certain information asked of the Ordnance Department is received. . . ." 23

In line with the above instructions, Special Orders No. 149 (2 sep 1897), authorized the Commanding Officer at Jefferson to detail from the Department of the Artillery on duty at Jefferson, one non-commissioned officer and twelve privates for extra duty in the Ordnance Department. 24

Eleven 10 inch Rodman guns were received in January, but no guns were mounted. Guns on hand and not mounted include thirty-three 10 inch Rodmans, twelve 24 pounder iron guns, one 10 inch Columbiad, six 18-pounder, four 300 pounder Parrotts and two 24 pounder Howitzers. No gun carriages were received or mounted during January, and on hand and not mounted were one 18 pounder barbette front pintle wooden, six 38 pounder barbette front pintle iron, three 300-pounder barbette center pintle iron, two 24 pounder Howitzers front pintle wooden flank defence, two 32 pounder casemate front pintle wooden, twenty-eight 10 inch Rodman front pintle iron casemate. 25 In May, 15 carriages front pintle barbette, 26 were received and remained on hand not mounted. During September one 6 pounder Brouge (model 1840) 0.367 bore gun and carriage was received and one 10 inch Sea Coast Mortar (cast iron-model 1841) with its carriage were received. Neither the guns nor the carriages were mounted during 1897 and outside of this addition there were no further changes thru 31 December 1897. 27

(Material Compiled Under date of 1 June 1894)

FINANCES

The Appropriation Bill was defeated and operations brought to a

close on 18 February. But on the 14th of March, \$50,000 were appropriated for Fort Jefferson for the year ending 30 June 1868:

Allotments were made in the following order: 3 July, \$10,000; 25 September, \$15,000; 23 November, \$5,000. Total amount of allotments was \$30,000, while the total expenditures for 1867 amounted to \$25,495.62; the expenditures subtracted from the allotments leaves a balance, 1 January 1868, of \$4,504.38.

ESTIMATES

McFarland made the following estimate for the fiscal year ending 30 June 1868:

Amount of former appropriation remaining undrawn 30 June	\$10,000
Amount of new appropriation available	25,000
	<hr/>
	35,000
Outstanding obligations	10,000
Cost of work, year ending 30 June 1867	3,000
	<hr/>
	\$13,000
Working balance	\$22,000

The working balance was to be used in the completion of the Officers' Quarters and the Soldiers' Barracks.

MATERIAL

There were only two purchases of material made during 1867; 23 November, 15,027 ft. lumber and 13 February, 13 lbs plaster of paris. These two items amounted to \$529.61.

(Material Compiled under date of 18 May 1934)

PERSONNEL

Wages continued at about the same level as during preceding years: physician, \$125 per month; chief overseer, \$4 per day; clerk, \$125 per month; blacksmith and stone cutters, \$3.25 per day; laborers, \$1.50 per day.

16

PRISONERS

Before the end of January half of the 118 prisoners at Fort Jefferson had been released, leaving 57 still confined in the island. During the remainder of the year, that number was reduced but slightly, and the so-called assassination conspirators, Samuel Mudd, Michael O'Loughlin, Sam Arnold, and Edward Spangler, remained under close guard day and night, with not even the concession of conversing with anyone outside the casemate.

For these four men, the year began under a cloud of discouragement. In January Mudd learned that he was denied a writ of habeas corpus, and even if the writ were served, Commandant Hill refused to take the responsibility of honoring it - unless acceding orders came directly from the War Department. Mudd's hardships, however were somewhat alleviated when in February he was assigned work in the carpenter shop, and though it would seem that such work was hardly compatible to Mudd's exhibited abilities, which were along musical lines, the man's versatility is evidenced by the fact that his handicraft along with that of other prisoners found a ready sale in the Southern Fair in Key West.

Not all prisoners fared as well; in April a prisoner named Waters, who had in discharge of his duty as a Confederate soldier shot a negro prisoner and subsequently been imprisoned by the Federals, was released; by him Mudd sent to his brother-in-law at New Orleans a letter describing Colonel George St. Leger Granfel's persecution:

"... Colonel St. Leger Granfel is kept in close confinement under guard. A few days ago, being sick he applied to the Doctor of the Post for medical attention, which he was refused, and he was ordered to work. Feeling himself unable to move about, he refused. He was then ordered to carry a ball until further orders, which he likewise

17
refused. He was then tied up for half a day, and still refusing, he was taken to one of the wharves, thrown overboard with a rope attached and ducked, being able to keep himself above water, a 50 pound weight was attached to his feet. Grenfel is an old man, about sixty. He has never refused to do work which he was able to perform, but they demanded more than he felt able, and he wisely refused. They could not conquer him, and he is doing now that which he never objected doing. . . ." 44

Shortly thereafter, matters became yet more serious: 10 June the new commandant, Major George Andrews (?), issued a significant order:

"... In future every sentinel must use his bayonet and cartridges, and no sentinel who faithfully tries to do his duty shall ever see the inside of the guard house; if a prisoner refuses to obey orders the sentinel must shoot him and then use his bayonet, at the same time calling for the guard. The responsibility for obedience to this order will be born by the Commanding Officer..." 45

Thirty-five enlisted men in the garrison could neither read nor write; the entire garrison received orders that compelled them to bathe regularly. 46 Into such men's hands was thrust the power of life and death over defenseless prisoners. Their lives were fraught with danger - they were liable to orders from any sentinel, orders to obey under pain of death - and as Mudd mildly put it, there was "...more annoyance from conflicting orders than from the work..." 47 By 30 June, however, Mudd

wrote that nearly all the older officers had been relieved by men who seemed kinder and better disposed. 48 Nevertheless, the vicious order was not revoked, and on 31 July a sentinel shot and killed Winters, a man imprisoned for desertion. Mudd said that Winters was "crazy drunk, noisy, and a little unruly." In Mudd's opinion, ordinarily he was a very orderly fellow, with nothing criminal about him. 49

And so matters remained until fever swept the post in August.

EPIDEMIC

The food for the four hundred people at Fort Jefferson was abominable. Beef cattle were usually brought from Punta Rasa, near Tampa,

18

Florida, and were inferior specimens at best. Subjected to a week's passage in the hold of a schooner, then placed on a small barren island near the fort and fed with dry forage, a full grown bullock seldom dressed three hundred pounds. Furthermore, even that wretched supply of meat was often deficient; under most favorable conditions, only three rations per man in ten days could be issued, and frequently fresh meat at the isolated post was lacking for weeks at a time.

50

Soil from the mainland was dugged in the center of the parade ground, and that small fertile spot grew a few vegetables, beets, peas, tomatoes, beans and radishes. Coconut trees bore their peculiar fruit. But these things were but a drop in the culinary bucket; the garden was maintained more as a curiosity than anything else, comparable with the everblooming cultivated flowers, or with the caged song birds that "...enlivened the

51

island with occasional merry notes..." For days at a time, the men were devoid of vegetables, and rations were principally salt pork and "indifferent" bread.

52

53

"Pulsay", a plant that grew in the unfrequented sections of the fort, became a palatable dish. In August the prisoners welcomed the advent of Irish potatoes, the first vegetable - with the occasional exception of corn or beans - on the bill of fare since January. Another problem at the fort was sanitation. Many of the privy vault connections with the main sewer line were clogged. Filth accumulated in the vaults.

54

Attempts to remedy the situation had to be abandoned during the hot weather. To make matters worse, the sewers emptied into the unfinished moat, so shallow along two fronts as to be dry at low tide. As the Board of Officers reported in cautious terms, "...the stench at such

55

times is represented as being very decided..." Although the casemate

cisterns were covered, there was ample breeding ground for mosquitoes, and heavy rains during June, July and August paved the way for an unusually large crop of the blood-sucking pests. 56

Nevertheless, general health at the post had been remarkably good; there were no more than the usual complaints about intermittent, remittent and dengue fevers, and the troublesome diarrhoea. Perhaps the most significant fact was that the warm climate brought on general debility; the Engineer Department estimated its labor at double that required in the north, and in point of fact, its estimates were short. A piano easily handled by three men in New York required fourteen carriers at Tortugas - and even then the men were obliged to rest every few rods. 57

With the exception of Company I, which was stationed in the unfinished soldiers' barracks, all of the troops were quartered in damp, leaky second tier casemates that were boarded up on the parade side, and rather conveniently entered by means of ramshackle wooden stairs leading to a makeshift landing and entry doors at the second floor level. 58
The post hospital occupied two unplastered rooms, a 30 foot area in the north end of the soldiers' barracks. 60

About the first of August, a Captain Crabbe arrived at Fort Jefferson from Havana, Cuba. Crabbe was evidently slightly ill, although he did not seem to know the nature of his affliction. 61
Eighteen days later, a Company K artilleryman, quartered with his Company in the fungus-grown upper casemates along the southwestern side (front) of the fort, was taken to the hospital. That man had yellow fever. By 22 August, four days after he was stricken, he was dead. 62

On 20 August another case of fever was taken to the hospital, and two more followed the next day. The empty beds of the victims,

Doctor Mudd noticed, were contiguous. Brevet Major Joseph Sim Smith, post surgeon, who attributed the rise of the disease to the Company's location over the stinking moat, on 22 August ordered that the ambagures be boarded up to keep out the "deadly miasma". Sam Mudd, assigned to the carpenter's shop, assisted in the work. Company K was moved (23 August) to quarters centering on Bastion C at the eastern angle of the fort, and extended over casemates north and along Front 2, and southwest to the prisoners living in Front 3 casemates - "...in the most eligible position for the spread of the poison, which from early in April up to this period had blown continuously from the southeast..."

But Doctor Smith seemed to have arrested the disease; for two days there were no new patients.

Then the stretcher bearers took another man from Company K to the hospital. On 25 August the schooner Matchless sailed in from Tampa with a case of yellow fever aboard to add to the five men already in the hospital. The same day, a fever victim appeared in Company L. Later it broke out among the prisoners. Significantly enough, the first two cases in both Company L and the prison quarters were men whose beds were immediately next the rough and loosely boarded partitions that separated them from Company K. Several negro prisoners, employed by officers as servants, habitually carried their blankets to and fro, from officer's quarters to casemates. To them, after the fever had made its appearance among the prisoners, may be ascribed introduction of the disease into the ranks of the officers and their families.

By the first of September it became painfully evident that the fort was in for a siege of sickness. Dr. Smith determined to utilize the

21

emergency hospital built in 1892 on Sand Key to isolate smallpox patients. That little shack, however, had a capacity of only ten patients, so three hospital tents were pitched, and the emergency hospital quickly filled with twenty-six fever cases. Those who fell sick during the night walked next morning to the Post Hospital, and at 4 o'clock that afternoon made the two-mile journey in an open boat to Sand Key hospital, when the Doctor went on his routine visit.

On 5 September, Dr. Smith, the one Post Physician, succumbed.

Mudd described, more or less rhetorically, his own mixed feelings at the news:

"...The post was left without a physician in the midst of a fearful pestilence. The thought had never before entered my mind that this contingency might arise and consequently I found myself unprepared to decide between the contending emotions of fear and duty that now pressed to gain ascendancy. Memory was still alive, for it seemed as yesterday, the dread ordeal through which I had passed. Tried by a court not ordained by the laws of the land, confronted by suborned and most barefaced perjured testimony, deprived of liberty, banished from home, family and friends, bound in chains as the brute and forced at the point of the bayonet to the most menial service, and withal denied for a time every luxury, and even healthy subsistence, for having exercised a simple act of common humanity in setting the leg of a man for whose insane act I had no sympathy, but which was in the line of my professional calling. It was but natural that resentment and fear should rankle in my heart, and that I should stop to discuss mentally the contending emotions that rested upon a horrid recollection of the past. Can I be a passive beholder? Shall I withhold the little service I might be capable of rendering the unfortunate soldier who was but a tool in the hands of his exacting officer? Or shall I again subject myself to renewed imputations of assassination? Who can read the motives of men? My motive might be ever so pure and praiseworthy, yet one victim of the disease might be sufficient to start up the cry of poison and murder.

"Whilst these disagreeable thoughts were revolving, a fellow-prisoner remarked, saying: 'Doctor, the yellow fever is the fairest and squarest thing that I have seen the past four or five years. It makes no distinction in regard to rank, color, or previous condition; every man has his chance and I would advise you as a friend not to interfere.' Another said it was only a little Southern opposition to reconstruction, and thought the matter ought to be reported to Congress in order that a law might be passed lowering the temperature

below zero, which would most effectually put an end to this disloyalty.

"...I could occupy no middle ground. I felt that I had to make a decision and although the rule of conduct upon which I had determined was not in accord with my natural feelings, yet I had the sanction of my professional and religious teachings and the consciousness of conforming to the holy precept, 'Do ye good for evil', which alone distinguishes the man from the brute..." 63

By breakfast time next morning, 6 September 1867, Samuel Mudd had made up his mind.

"...Thinking it required some condescension on the part of the commanding officer to call upon an humble prisoner to serve in the honorable position of surgeon of the fort", he asked Samuel Arnold,

who served as clerk at headquarters, to acquaint Major Stone with his willingness to attend the sick. But Arnold found Stone already on his way to Mudd's quarters. Mudd's offer was gratefully accepted. 63

NOTE: It was planned to develop the remainder of the narrative in detail, collating available accounts and other contributory data. At the present writing, for lack of time it is not practicable for the writer to adhere to the original plan. Consequently, the important accounts are transcribed, more or less fully, with no attempt at collation.

23

On 14 dec 1867. Maj George P. Andrews issued the following order:

"...A Board of Officers will meet on the 16th inst of December, or as soon thereafter as practicable to collect and report facts in relation to the epidemic of the year 1867 and to propose the proper means of avoiding any injury to the Service by the appearance of disease in Fortugas Islands in future.

"The Board will not be limited in its field of examination or recommendation and will take evidence whenever it may be necessary."

Detail for the Board

Brvt Maj H.H. Smith, Capt. and Asst. Surgeon USA 1st Lt. Paul Romer, 5th US Artillery Edward Thomas, A. A. Surgeon USA.²

"On the 19th of August the first case of yellow fever occurred. The patient was a member of Company "K", 5th U.S. Artillery, then quartered in casemates on the south side of the fort, overlooking the unfinished portion of the moat previously referred to. On the 20th the second case occurred, also from Company "K", while quartered in the same locality. The next three cases were also from this company. On the 25th the schooner Matchless arrived from Tampa, having on board a case of yellow fever. This was the sixth case. The patients had all been removed to the hospital on the east side of the fort, in the immediate vicinity of which Company "L" was quartered. On the 23rd Company "K" was removed into casemates on the east side of the fort, adjoining Company "L". On the 25th the disease broke out in the latter company. It next appeared among the servants in the officers' quarters. Company "I", quartered in the barracks adjoining the hospital, was then attacked. Company "M", on the north side of the fort, escaped for nearly three weeks, when on the 7th of September, thirty-five cases occurred in the company. On the 4th of September, Company "L" was removed to Bird Key, three-quarters of a mile from the fort. After the removal, none were attacked except those whose duties called them to the post.

24

"On the first of September a hospital was established on Sand Key, two miles from the fort. A small building capable of accommodating about ten patients was already on the island, having been erected some years before as a small-pox hospital. Three hospital tents were added. Twenty-six patients were treated at this place, all of whom had taken the fever before they were sent from the fort; seven died.

"On the 5th of September Brevet Major J. Sim. Smith, Assistant Surgeon, U.S.A., the medical officer of the post, was taken sick. He died on the 8th. During his illness, Dr. Mudd, a prisoner, was placed in charge of the hospital by the commanding officer, and rendered faithful and efficient service until the arrival of Dr. Whitehurst from Key West, September 7th.

"On the 8th of September, Company "K" was removed to Loggerhead Key and encamped. On the 21st, Company "L" was, for greater convenience, transferred to the same place from Bird Key. But one case occurred at Loggerhead, while the disease continued to rage with unabated severity at the fort. This encampment was continued until the close of the epidemic. The supply of provisions and water was derived from the post. The disease reached its height about the 20th of September, and gradually declined until the last of October, the last case occurring on the 14th of November.

"The total number of cases of officers, soldiers, citizens, and prisoners amounted to 270. The number of deaths was 38. The mortality among the recruits coming from the north, who had been here but a few

25

months previous to the outbreak of the fever, was in every instance very much greater than among those who had spent a winter here.

"Of the 54 prisoners at the post, 44 had been here upwards of a year. Of these one died, or 3.33 per cent. Of the other ten prisoners who had been here but a few months, one died, making ten per cent. Of the men detailed as cooks and nurses in the hospital not one escaped the disease; four died." 64

This official report differs in some details with Mudd's notes:

"I shall pass over many incidents of interest connected with hospital management, difficulties I had to overcome in breaking up the prior arrangement of sending away the sick in open boats over a rough sea two miles and a half distant, and also in obtaining an opposite order from the commander to send to one of the islands near by as many of the well soldiers as could be spared from the garrison. This latter measure, though I had advised it on the day I took charge of the hospital, was not carried out until the arrival of Dr. D. W. Whitehurst of Key West, Florida; a noble, kind-hearted gentleman, who superseded me on the 9th of September.

"The first case of yellow fever at the Dry Tortugas, in the epidemic of which I now speak, occurred on the 18th of August, 1867, in Company "K", which was located in the casemates on the south side of the Fort immediately over the unfinished moat, which at low tide gave rise to quite offensive odors. To this circumstance the surgeon of the Post attributed the cause of the disease, and at his request the company was removed and the port holes ordered to be closed, to prevent the supposed deadly miasma from entering the Fort.

"Having the honor at this time of being a member of the carpenter's shop, it fell to my lot to aid in the work of barricading against the unseen foe, and it was during the patriotic service of the 22nd of August, that I made my first note of the epidemic. The places occupied by the beds of the four men, one on the 18th, one on the 20th, and two on the 21st, that had gone to the hospital sick with yellow fever, were all contiguous. The Fort was hexagonal in shape with a bastion at each corner, and the company, after its removal, was placed on the east side, the bastion forming the center with several casemates above and below boarded up separating it from Company "L" on the north and the prisoners on the south, and in the most eligible position for the spread of the poison, owing to the prevalence of the wind, which from early in April up to this period had blown continuously from the southeast, varying only a few degrees.

"There was a lull or temporary suspension of the activity of the poison on the 22nd and 23rd. For two days the company remained without any new cases, but on the 24th day one man was taken from the same company on stretchers, being unable to walk. The fever then rapidly extended right and left until it reached Company "L", which was nearest the point where it arose this second time, and later the prisoners' quarters, which were more remote, were attacked. To show and to prove to you that the germs, or cause, spreads by continuity of matter, and not with the disease, the first two cases that occurred in Company "L", and the first two cases among the prisoners, were immediately next the boarded partition that separated them from Company "K", where the fever was raging, having followed along the rows of beds, up to this line of division, and then passed

through the open spaces between the plank, which were loosely nailed.

"There were at this time two hospitals, the Post Hospital within the Fort, and Sand Key Hospital on an adjacent island about two miles and a half distant, which latter was fitted up as soon as the fever began to assume an epidemical form. The sick that occurred during the night and following day were immediately taken to the Post Hospital, and from there at 4 o'clock P. M. they were carried in boats by the surgeon, on his accustomed visit, to Sandy Key Hospital. Notwithstanding the fact that most of the sick walked from their beds to the Post Hospital, and no effort or pains on the part of the surgeon to isolate the disease were taken, owing to the belief in its miasmatic character, the germs or cause had not up to this time, September 12, viz: 25 days, reached either of the hospitals, if we may judge from the circumstance that not one of the many nurses, who waited upon the sick day and night and even slept in the same room, were stricken down with the fever.

"The disease after extending into Company "L", and to the prisoners' quarters, next made its appearance into Company "I", located in the inner barracks, a building about three hundred feet long, thirty feet wide, and four stories high on the east side, running north and parallel with the Fort, and immediately in front of Company K and Company I, and distant about sixty feet.

"I was called into this company on the morning of September 8, and found Sergeant Sheridan and a private that slept in the next bed ill with the fever. Sergeant Sheridan and the first sergeant of Company K were great friends, and when off duty were constantly in each other's quarters.

Sheridan generally wore a heavy cloak during the showers of rain that were frequent at this period, and I feel satisfied that the poison was carried by the ferment set up in the cloak, or mechanically, by adhering formites, though it is possible for it to have been wafted across from Company K, the two beds in Company I being near the window facing that company. Then the fever gradually worked its way along through the whole company without a skip in regular succession as they slept.

"At the northern extremity of the barracks two rooms were set apart, thirty feet square, as the Post Hospital. On the 7th we were necessitated by the increasing number of sick to provide other hospital quarters, and for convenience four casemates opposite on the ground tier, under Company L, were boarded up as a temporary hospital, with our kitchen and dispensary intermediate. On the 8th our hospital supply of beds and bedding gave out, and on the 9th we were compelled to bring the bed along with the patient into the hospital. Two days after the admission of the infected beds, our nurses began falling sick, three being attacked during the day and night of the 11th of September. Then the three laundresses, families who did the washing for the hospitals and separate quarters on the west side of the Fort, sixty or seventy yards apart, were all simultaneously attacked, upon the first issue of soiled clothing after our hospital became infected.

"Then again, upon the breaking up of the Sand Key Hospital, and the return of the nurses to the Fort, they were all speedily stricken down with the fever upon their being placed on similar duty. These nurses had remained free from all disease up to their return to the Fort, although the majority of the cases whom they nursed at Sand Key died with the fever.

"But the most remarkable spread of the disease occurred on the night of the 16th of September in Company M, which was quartered in the casemates immediately above the hospital and Company L, and notwithstanding the proximity up to this date, twenty-nine days since the epidemic began, had remained entirely exempt from the fever, owing no doubt to the fact that it laid behind the bastion, which, with the prevailing southeast wind, produced a downward or opposing current. However, on the morning of the above date, about nine o'clock, a small rain cloud common to that locality, arose to the south of the fort, which came up rapidly with a heavy wind, lasting about twenty minutes, and which blew directly from the Hospital and Company L, toward Company M, and the night following every man went to bed in his usual health, yet between eleven and one o'clock nearly one half of the company, or thirty men, were attacked with the most malignant form of the disease -- beginning at the point nearest the hospital and extending thirty beds without missing or skipping a single occupant.

"It had been my custom to remain at the hospital every night until eleven o'clock to see that every patient received the medicine prescribed and was quiet. On this occasion I had not retired more than fifteen minutes before I was sent for by the sergeant of Company M to come to his quarters, that several of his men were sick. Feeling much fatigued, I did not attend the summons, but referred the messenger to Dr. Whitehurst and the steward of the hospital. At one o'clock the sergeant himself came down to my room and begged me for God's sake to get up, that one-half of his company were attacked with the fever, and that he did not know what to do with them, as the hospital were already full. I went along with the sergeant, and found his statement fully correct, and the wildest alarm and confusion prevailing.

"As the hospitals were already crowded, we concluded, for convenience, to enclose the six casemates nearest the regular hospitals, which was speedily executed with canvas, and in less than two hours all moved back and were quiet under comfortable treatment. The next night or two after the balance of the company, in the order of their beds, were attacked with the disease without an exception.

"The disease did not extend among the officers at headquarters until it had first reached the negro prisoners, several of whom were employed by the officers as servants, and who were in the daily habit of carrying to and fro their blankets. The humble individual who now addresses you was not attacked until the 4th of October, forty-seven days after the beginning of the epidemic, though constantly at the bedside of the sick, and in the midst of the infected hospitals and quarters.

"One evening, at our usual supper hour, feeling much depressed and exhausted from the unaccustomed duties I went over to my mess, where I was besieged with many questions concerning the sick, and notwithstanding the solemnity of the occasion, a hearty laugh was frequently indulged at the expense of our ready wit, Edward Spangler.

"The debilitating effects of the climate, added to the condition consequent upon the excitement, very much depressed me, and after finishing my bowl of coffee and slice of bread, I fell upon my rude cot to spend a few minutes of repose. The customary sea breeze at this hour had sprung up, and I was shortly lulled into sweet sleep. My faithful and ever solicitous roommate, Edward Spangler, who on former occasions had manifested so much concern when the least indisposition was complained of, seemed to anticipate my every want, was not unguarded this time. As soon as he found me

31

quiet, he closed the door and turned back several intruders, stating that the Doctor was feeling unwell, and had laid down to rest himself. In the course of an hour, he said, he will be through his nap, when he will return to the hospital, where all who desire can see him. Spangler made money by trafficking with the soldiers, and we are mainly indebted to him for something extra to the crude, unwholesome, and sometimes condemned Government ration that was issued to us. He was not generally select in his epithets toward those whom he disliked, yet if he saw them in suffering, it excited the liveliest sympathy, and he would do anything that laid in his power for their relief. At a later period he, in conjunction with Mr. Arnold, watched over me in my illness as attentively as if their own brother, and I owe my life to the unrenitting care which they bestowed. The reader, I am in hopes, will excuse this little digression from the subject— a tribute of thanks is due, and I know no more fitting place to give it expression. I may perhaps be doing injustice by omitting another name equally deserving of my esteem, Michael O'Loughlin. He, unfortunate young man, away from his family and friends, by whom he was most tenderly loved, fell a victim to the pestilence in spite of every effort on our part to save him. He had passed the first stage of the disease and was apparently convalescent, but, contrary to my earnest advice, he got out of bed a short time after I left in the morning, and was walking about the room looking over some periodicals the greater part of the day. In the evening, about five o'clock, a sudden collapse of the vital powers took place, which in thirty-six hours after terminated his life. He seemed all at once conscious of his impending

32

fate, and the first warning I had of his condition was his exclamation, "Doctor, Doctor, you must tell my mother all!" He called then Edward Spangler, who was present, and extending his hand he said, "Good-by, Ned." These were his last words of consciousness. He fell back instantly into a profound stupor and for several minutes seemed lifeless; but by gently changing his position from side to side, and the use of stimulating and cold applications, we succeeded in restoring him to partial strength and recollection. I never met with one more kind and forbearing, possessing a warm friendly disposition and a fine comprehensive intellect. I enjoyed greater ease in conversational intercourse with him than any of my prison associates. He was taken sick whilst my kind friend, Dr. D. W. Whitehurst of Key West, Florida, had charge of the Post; from him he received prompt medical attention from the beginning of his illness to his death.

"The news had spread around through the garrison of the neat and comfortable appearance of the hospital and the improved conditions of the sick, which had the effect to gain for me a reputation, and the confidence of the soldiers -- all I could desire to insure success. It was not long before I discovered I could do more with nine cases out ten by a few consoling and inspiring words, than with all the medicine known to me in the materia medica."

63

On 7 July 1868 the Board recommended eleven measures to prevent a recurrence of the epidemic. Among these recommendations were:

1. Unacclimated troops should never be sent to Fort Jefferson except during the months of dec, nov and jan.
2. The barracks should be finished and the men moved from the unhealthy casemates.

- 27
3. The hospital should not be constructed within the walls as planned, but outside the walls where there was very favorable ground for that purpose.
 4. Summer quarters for the men should be constructed on one of the adjacent keys.⁶⁵

[Given below, with little or no change, are Mr. Woods' writings on the subject. Though inclined to be impressionistic, and not thoroughly checked for accuracy, they are particularly helpful in pointing out details which require further study.]

Dr. Samuel A. Mudd thought the yellow fever epidemic which began
61
on 15 August had originated at the fort, and that it would exist at
67
Fort Jefferson for an indefinite period because of the moderate climate.
Mudd's hypothesis, would point to the disease as endemic at Jefferson;
it would have run its course until the supply of susceptible subjects
was exhausted and recurred with the introduction of any new susceptibles,
68
no matter what the time intervening. The disease did actually exhaust
the supply of susceptible subjects, but it ended definitely with the
69
advent of cool weather, and therefore may be classed as exotic to Fort
Jefferson.

In exotic zones, where the yellow fever carrier, *Stegomyia fasciata*,
exists but is not infected until she feeds on the blood of a yellow fever
patient, or where the tainted mosquito can be carried in baggage or mer-
chandise off boats from infected ports, epidemics are very similar to the
68
one of 1867 at Fort Jefferson. Dirt thrown up on the terreplein and em-
banked on the parade during the years preceding the epidemic did not
66
facilitate quick drainage; casemates leaked; there were hundreds of
cisterns; and from these sources swarmed forth "million of little
70
mosquitoes that are very annoying."

34

A mosquito fed on yellow fever blood is not capable of giving rise to the infection until after the lapse of twelve or fourteen days, but from that time on to as many as fifty-seven days after becoming contaminated the mosquito transmits the disease in an increasingly virulent form. Just about 15 days before the outbreak of the epidemic a man known simply as Capt. Crabbe arrived at the fort from Havana sick, and afterwards insisted that his affliction had been yellow fever. A lapse of twelve or fourteen days plus the incubation period of from 36 hours to four or five days, sometimes extended to a fortnight, gives plenty of leeway for substantial consideration of Capt. Crabbe's assertion.

The first case of yellow fever in the 1867 epidemic occurred on 18 August in Company K located in the casemates on the south side of the fort immediately over the unfinished moat. The stegomyia mosquito is the bulldog of the mosquito family; it does not fly far or fast, but has the instincts of a home lover. It will cling to clothing or baggage with the greatest tenacity and if carried out of doors will not relinquish its hold on the article of clothing or baggage until again inside of a house. The stegomyia is an indoor insect, as yellow fever is a house infection. Therefore, when Company K men moved from the supposedly miasma-infested casemates, which were from that time on shunned, they left behind a number of infected mosquitoes, but they carried on their clothing or bags a few infected mosquitoes that were undoubtedly responsible for the recurrence of the fever in Company K's new quarters in second tier casemates near Bastion C. After Company K's move there was a lull of two days, but on the 24th the disease reappeared in the same company and spread rapidly from right to left. No newly infected mosquitoes could have been responsible for this fresh outbreak; either the infected

35
mosquitoes from the old location had been carried over to the new location
or the period of incubation--latency--was varying to its full extent. 76

Company K's new location was in the casemates on the east side of the fort near Bastion C; adjoining casemates on the south were occupied by the prisoners, and those on the north were occupied by Company L. Separating Company K from the prisoners on the south and Company L to the north, were loosely boarded partitions with wide cracks. The stegomyia fasciata flies short distances and has characteristics which make it return a few feet and then fly four more; naturally the two cots immediately next the partition would be the first to be visited by the vacillating stegomyia mosquitoes, happily singing their songs of thanksgiving for fresh blood. 76

After reaching Company L and the prisoners, the disease next made its appearance in Company I quarters in the soldiers' barracks, a building about three hundred feet long, thirty feet wide and three stories high, on the east side of the parade running parallel with Front 2 and fifty feet directly opposite the casemates occupied by Companies K and L. Sergeant Sheridan of Company I and the first sergeant of Company K were great friends; off duty they were constantly in each other's company and Sheridan continued his visits to the infected quarters even after the disease had started. Mudd scented a vital point concerning the spread of the epidemic and wrote the following:

"...Sheridan generally wore a heavy cloak during the showers of rain that were frequent at this period, and I feel satisfied that the poison was carried by the ferment set up in the cloak, or mechanically, by adhering formites, though it is possible for it to have been wafted across from Company K, the two beds in Company I being near the window facing that company. Then the fever gradually worked its way along through the whole company without a skip in regular succession as they slept...." 85

Yellow fever almost always commences with a chill occurring between
 77
 midnight and daybreak. Concerning the cot by cot regularity with which
 the men were attacked, it can be mentioned that the older stegomyia are
 the only ones infected; since they do not as a rule bite during the day
 time, and as they were in the casemates and the soldiers occupied their
 beds during the night, it was only natural that the infection progressed
 rather regularly through the company.

The day before Company I was attacked, 7 September, it had been neces-
 sary to extend their hospital, which up to that time had consisted of the
 two rooms set aside in the northern extremity of the barracks. The addi-
 tional hospital quarters were four casemates on the ground tier of Front 2,
 directly opposite the barracks hospital and under Company L. After Company I
 was attacked on the 8th, the supply of hospital beds and bedding gave out
 and the patients were obliged to use their own beds. No precautions were
 taken to prevent the mosquitos from riding to the hospital on the beds with
 two days after
 the patients; it is significant that/the admission of these beds the nurses
 became ill.

Only after the stegomyia was admitted to the hospital were the laund-
 resses attacked, and then immediately following the first issue of bed-
 clothing from the infected hospital all three laundresses, living sixty or
 seventy yards apart, were simultaneously attacked. The Sand Key Hospital
 was broken up; nurses returned to Garden Key to succor the nurses of the
 Post Hospital who were attacked by the pestilence, but although immune at
 Sand Key they were speedily stricken upon taking over their duties at the
 infected Post Hospital.

About four or five days later, 16 September, Company M, quartered in the casemates immediately above the hospital and Company L, was finally attacked. Most of the victims were stricken at night and the progress of the disease through the Company was regular, starting at a point nearest the hospital and extending without ^{to} one bed after another. This attack was more malignant in form than before; up to fifty-seven days ⁷⁴ the infected mosquito transmits the disease in an increasingly virulent ⁶⁸ form. After Company M was attacked it was necessary to utilize six more casemates nearest the hospitals as emergency hospitals.

The garrison at the fort was white, the only negroes being prisoners acting as servants to the officers, ^{going} to and fro, ^{and carrying} ~~caused~~ the infection to ⁷⁴ the officers.

38

EPIDEMIC SIDE-LIGHTS

Dr. Joe Sim Smith, Brvt Maj and Capt, 29 year old east surg, was ordered to Fort Jefferson, Dry Tortugas, on 1 Jul 1867. Smith was attending the post by 25 Jul 1867.

On the 18th of the next month there occurred the first case of the yellow fever epidemic which ravaged the fort, attacking 270 inhabitants, killing 38 and ending its course only for lack of victims on 14 Nov. Six days after the appearance of the first case of yellow fever Mudd wrote that he had been specially favored and was the object of Dr. Smith's and Maj Val S. Stone's kindnesses - an unprecedented procedure, to say the least. To find that the officers and soldiers were panic stricken only makes the officers' duplicity more obvious; the bruised prisoners seemed not much concerned with the threat of further pain.

Dr. Joe S. Smith was attacked on 8 Sep and expired on the morning of 8 sep; Dr. Mudd had been drafted into service on the 5th and had taken charge of the hospital until the arrival of Dr. Whitehurst from Key West on the 7th; and the two men, Whitehurst and Mudd, divided up the duties of the Post Surgeon, Whitehurst taking the responsibility of treating the officers and their wives. That Mudd valued Whitehurst's experience is shown by Mudd's gratification on finding his work approved by the old and experienced medic.

On 13 sep every officer of the post was down with the disease. Mudd's liberty on the island had been restored and he had resigned himself to his fate; that is, he intended making no further attempts at escape. Three days later the fort was without a Post Commander and in the hands of the physician. Dr. Smith's three year old child,

39

Harry Smith, was afflicted and not expected to recover; Mudd grieved for the child, saying that the boy had been very fond of him, turning somersaults to amuse the lonely Doctor.

On the 18th Dr. Mudd's little "pet" passed on; Mudd, with tear dimmed eyes described the gloom-pervaded fort. ⁷⁹ At Mrs. Stone's death Maj Val S. Stone, panic stricken, bundled up his two year old son and fled; he refused to see his beloved wife buried. But his haste was useless; he was taken with the disease before reaching Key West and died there the next day, 21 sep. ⁷⁴

Michael O'Loughlin, one of Mudd's few friends, appeared to be convalescing on 19 sep. ⁷² but suffered a relapse and was buried on 23 sep. ⁷³ O'Loughlin was the only one of the ten acclimated prisoners at the fort to die. ⁶⁴ Mudd mourned for his friend and complained of a headache which he feared was one of the premonitory symptoms of the disease. ⁷³

Mudd's fears with respect to his own symptoms were evidently well founded, but on the 14th of oct we find him fully recovered. ⁷⁵

On 18 oct 1867, Mudd wrote that his liberty on the island had been completely restored, and that plenty of books and papers, pen and ink were at his disposal along with access to a "very choice library of over five hundred volumes ... I am in want of nothing..." He was still doing duty in the Hospital, relieving the post physician of most of the duty. ⁸⁰ Mudd, however, was beginning to tire of the burden of responsibilities not his own, and was not altogether consoled by the compliments lavished upon himself by the soldiers who finally voluntarily drew up a petition reciting Mudd's services. ⁸¹ A second petition was designed to be signed by every officer and man at the post, but, reflecting on Dr. Jos Sim

Smith's abilities as it die. Mudd believed it was shelved by the
32
Commanding Officer and never sent.

On 7 dec. after the yellow fever vanished, we find Mudd again
in chains with four others, under guard and forced to wash down the
83
bastions of the fort every day. This maltreatment may have been the
result of a letter Mudd wrote Maj Geo P. Andrews, Commander of the
Fort, in which Mudd intimated that Andrews had destroyed the petition
which was to have the officers' signatures and be sent to the president. 82

APPENDIX I

Discussion of the Diagnosis of Epidemic at
Fort Jefferson as Yellow Fever.

by Dexter W. Woods

DISCUSSION OF THE DIAGNOSIS OF EPIDEMIC AT FORT JEFFERSON AS YELLOW FEVER

There have arisen conflicting opinions concerning the correct diagnosis of the disease which was epidemic at Fort Jefferson during 1867. Mudd's diagnosis was yellow fever; however, his attempts to classify the disease are rather confusing. A Board appointed to investigate the cause and nature of the disease reported it as yellow fever. Dr. Ovesed Temkin, associate professor of John Hopkin University, tentatively confirms the report of the Board. Yet Major E. G. Fruewald, who has his own theories relative to the matter, declares that he will "go to the mat" with any one who persists in calling the disease yellow fever.

In Mudd's letters from Garden Key the following symptoms have been found to agree perfectly with symptoms of true yellow fever, as given by Dr. Davidson in Appendix II:

- 1. Premonitory symptoms; slight illness accompanied by a headache.
CONFIRMED: "...a certain degree of malaise, characterised by anorexia, constipation, headache or vertigo, is felt for a day or two before the attack..."
- 2. "...Most of the cases came in at night..." 15 dec M. to N.
CONFIRMED: "... Yellow fever almost always -- of course there are exceptions commences with a chill occurring between midnight and daybreak..."
- 3. Occasionally victims were struck with delirium from the first day, perfectly wild and unmanageable.
CONFIRMED: "...frequently there is active delirium..." 67a p19
- 4. Disease becomes more malignant.
CONFIRMED: "...The infected mosquito has communicated yellow fever fifty-seven days after contamination, and there is reason to believe that it is

more virulent after it has been contaminated for a considerable time, especially if kept at a temperature of 27° or 28° C."

5. Non-communicability of disease to nurses on Sand Key.

CONFIRMED: "...Nothing is more conclusively proved by the experience of yellow fever hospitals than the immunity of those employed in washing the linen of the sick..."

6. Black vomit mentioned as the "fatal precursor" after the appearance of which only one person had been saved. "...disease being quick, has to be treated vigorously from the start...the disease ends its course quick, and has to be taken in time and treated vigorously to get the patient through the first stage..."

CONFIRMED: After the first stage, there is a lull, or turning point. "...If the improvement is to end in convalescence, the temperature falls gradually to the normal; the gastric distress disappears, the appetite returns; the ~~ur~~ur in increases in quantity while the albumin steadily diminishes and a corresponding increase of the urea takes place. If, on the other hand, after a lull extending from a few hours to one or two days, the gastric symptoms reappear in an aggravated form, with thirst, anxiety at the praecordia, and vomiting of a clear liquid mixed with chocolate-colored flakes, or of a fluid uniformly black, and depositing or standing a coffee-ground sediment, the patients' life hangs doubtfully in the balance..."

Mudd had recourse to some medical source and covered a great number of the symptoms not mentioned outright in any of his letters:

Speaking of "true yellow fever", Mudd said, "...In regard to the pathology of the disease as it existed here, it answered minutely the description given by learned men."

Further evidence of Mudd's having investigated and established the

44

disease as yellow fever is as follows:

"...In regard the nature of the disease I differ with the authors -- I look upon it as eminently a Typhoid affection, and rather the Superlative of the latter--Yellow Fever might be considered to be true Typhoid--what the malignant or congestive chill is to Billious Remittant or Intermittent..."

There are, however, two statements made by Mudd which if taken literally would upset a yellow fever diagnosis:

"...Some die the same day they are taken..." can be looked at with a certain amount of restraint, considering that some admit they are sick only when about to die. But by far the most confusing and contradictory statement made by the impulsive little Doctor came when he blandly stated that many had the disease a second time! But that statement may be taken with a grain of salt. Yellow fever does not attack a victim the second time; but there are three stages which are curiously like two separate attacks. The invasion stage generally lasts from two to twelve hours, chills leave, the face becomes red and turgid and the other symptoms increase in intensity attaining their fastigium within twenty-four or thirty hours from the onset. The second stage, second or third day, is accompanied by a fall in temperature and pulse, the headache and pains subside and the general distress and irritability abate. There will be no third stage if the patient continues to improve, but if the symptoms reappear, in a much more aggravated form, the patient's life hangs doubtfully in the balance. During the third stage the vomit becomes chocolate-colored, flaked, or uniformly black, and the temperature is either sub-normal or high. The convalescence, or second stage, can last for two hours or several days; when a relapse occurs after a longer second stage it would lead one to believe in the theory of a second attack.

Both official reports, cited before, made by the same board in compliance with the same order, Special Order No. 233, 14 Dec 1867, ignore the possibility of the disease's being anything else but yellow fever.

Dr. Owsie Temkin, Associate Professor, Johns Hopkins University, Institute of the History of Medicine, examined submitted material concerning the symptoms of the disease and tentatively identified the epidemic as yellow fever.

Although the bulk of the information submitted in this Memorandum so far has pointed to the classification of the epidemic as yellow fever, there is considerable material which makes such a diagnosis doubtful. Most of the theories adverse to yellow fever have been supplied by Major E. G. Fruewald, Chief, Traveling Library Division, Ohio State Library, Columbus, Ohio. Maj Fruewald advances three major points which are briefly as follows:

1. The method of infection does not check with method of transmission by mosquitoes. On this point Maj Fruewald brings out the example of the men in Companies I and M being attacked at night and "cot by cot".
2. Symptoms not agreeing with yellow fever symptoms: Black vomit, rapidity of infection and maniacal actions of the victims. With respect to the rapidity of infection, Maj Fruewald advances a theory of poison injected sub-cutaneously and ties that up with the "cot by cot" business very nicely. And, it is true Mudd's statement that "Some die the same day they are taken" somewhat weakens the yellow fever thesis, but black vomit and active delirium are good symptoms of yellow fever.
3. Dr. Smith ^{was} evidently unfamiliar with the disease. But Dr. Smith was thirty years old at the time of his death; his experience must have been limited to Civil War practice, or his degree in medicine had been attained at an unusually early age.

APPENDIX II

Number of Yellow Fever Deaths in Havana, Cuba,

1865 - 1874

Republica de Cuba
Secretaría de Sanidad y Beneficencia

CIUDAD DE LA HABANA. -

DEFUNCIONES REGISTRADAS POR FIEBRE AMARILLA
EN LOS AÑOS QUE SE EXPRESAN.

AÑOS.-	MUERTES	AÑOS.-	MUERTES.-
1865.....	238	1870.....	572
1866.....	51	1871.....	991
1867.....	591	1872.....	515
1868.....	290	1873.....	1244
1869.....	1000	1874.....	1425

M. Martín

P. S. JEFE DE DEMOGRAFIA. - 61

APPENDIX III

International Statistics

49

PARAPHRASE OF 1867 MONTHLY
REPORTS OF OPERATIONS, FORT
JEFFERSON (J-1 or, Jan-dec 1867)

January

MASONS- Overseeing masons, and laborers, lathing and plastering, Officers' Quarters, laying bricks in building air chambers, in Officers' Quarters. Jobbing.

CARPENTERS- Overseeing carpenters and laborers, making woodwork for Officers' Quarters, painting woodwork for Officers' Quarters, glazing sash for Officers' Quarters.

SMITHS- Roofing Officers' Quarters.

LABORERS- Overseeing prisoners labor, attending mechanics, attending mess house, attending small boats and fishing.

PRINCIPAL ITEMS OF WORK PERFORMED.

9956 bricks laid in building air chambers in floor of Officers' Quarters, 2 fire proof floors arched, 11 rooms, and 3 halls lathed in floor of Officers' Qrs, 9 rooms coated, and browned and 7 rooms finished Officers' Quarters, 148 feet cornice finished front Officers' Qrs, 4 rooms and 2 halls floored Officers' Quarters, 4 rooms partitioned and 3 rooms finished Officers' Quarters, 8 pairs panel and 16 plain door jams made Officers' Quarters, 2 fire boards, and 6 mantle pieces made Officers' Quarters, 21 window frames put together Officers' Quarters, 144 squares of iron roof completed.

February

MASONS- Overseeing masons and laborers, lathing and plastering Officers' Quarters, Jobbing.

CARPENTERS- Overseeing carpenters and laborers, making woodwork for Officers' Quarters, painting and glazing in Officers' Quarters.

SMITHS- Working on Officers' Quarters.

laborers attending mechanics, attending small boats and fishing, attending mess house, stables etc. removing materials to line of work.

PRINCIPAL ITEMS OF WORK PERFORMED

7 rooms hard finished and cornice finished in Officers' Quarters. 1 cornice run in Officers' Quarters. 5 rooms and 2 hallways floored in Officers' Quarters. 2 pairs plain jambs, made and put in place in Officers' Quarters. 6 rooms finished complete in Officers' Quarters. 1 sliding door partly finished in Officers' Quarters. 6 window frames put together in Officers' Quarters. 2 mantle pieces and 2 fire boards set up in Officers' Quarters. 1 ventilator covered in Officers' Quarters. 290 feet of conductors made and put in place on Officers' Quarters, all the joints soldered on roof of Officers' Quarters.

March

MASONS- None

CARPENTERS- None

SMITHS- None

LABORERS- Keeping Government property in order, putting in fire hearths in Officers' Quarters, putting up woodwork in Officers' Quarters.

PRINCIPAL ITEMS OF WORK PERFORMED

1 fire hearth put in Officers' Quarters. 1 chimney piece built and set up in place in Officers' Quarters. 50 feet of base and mouldings put on in Officers' Quarters. 4 doors fitted hung and trimmed in Officers' Quarters. 1 room finished complete in Officers' Quarters. 95 feet of water conductors put up on in Officers' Quarters. 1 sliding door finished in Officers' Quarters.

April

Chief Overseer in charge and two laborers. Employment consists in watching and taking charge and care of stores and materials.

May

Chief Overseer in charge of government property. Two laborers employed in keeping government property in order.

June

- CHIEF OVERSEER- in charge of government property.
- BLACKSMITH- setting pintles of Barbette Platform.
- STONE CUTTER- setting pintles on Barbette Platform.
- LABORERS- employed in keeping govt property in order.

July

- CHIEF OVERSEER- in charge of Government Property.
- BLACKSMITH- setting Pintles on Barbette Platform.
- STONE CUTTERS- setting Pintles on Barbette Platform.
- LABORERS- employed in keeping government property in order.

August

- Chief Overseer in charge of Government Property.
- PLASTERERS- Plastering Officers' Quarters. Four rooms plastered complete (cornice run in two of them), six fire hearths concreted complete. This completes the plastering in the first section with the exception of the hallway.
- CARPENTERS- at work on Officers' Quarters. Six rooms and one hallway floored. Two pane blinds hung. This completes all the first section, with the exception of one room.
- LABORERS- taking care of government property and assisting mechanics.

September

- Chief Overseer in charge of government property.
- PLASTERERS- Plastering Officers' Quarters. Two hallways plastered, cornice run in one of them. Two fire hearths concreted. One hallway lathed.
- CARPENTERS- At work on Officers' Quarters. One room floor laid, and four windows partly trimmed.
- LABORERS- taking care of government property, assisting mechanics and repairing cow-beats. Two cow beats repaired.

October

OVERSEER- in charge of government property.

LABORERS- taking care of government property. Seven pairs
saddos put up in Soldiero' Barracks.

November

OVERSEER- in charge of government property.

LABORERS- taking care of government property.

December

OVERSEER- in charge of government property.

LABORERS- taking care of government property. Employed
during the month moving and replacing lumber and other
material; and putting the property generally in order.

	PRISONERS	SOLDIERS AND OFFICERS	ATTACHMENTS OTHER REGS
January	113	345	3
February	57	343	3
March	56	292	3
April	50	263	3
May	49	248	3
June	45	261	3
July	48	325	4
August	46	325	3

Morning Report Book (J-R 78), Jan thru
 Aug 1867. J-R 78, 1857.

Dw 2 Jun 1936
 Data for following months evidently not
 available.

- NOTES -

- 56
- 1 General Orders 1867. General Order No. 10. 11 mar 1867.
 - 2 Post Order Book, 3 aug 1867-17 dec 1868; Post Order Book, 30 aug 1866-7 aug 1867.
 - 3 Post Order Book, 26 dec 1865-30 jun 1873, p 37. See 11 mar 1867. Morning Report Book, 1 dec 1868-18 aug 1867. See Jan thru 11 mar 1867.
 - 4 Post Order Book, 3 aug 1867-17 dec 1868. See 6 nov 1867.
 - 5 General Orders, General Order No. 101. 26 nov 1867.
 - 6 Daily Report Book, 1 dec 1868-18 aug 1867.
 - 7 The Life of Dr. Samuel A Mudd: 21 sep 1867. Letter: Mudd to wife.
 - 8 Ibid. p268-271. 25 sep 1867. Letter: Mudd to wife.
 - 9 Letter, 18 feb 1867: Maj W. F. McFarland to Lt. W. A. Jones.
 - 10 Letter, 10 dec 1867: John F. Barker to Winer Bethel, Key West.
 - 11 Ibid.
 - 12 Letter, 20 dec 1867: Maj Geo. P. Andrews to McFarland.
 - 13 Letter, 23 dec 1867: Maj Geo. P. Andrews to McFarland.
 - 14 Letter, 26 dec 1867: McFarland to Geo. P. Andrews.
 - 15 Letter, 18 feb 1867: McFarland to Lt. W. A. Jones.
 - 16a General Orders, General Order No. 17, 14 mar 1867. See Post, Finances.
 - 16 Letter, 11 jun 1867: McFarland to Thomas Geraghty.
 - 17 Fort Jefferson Returns: Officers and Hired Men, 1867; Ordnance and Ordnance Stores, 1867, jan and dec.
 - 18 Letter, 2 jul 1867: Thomas Geraghty to McFarland.
 - 19 Report, 4 dec 1867. Although this report does not specifically state its subject, it can be identified as dealing with the officers' quarters.
 - 20 Letter, 20 dec 1867: Report of casemate cisterns' condition.
 - 21 Fort Jefferson Letter Book: Letters sent 10 my 1862-2 mar 1880. 2453, Jones to McFarland. 20 feb 1867.

- 22 Letter, 6 jul 1867: McFarland to Geraghty.
- 23 Letter, 26 aug 1867: J. D. Kurts to McFarland.
- 24 Special Orders No. 149, 2 sep 1867.
- 25 Daily Report Book, 1 apr 1862-31 aug 1869: Armament Report for Jan.
- 26 Ibid. Armament Report for May.
- 27 Ibid. Armament Reports, September thru December 1867.
- 28 Letter, 18 feb 1867: McFarland to Jones.
- 29 General Orders, ut supra: General Order No. 17, 14 mar 1867. There is no explanation for the seemingly conflicting notes, viz., "The Appropriation Bill was defeated," and "\$50,000 were appropriated for Fort Jefferson for the year ending 30 jun 1866." Part of the \$50,000 appropriation was used, however, during 1867. (See Est. Estimates).
- 30 Letter, 3 jul 1867: Genl A. A. Humphrys to McFarland. This \$10,000 was taken from one of the two allotments made for Fort Taylor; the first allotment of \$25,000 to Fort Taylor was made in compliance with a request from McFarland of 15 jun; the second for the same amount from McFarland of 20 jun.
- 31 Letter, 25 sep 1867: Humphrys to McFarland.
- 32 Letter, 23 nov 1867: Humphrys to McFarland.
- 33 Accounts Payable Book, mar 1862-sep 1868, pp 206-228: Account book including payroll.
- 34 Letter, 12 jul 1867: McFarland to Humphrys.
- 35 Fort Jefferson Ledger: Accounts Payable Book, mar 1862-sep 1868. See 1867.
- 36 Fort Jefferson Returns: Officers and Hired Men, jul 1867.
- 37 War of the Rebellion--Army, Official Records of the Union and Confederate Armies, Series II, Vol. 8, pp 296-700: General Court-Martial Order #356, 5 jul 1865(?). See Appendix III, data from Morning Reports. On 10 aug 1867 Mudd described himself thus: 144 pounds, slightly bald, constant wearer of mustache and goatee, fair with no wrinkles, impulsive nature, little to say, thought a great deal, appeared strong but was in reality very weak from lack of exercise. --Mudd, pp. 251-252, 10 aug 1867 Letter, Mudd to wife.
- 38 Mudd, Nettie: Life of Dr. Samuel A. Mudd, p 244, 15 jun 1867 Letter, Mudd to wife.

- 39 Ibid., pp 219-220, 15 jan 1867, Letter, Mudd to wife.
- 40 Ibid., pp 224, 20 feb 1867, Letter, Mudd to wife.
- 41 Ibid., pp 23-28.
- 42 Ibid., pp 232-233, 13 apr 1867, Letter, Mudd to wife.
- 43 Grenfel is described in Confederate Veteran, v. 36, November issue, 1928, as follows: "...I consider him the most extraordinary character I ever met. Although he is a member of a well-known English family, he seems to have devoted his whole life to the exciting career of a soldier of fortune. He told me that in early life he had served three years in a French Lancer regiment, and risen from a private to ... lieutenant. He afterwards became a sort of consular agent at Tangier, under old Mr. Drummond Hay. Having obtained a perfect knowledge of Arabic, he entered the service of Abd-el-Kader, and under that renowned chief he fought the French for four and a half years. At another time he fitted out a yacht and carried on a private war with the Riff pirates. He was brigade major in the Turkish contingent during the Crimean War, and had some employment in the Indian mutiny. He has been engaged in war in Buenos Ayres in the South American Republics. At an early period of the present troubles, he ran the blockade and joined the Confederates. He was adjutant general and righthand man to the celebrated Hohn Morgan for eight months. Even in this army, which abounds with foolhardy and desperate characters, he has acquired the admiration of all ranks by his reckless daring and gallantry, in the field.... He looks about forty-five, but in reality he is fifty-six. He is rather tall, thin, very active, with a jovial English expression of countenance, but his eyes have a wild, roving look..."
- 44 Ibid., pp 233-234, 16 apr 1867, Letter, Mudd to T. O. Dyer.
- 45 Post Order Book, 30 aug 1863-7 aug 1867, Order No. 76, 10 jun 1867.
- 46 Ibid., Order No. 66, 1 jun 1867; Ibid., Order No. 43, 20 may 1867.
- 47 The Life of Dr. Samuel A Mudd, p 245, 23 jun 1867, Letter, Mudd to wife.
- 48 Ibid., pp 246-247, 30 jun 1867, Letter, Mudd to wife.
- 49 Ibid., pp 251-252, 10 aug 1867, Letter, Mudd to wife.
- 50 Report of Board of Officers, 16 dec 1867 (?); Mudd, op cit; pp 251-252, 10 aug 1867, Letter, Mudd to wife.
- 51 Report of Surgeons, 1870. Mudd, op cit; pp 219-220, 15 jan 1867, Letter, Mudd to wife.
- 52 Mudd, op cit; pp 247-249, 14 jul 1867, Letter, Mudd to wife.

53. Ibid. Probably the common purslane (*Portulaca oleracea*), an annual with succulent leaves used as a potherb, for salads, etc.
54. Mudd, op cit; pp 251-252; 10 aug 1867. Letter Mudd to wife. The prisoners sometimes were enabled to better their fare; for example, those who had money, or who sold their handicraft for pocket change, could purchase food that came from Key West. (See Mudd, op cit; 232-233, 13 apr 1867. Letter, Mudd to wife.)
55. Report of Board of Officers, un sworn; Report of Surgeons, 1870; of Mudd, op cit; pp 161-162, 22 Jan 1866, Letter, Mudd to wife; also ibid, p 256, 26 aug 1867, Letter, Mudd to wife.
56. Report of Board of Officers, ut supra; rainfall during those three months came to 37.20 inches, within about two inches of the average year's fall. Also see Mudd, op cit; pp 247-249, 14 Jul 1867, Letter, Mudd to wife; "..... there are millions of little mosquitos that are very annoying, bedbugs sometimes get ahead of un....."
57. Report of Board of Officers, ut supra. Cf Mudd, op cit; pp 251-252, 10 aug 1867, Letter Mudd to wife.
58. Report of Officers, ut supra; Mudd, op cit; pp 286-295, notes on disease; Ibid, pp 301-302, 15 dec 1867, Letter, Mudd to Dr. D. W. Whitehurst, Key West, Fla.
59. Photograph, Fort Jefferson, 1867 (photostatic copy from Engr. Office, Wash., D. C.).
60. Report of Surgeon, 1870; Mudd, op cit; pp 286-295, notes on disease.
61. Mudd stated that Crabbe afterward believed he had yellow fever. Mudd, op cit; pp 301-302, 15 dec 1867, Letter, Mudd to Dr. D. W. Whitehurst, Key West, Fla. Cf Ibid, pp 254-256, 25 aug 1867, Letter, Mudd to wife: "the yellow fever"..... originated here, and was not imported."
It is extremely probable that the disease was imported from Havana; there were 591 deaths attributed to the fever in Havana during 1867. See 6 aug Letter, Ramos, Dr. Domingo F., Director de Sanidad, Havana, Cuba, to Manuay, A. C., Supervisor del Departamento de Estadísticas e Investigaciones, Key West, Fla, with enclosed chart, Defunciones registradas por fiebre amarilla en los años que se expresan (1865-1874). See Appendix III.
62. Mudd stated that the first case of fever in Company K occurred 18 aug 1867. The official report by the Board set 19 aug 1867 as the date of the first case. Conceivably, the victim was stricken on the night of 18 aug and taken to the hospital the morning of the 19th. See Report on 1867 yellow fever epidemic, (J-L) 7 Jul 1868; Mudd, op cit, pp 301-302, 15 dec 1867, Letter Mudd to Whitehurst, Key West, Fla; ib, pp 286-295, notes on epidemic, cf ib, pp 253-254, 18 aug 1867, Letter, Mudd to wife.
63. Mudd, op cit, pp 286-295.

- 64 Report of Board ordered 14 dec 1867 (Special Order No. 233) to investigate 1867 fever outbreak at Fort Jefferson, (no date given for report, which is) partly copied in 27 mar 1936 letter, Mall, G.F., Surgeon General's Office, War Department, to Fruewald, E.G., Ohio State Library, Department of Education, Columbus, Ohio. This report was not found in the Key West Barracks Collection; it is not to be compared with the report of the Board 7 jul 1868, although the same men (Smith, Roemer and Thomas) composed it.
- 65 Mudd, op cit., pp 286-295.
- 66 7 jul 1868: Report on Yellow Fever Epidemic of 1867. op cit. Mudd, Nettie, pp 301-302 Letter from Mudd to Whithurst, 15 dec 1867. The statement made by Mudd concerning the date of the first case of yellow fever at the fort conflicts with that of the Board. Mudd said it started on the 18th and the Board stated that it began on the 19th. In his notes on yellow fever Mudd again stated that the epidemic began on the 18th, but no other source is available and the night of the 18th is close enough to the morning of the nineteenth to justify the mistake.
- 67 Mudd, ut supra, p 261. 16 sep 1867, Letter, Mudd to wife.
- 68 See Post, Appendix III.
- 69 Mudd, op cit., pp 272-273. 30 sep 1867, Letter, Mudd to wife.
- 70 Mudd, op cit., pp 247-249. 14 jul 1867, Letter, Mudd to wife.
- 71 Mudd, op cit., pp 301-302. 15 dec 1867, Letter, Mudd to Whithurst.
- 72 Ibid, pp 264-265: 19 sep 1867, Letters, Mudd to wife.
- 73 Ibid, pp 266-267: 23 sep 1867, Letter, Mudd to wife.
- 74 Ibid, pp 268-271: 25 sep 1867, Letter, Mudd to wife.
- 75 Ibid, pp 276-278: 14 oct 1867, Letter, Mudd to wife.
- 76 "...Where the fever was raging, having followed along the rows of beds up to this line of division, and then passed through the open spaces between the plank, which were loosely nailed..." Ibid, pp 268-271, 25 sep 1867 Letter, Mudd to wife.
- 77 Porter, Dr. J. Y: Looking Backward Over Fifty Years of Health Work in Florida, pp 55-56.
- 78 4 jun 1936, Letter: Ovsol Temkin, Associate Professor, Johns Hopkins University, Institute of the History of Medicine, 1900 East Monument St., Baltimore, Md. to Albert C. Manuay.
- 79 Mudd, op cit., p 263. 18 sep 1867 Letter, Mudd to wife.
- 80 Ibid, pp 278-279, 18 oct 1867 Letter, Mudd to wife.

81 Ibid. pp 284-285: 26 oct 1867. Mudd to wife.

82 Ibid. pp 298-300: dec 1867. Mudd to Maj Geo P Andrews.

83 Ibid. p 298: 7 dec 1867. Mudd to wife.

84 Ibid. pp 260-263.