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TYPHOID FEVER AND ITS BACILLUS.—RESEARCH UPON THE ANTAGONISM BETWEEN THE COLON BACILLUS AND THE TYPHOID BACILLUS.

SECOND PART.

[For First Part, see PUBLIC HEALTH REPORTS No. 38, September 21, 1900.]

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The old belief in the destruction of the typhoid bacillus by the saprophytic bacteria in general and the colon bacillus in particular, dominates even at the present time the question of the pathogenesis of typhoid fever. Invoked by Gaffky to explain the ill success of his efforts to demonstrate the typhoid bacilli in the stools of typhoid patients, it was taken up later by the partisans of the Lyonnaise school, who made of it a valuable argument in favor of the colon origin of enteric fever. It was thus that Wathelet in 1894, in Malvoz's laboratory, sought in vain, at the expiration of five, ten, and fifteen days, the typhoid bacilli in tubes previously planted with three loopsful of a culture of the Eberth bacillus and one loopful of the colon bacillus. By the plate method he obtained every time a pure culture of the colon bacillus, and he concluded therefrom that the typhoid bacillus succumbed in the struggle which was established between the two microbes. The experiments of Wathelet were confirmed by Grimbert.

The results of Wathelet and Grimbert were opposed to the observations of Pottien, who proved that a recrudescence of typhoid fever was produced in 1897, among persons who made use of the water of a pump, forbidden for drinking since the prior epidemic of 1896. The Eberth bacillus, therefore, had resisted symbiosis with other bacteria. Remlinger and Schneider elsewhere found the typhoid bacillus in water during the three months which followed the subsidence of an outbreak of the disease.

In the presence of these contradictory results upon the antagonism between the typhoid and colon bacilli, depending upon whether the two organisms lived in artificially prepared mixtures, or whether they were found in conditions normal to their coexistence, new researches became necessary. They were all the more necessary, as from the experiments of Wathelet, the obliteration of the typhoid bacilli by the colon organ-

isms, was not the only interpretation which could explain the absence of typhoid colonies upon the gelatin plates. This might also legitimately be attributed to the imperfect procedures practiced by the author for isolating the typhoid organism from the mixture. It was easy for him to determine which of these two hypotheses accorded best with his results. For this it was sufficient to make control plates, and to seek for the typhoid bacillus, not after five, ten, or fifteen days of symbiosis with the colon bacillus, but at the very moment of making the mixture. We are convinced that with the aid of ordinary gelatin he would have experienced the same difficulty as in the other case. He could at the same time have replanted colonies appearing upon the plates made with the mixtures five, ten, and fifteen days after their preparation, and then he would have certainly been able to see that the typhoid bacilli survived perfectly in association with the colon bacillus.

Another reason lead us to undertake these experiments upon the antagonism between the typhoid and colon bacilli. The study of the modifications which symbiosis might bring about in these two organisms has never been made; it was interesting, therefore, to undertake the researches from this point of view, and our differential gelatin permitted us to supply this deficiency.

Experiment 1. We used the colon bacillus and the typhoid bacillus isolated from the stool of case No. 20. Method of procedure: In a flask of 2 liters capacity, containing 1 liter of peptonized water (Witte's peptone, 3 per cent, N_2CL 10.5 per cent, and reaction exactly neutral, we planted on July 7, 5 c. c. of a twenty-four hour old bouillon culture of B. coli communis, and 5 c. c. of a typhoid culture of the same age. After shaking, the flask was left at room temperature, 22° to 27° C. The same process under the same conditions was repeated on a flask of peptonized water acidified by sulphuric acid after previous neutralization, to the extent of 0.5 per cent.

For the sake of clearness and conciseness we will designate by—

E. Culture in neutral peptonized water.

H. Culture in acidified peptonized water.

B. t. s. 20.—The typhoid bacillus from the stool of case No. 20.

B. c. s. 20.—The colon bacillus from the stool of case No. 20.

Characteristics of the colon and typhoid bacilli before symbiosis.

B. c. s. 20.—Gives indol, ferments lactose energetically, and is slightly motile.

B. t. s. 20.—Was very motile, and was agglutinated in dilution of 1–70000 by the experimental antityphoid serum.

After a variable number of days of symbiosis, we made with the mixture, by means of the differential gelatin, plates as follows:

First dilution, 1 loopful of the previously shaken mixture in 10 c. c. of distilled water;

Second dilution, 1 loopful of No. 1 in 10 c. c. of distilled water, and

1, 2, and 3 loopfuls of this dilution were used, respectively, to make 3 plates with gelatin.

For each examination we picked out 10 colon and 10 typhoid colonies; the colonies were differentiated by means of the characteristics of the organisms as detailed above, viz: Gas, indol, agglutination.

Résumé of results obtained by planting the mixture.

July 12, first planting.—Development of typhoid and colon colonies on the 14th. On the 18th we counted on plate No. 1 (1 loop of the second dilution) 100 colonies, of which, approximately, 50 were colon and 50 were typhoid, both in the case of flask E and flask H.

Characteristics of the organisms after symbiosis of five days.

B. coli.—The characteristics were preserved.

B. typhosus.—Those which were isolated from the neutral or acid flask have sensibly lost their power of reaction to the agglutinins; even in dilution of 1–10 they were not agglutinated by the serum which had previously been active in the dilution of 1–70000. These have been preserved in our collection under the mark tH1 and tE1.

July 23.—Another planting with similar results:

August 3.—Third planting; results:

The typhoid colonies only appear on the fourth day. They preserve their whitish-blue appearance, but remain smaller than in previous plantings. They diminish in number in proportion to the colon colonies (50t. to 70c.). The colon colonies are also smaller than formerly; furthermore, certain ones are small, bluish, and they approach in appearance the colon colonies, with which they might be confounded were one not on his guard. It is always prudent to replant a certain number for study, to be convinced of their colon nature.

The colon and typhoid organisms have the same characteristics as those which we had demonstrated after five days of symbiosis. They were preserved under the marks tH2 and tE2.

The fourth planting (August 22) and the fifth (September 9) show nothing in particular.

The sixth planting (September 29).—Development of colonies on October 4. The number of colonies has considerably diminished. On plate No. 2, were counted—total number, 85; colon, 60; typhoid, 25.

Characteristics of the organisms after eighty-two days of symbiosis.

Colon bacilli.—The colon bacilli which we isolated from flask E. (neutral), no longer give the indol reaction, but still ferment lactose. The colon bacilli from flask H (acid) have preserved their properties (gas, indol, etc.).

Typhoid bacillus.—Presents the same characteristics as after the five days' symbiosis, both in the case of flasks E and H.

October 19, seventh planting.—Colonies can be detected after six days.

From flask E, plate No. 2, there are 60 colonies, among which it is difficult to distinguish between the typhoid and colon colonies.

All the colonies which we replanted from this plate have yielded organisms which produced neither gas nor indol, and which were no longer agglutinated. These organisms were designated as tE6 and cE6.

Flask H, plate No. 2, 200 colonies—150 colon and 50 typhoid.

Characteristics of the two organisms.

Colon bacilli.—Still give the indol reaction and still ferment lactose.

Typhoid bacilli. Preserve their motility, but appear a little more slender. They are no longer agglutinated.

October 26, eighth planting.—The results confirm the former observations:

Flask E.—The number of colonies is reduced to 30 upon plate No. 2. The isolated bacilli are very feeble, and it is only after a series of replantings upon agar that a little vitality can be restored to them. In all cases at this time they give neither indol or gas, and are not agglutinated. These are marked as tE7 and cE7.

Flask H.—The colon bacillus alone remains in this flask, and still gives indol and makes gas, but is very much diminished in number. Plate No. 2 only gives 80 colonies, instead of 150 colonies as at the last planting.

Do colon and typhoid bacilli kept for a long time in laboratories also lose their properties (gas, indol, agglutination) when they are placed under the same conditions as the organisms isolated from stool No. 20?

To satisfy ourselves on this point we employed a colon bacillus from Ghent and a typhoid bacillus from Liége, of which we have been in possession since 1891, and which were procured through the courtesy of Professor Van Ermengem; we followed the same procedure as in experiment I, save that we have employed the neutral solution alone, as that medium only in the former experiment had modified the properties of the bacilli.

Characteristics of the colon and typhoid bacilli before symbiosis.

Bacillus coli.—Energetically ferments lactose gelatin; gives but a feeble indol reaction; is very motile.

Typhoid bacillus.—Is agglutinated by the experimental antityphoid serum in a dilution of 1–80000.

During the first three weeks the colonies of the organisms were very distinct. From this time on the difference became less marked. Further, the typhoid colonies became very rare (2 or 3 typhoid for 100 colon). We then added to the mixture 10 c. c. of a twenty-four-hour-old bouillon culture of the typhoid bacillus Liége, isolated from the flask upon the twenty-first day of the symbiosis. After four months the colon and typhoid bacilli were both living and had preserved their properties—the colon colonies were more numerous than the typhoid.

Is symbiosis necessary to deprive colon and typhoid organisms of their properties?

Experiment III.—Culture of bacillus t. s. 20 in neutral peptone solution. After one month the bacillus t. s. 20. still preserved its sensibility to the agglutinating properties of the antityphoid serum.

Experiment IV.—After four months the bacillus coli s. 20 still preserved its biochemic properties. The result was the same if after three weeks of symbiosis of bacillus t. s. 20, and bacillus c. s. 20, the latter was allowed to continue to live alone. (See Experiment II.)

Do colon and typhoid bacilli isolated from other typhoid stools always react like the organisms from stool 20?

In order to answer this question we produced symbiosis of the colon and typhoid bacilli from stools 22 and 23. After three months each of the bacilli isolated from these stools preserved their characteristics (indol, gas, agglutination).

The results of the preceding experiments would show that of the 4 Eberth bacilli made use of to study the antagonism between the typhoid and colon bacilli, one only, that of stool 20 has lost its sensibility to agglutinins. We are, therefore, naturally led to ask whether the typhoid bacilli isolated from stool 20, and marked as tE1, tH1, tE2, tH2, etc., and planted on the fifth, sixteenth, and subsequent days of symbiosis (Experiment I), are nonagglutinable typhoid bacilli, or are colon bacilli, which have lost their characteristics (gas, indol, etc.)?

This question is all the more legitimate, as Experiment I showed that bacillus cs20, no longer gave gas or indol toward the third month, while toward the third week certain deep colon colonies had taken on a typhoid appearance. Could it not well be that the colon bacilli had already lost their properties on the fifth day, and that we might have considered these as nonagglutinable typhoid organisms? Were this so, the colon bacillus would have stifled the typhoid bacillus as early as the fifth day, and our experiment would simply and purely have confirmed those of Wathelet and Grimbert on the antagonism between the typhoid and colon bacilli.

Let us say here that for the bacilli isolated from flask H (acid with H_2SO_4 0.5 per 1000) the doubt was not admissible, for in this the colon bacillus preserved its distinctive characteristics (gas, indol, etc.) when the typhoid organism no longer existed in the mixture, or when at least it was no longer discoverable by plates of differential gelatin. The bacilli found in flask E then alone remained under discussion.

Let us remember that they came from small, whitish-blue, deep colonies; that they gave neither gas nor indol, and that they were not agglutinated by the experimental antityphoid serum. Before endeavoring to determine their typhoid or colon origin, it was indispensible, in order to avoid useless researches to be absolutely certain that the typhoid and colon bacilli of stool 20 could really lose their properties

(gas, indol, agglutination). The results afforded by Experiment II, previously detailed, enabled us to throw light upon this important question. They practically taught us that the Liége typhoid and Ghent colon bacilli preserved their properties when they underwent symbiosis in neutral peptone solution; it was easy to distinguish them with certainty. We made use of this useful proof to perfect new experiments.

Experiment VII.—Symbiosis of bacillus t. s. 20, and bacillus coli, Ghent (in neutral peptone solution).

Result: After six days the bacillus t. s. 20 had lost its sensibility to agglutinins; the clon bacillus Ghent preserved its indol and gas-producing properties even up to four months.

Experiment VIII.—Symbiosis of bacillus c. s. 20 and bacillus typhoid, Liége (neutral peptone solution).

Result: We proceeded as in Experiment II, and demonstrated that—

First. The bacillus typhoid Liége preserved its property of being agglutinated even up to three months;

Second. That at this time the colon bacillus c. s. 20 no longer gave indol, or could no longer ferment lactose.

These two experiments confirmed the results of the observations in Experiment I. They enabled us to affirm that when we produced symbiosis of typhoid and colon bacilli in neutral peptone solution, of the organisms from stool 20, that the typhoid lost its sensibility to agglutinins on the sixth day, while the colon bacillus is not deprived of its properties of indol and gas production until the third month of symbiosis.

They also afforded proof of the typhoid nature of the bacilli tE1, tE2, tE3, tE4, which were no longer agglutinated, but which were drawn from the mixture before the third month—that is to say, before the colon bacillus had been deprived of its indol and gas characteristics. Finally, they permit us to conclude that the typhoid bacillus lived three months in association with the colon bacillus in a solution containing both organisms.

We have just seen that symbiosis may deprive the typhoid and colon organisms of their distinctive properties. How then can we recognize the typhoid and colon bacillus thus deprived of their differential characteristics?

Characteristics of colon and typhoid bacilli which have lost their distinctive properties.

(*a*) Bacillus coli is larger, shorter, and less motile than the organism from which it is originally derived. After several successive passages through agar, the bacillus planted in bouillon always regains its original form and motility.

(*b*) Bacillus typhoid always notably preserves its form and motility. Old cultures, and even young ones, maintained at a temperature of 37° C., always present a great tendency to the formation of long threads. The cilia are particularly difficult to stain.

Cultural characteristics.

Ordinary bouillon.—The colon bacillus renders the medium uniformly turbid, thickens it considerably, and gives it a gluish, gelatinous appearance. Sometimes, also, there is a superficial pellicle.

The typhoid bacillus produces a uniform turbidity. On shaking there is seen the play of colors characteristic of motile organisms. Upon the surface of the bouillon there is a pellicle, ordinarily thin, sometimes, however, quite thick.

Agar-agar slants.—The growth is rather sparse for both organisms; more abundant however for the typhoid than for the colon. It must be stated that the colon bacilli which give a pellicle in bouillon grow only upon the needle streak, while the bacilli which do not produce the pellicle in bouillon, give little or no growth along the streak of the needle. If we bear in mind that we almost always actively shake the flask before planting the plates, we arrive at a possible explanation of this singular peculiarity. The colon bacilli coming from the bottom of the flask render the bouillon turbid, but do not grow when planted along a streak on agar. The colon bacilli coming from the surface, give a pellicle in bouillon and grow well in streak on inclined agar-agar.

Gelatin.—Planted in tubes both organisms present a like appearance.

Characteristics of colonies on plates.

A. *Typhoid bacillus.*—Superficial colonies, as we have shown in the first part of our work, are excessively rare. We only, therefore, examine the deep colonies. These are small and bluish white.

B. *Colon bacillus.*—The colonies are either superficial or deep. The superficial are diffuse or globular; the deep are quite large, of a yellow brown color, or else are punctiform and bluish. Further details would be useless, as the most perfect description is not equal in value to the observation which anyone may make for himself.

Before leaving this subject of cultural characteristics we wish to draw particular attention to the two following points:

First. Colon and typhoid bacilli thus deprived of their characteristics by symbiosis at room temperature (from July 7 to October 29), no longer grow at a temperature of 37° C., and do not render bouillon turbid. On the contrary they grow energetically between 25° and 30° C.

Second. After a certain number of replantings on agar slants or in bouillon, even very much attenuated colon and typhoid bacilli regain their vitality, but never recover their distinctive properties (gas, indol, agglutination).

Bacteriologists are unanimous in agreeing that morphological and cultural characteristics are too indefinite to serve as a basis of differentiation between the typhoid and colon organism; is it therefore reasonable to ask it when it is a question of determining differences between organisms deprived of their specific characteristics?

If we judge, on the one hand, that Experiments VII and VIII have

given rise to serious doubts in favor of the typhoid origin of the bacilli tE1, tE2, tE3, tE4, and tE5, isolated from a mixture before the colon organisms had lost their properties, but that the organisms tE6, tE7, cE6, and cE7, isolated subsequently, have been classed by us as colon or typhoid based exclusively on cultural characteristics whose value we have just denied, we will have shown that it was indispensable to confirm our diagnosis, to see if there did not exist other means of permitting us to determine whether our organisms, motile and giving neither gas nor indol, and nonagglutinating, belonged to the typhoid group or the colon family.

The first proceeding consisted in endeavoring to restore to the organisms their colon and typhoid characteristics. Of very high scientific interest, this proceeding could hardly be employed in the current practice of bacteriological analysis of waters, which confronts us above all else in our present work; we have, therefore, reserved it for future investigation.

Another proof, of easier application, is given us by the property possessed by animals immunized by repeated injections of microbial cultures, of furnishing a serumagglutinative to the organism injected to the exclusion of all others. We therefore injected full grown guinea pigs with the bacilli tE1, tE2, tE3, tE4, tE5, tE6, tE7, cE6, and cE7, and we tried whether the serum agglutinated the colon bacillus or the typhoid bacillus isolated from stool No. 20, with which we had commenced work.

Operative procedure. We employed the subcutaneous method of injection, and introduced every two days, 2 c. c. of a two-day-old culture.

After the expiration of fifteen days an incision was made in the ear of the guinea pig, which enabled us to procure the serum whose agglutinating power we wished to determine. The agglutination experiments were made with young cultures (eighteen to twenty-two hours) in bouillon, as follows: With the aid of a Pasteur pipette, we took 9, 19, 29, etc., drops of the culture bouillon, and put them into watch glasses. With the same pipette, rinsed several times with distilled water, we added to the contents of the watch glasses a drop of the pure or diluted serum, the agglutinating power of which we desired to determine. After shaking, we left the watch glasses covered, at the temperature of the laboratory. After one and one-half hours of contact, the agglutination was examined by the naked eye and by the microscope. Every experiment was controlled by the preparation of a sample, under identical conditions, save the addition of the serum. This precaution was necessary, as we often observed that bouillon cultures, which formed no clumps in tubes, often coagulated spontaneously in the control preparations. Another source of error against which one must be on his guard is that the normal serum of the guinea pig almost always agglutinates the typhoid bacillus in a dilution of 1–5

to 1–10, rarely 1–20. It only exceptionally agglutinates the colon bacillus in 1–10 to 1–20.

Experiment I.—Injection of tE_1—that is to say, of the typhoid bacillus of stool No. 20, isolated from the mixture of colon and typhoid bacilli after five days of symbiosis.

For this experiment we continued the injection every two days for nine weeks, in order to learn the number of injections necessary to bring the serum to its maximum of agglutinating power. The results were as follows:

Bacilli experimented with.	Agglutinating power, after—				
	Fifteen days.	Three weeks.	Five weeks.	Seven weeks.	Nine weeks.
t. stool 20	1/50	1/2000	1/5000	1/5000	1/5000
tE_1 (injected)	1/50	1/50	1/500	1/1000	1/2000
tH_1 (fromacid mixture)	1/50	1/50	1/500	1/500	1/1000
c. stool 20	1/10	1/10	1/10	1/10	1/10
	None.	None.	None.	None.	None.

Conclusions.—1. The guinea pig injected with tE1 furnished a serum which agglutinated the typhoid bacillus from stool No. 20 to the exclusion of the colon bacillus from the same stool; consequently the bacillus tE1 is, therefore, a typhoid bacillus from stool No. 20, which symbiosis with the colon bacillus had deprived of its power of reaction to the agglutinins in the experimental antityphoid serum.

2. The serum agglutinated the typhoid bacillus from stool No. 20 in a much higher dilution than the bacillus tE1, from the injection of which it was prepared.

3. The agglutinating power reached its maximum five weeks after the first injection of the organism from stool No. 20. From this time on further injections had no influence on the agglutinating power. Toward the bacillus itself injected on the contrary, the maximum power was obtained only after the expiration of nine weeks from the first injection.

NOTE.—An experiment with the bacillus tH1 gave identical results.

NOTE.—In this first experiment we have given the agglutinating results for various specimens of typhoid bacilli. We believe it would be a departure from the present subject if in the experiments which follow we should deal with the agglutination of bacilli other than t. s. 20, and c. s. 20. These are the only ones in point of fact which present any real importance from the point of view "of the antagonism between the bacillus typhoid and the bacillus coli," which forms the subject of this second part of our work. These are the only ones the agglutination of which could permit us to solve the question which we have proposed at the beginning of this chapter, "to determine whether the motile organisms, giving neither gas nor indol, and not agglutinated by serum, belong to the colon or the typhoid group of organisms isolated from stool No. 20."

Experiment II.—In this we have employed bacillus tE5, isolated from the mixture on the eighty-second day of symbiosis. The colon bacillus

s. 20 no longer gave indol, but fermented lactose. We proceeded as in Experiment I.

Bacilli injected.	Agglutinating power after—				
	Fifteen days.	Three weeks.	Five weeks.	Seven weeks.	Nine weeks.
t. s. 20	1/50	1/50	1/50	1/50	1/50
c. s. 20	None.	None.	None.	None.	None.

Conclusions.—1. The guinea pig injected with tE5 furnished a serum which agglutinated the typhoid bacillus of stool No. 20 to the exclusion of the colon bacillus from the same stool. Consequently the bacillus tE5, isolated from the mixture on the eighty second day of symbiosis, is a typhoid bacillus from stool No. 20, deprived of its sensibility to agglutinins by said symbiosis.

2. Since the bacilli tE1 and tE5, isolated from the mixture on the fifth and eighty-second days, respectively, of symbiosis, are both typhoid bacilli, deprived of their sensibility to agglutinins, the bacilli tE2, tE3, and tE4, found in the same mixture between the fifth and the eighty-second days, are also samples of the same bacillus.

We have thus shown in an indubitable way that the bacilli tE1, tE2, tE3, tE4, and tE5, isolated from the mixture between the third and eighty-second day of symbiosis, *when the bacillus coli was not deprived of its distinctive powers, are representative of the bacillus t. s. 20.*

Is it the same with the bacilli tE6 and tE7 found in the mixture on the one hundred and second and one hundred and twenty-first days of the symbiosis, when the bacillus coli *was* deprived of its distinctive characteristics? The following experiments will permit us to answer the question:

Experiment III.—We employed the bacillus tE6, isolated from the mixture on the one hundred and second day of symbiosis. At this time the bacillus coli of stool No. 20 was lacking in its characteristic properties (gas, indol, etc.).

The experiment shows that the two bacilli submitted to test show no reaction and the agglutinating power of the serum is "nil" after fifteen days, and three, five, seven, and nine weeks.

Conclusion.—The serum of the guinea pig injected with bacillus tE6. does not agglutinate the bacillus t. s. 20, and is equally without effect on the bacillus c. s. 20. We can, therefore, feel no certainty as to the colon or typhoid origin of bacillus tE6.

Experiment IV.—We injected the bacillus cE6 in order to try to determine its nature.

Bacilli injected.	Agglutinating power, after—				
	Fifteen days.	Three weeks.	Five weeks.	Seven weeks.	Nine weeks.
t. s. 20	nil	nil	nil	nil	nil
c. s. 20	1/5	1/5	1/10	1/10	1/10

Conclusions.—1. The serum of the guinea pig injected with cE6, agglutinating the bacillus coli from stool No. 20 to the exclusion of the typhoid bacillus from the same stool, we are justified in considering cE6 as being the colon bacillus from stool No. 20, deprived of its properties (gas, indol, etc.) by the symbiosis with the typhoid bacillus from the same stool.

2. Since cE6 is the colon bacillus from stool No. 20, deprived of its characteristics, we believe it must be admitted that the bacillus tE6, the origin of which could not be determined by Experiment III, is really the typhoid bacillus from stool No. 20. In fact the colonies of bacilli cE6 and tE6 were found on the same gelatin plate, and were only labeled thus because they presented different appearances.

Experiments V and VI.—With the bacilli cE7 and tE7 we injected 2 guinea pigs. These organisms were isolated after one hundred and twenty-one days of symbiosis.

These pigs yielded a serum (even after seven and nine weeks) devoid of any agglutinating power upon the typhoid or colon bacilli of stool No. 20 after one hundred and twenty-one days of symbiosis.

Conclusion.—It was, therefore, impossible to determine if the organisms isolated from a mixture of typhoid and colon bacilli, from stool No. 20, belonged to the typhoid or colon group after this period of symbiosis.

The study of the agglutinating properties of the serum of guina pigs which were injected with bacilli tE1, tE2, tE3, tE4, and tE5 permitted us to demonstrate that these organisms were the descendants of the typhoid bacilli of stool 20, because we had preserved in our collection the Eberth bacillus isolated from stool 20, which we had used as a standard. If, however, we were to find ourselves confronted by organisms, of which we did not know the genesis, as might well happen in the bacterial analyses of water, where stock organisms are wanting, how would we be able to determine whether organisms similar to tE1, tE2, etc., which are motile, which do not give gas or indol and which are not agglutinated by antityphoid serum, are typhoid or colon?

It has been known for a long time, and we have just demonstrated anew, that the repeated injection of a guinea pig with a typhoid bacillus gives a serum which agglutinates an authentic typhoid bacillus. Is the converse of this proposition true? Does a serum agglutinative to authentic typhoid organisms, always follow the injection of a typhoid bacillus? This would seem evident, *a priori*; it is in fact the attitude of the clinician when he makes the sero-diagnosis of typhoid fever. He admits that there is a tox-infection by the Eberth bacillus when the serum of the patient agglutinates a true typhoid culture under the required conditions. Consequently, an unknown bacillus, presenting the cultural characteristics of the Eberth bacillus, should be considered as the typhoid bacillus if the serum of a guinea pig injected with it agglutinates authentic typhoid organisms in a sufficient degree of dilution.

We therefore injected bacilli tE1, tE2, tE3, and tE4, into guinea pigs

and tried after fifteen days the agglutinating power of the serum, using the bacillus typhoid of Liége as a standard.

Bacilli injected.	Agglutinating power after fifteen days.	Observations.
tE1	$\frac{1}{10}$	Isolated from neutral mixture after five days.
tH1	$\frac{1}{10}$	Isolated from acid mixture after five days.
tE3	$\frac{1}{10}$	Isolated from neutral mixture after forty-six days.
tH3	$\frac{1}{10}$	Isolated from acid mixture after forty-six days.
tE4	$\frac{1}{10}$	Isolated from neutral mixture after fifty-eight days.
tH4	$\frac{1}{10}$	Isolated from acid mixture after fifty-eight days.
tE5	nil	Isolated from neutral mixture after eighty-two days
tH5	nil	Isolated from acid mixture after eighty-two days.

Conclusions.—The agglutination by the serum of the guinea pig injected with the bacilli tE1, tE2, tE3, tE, and tE4, is a process which can teach us nothing as to the nature of bacillus tE5; it is uncertain for tE4; it is a rapid and sure method for bacilli tE3. tE2, and tE1.

In fact, the guinea pigs injected with these give a serum which in $\frac{1}{40}$ agglutinates the typhoid bacillus of Liége. This dilution is sufficient, for it is fully equal to the dilution required by any clinician to settle the diagnosis of typhoid fever by the serum reaction.

To confirm this opinion we injected into the subcutaneous tissue of guinea pigs bouillon cultures of typhoid bacilli, other than that of Liége, and after fifteen days we determined the agglutinating power of the serum against the bacillus of Liége:

Bacilli injected.	Agglutinating power after fifteen days.	Observations.
t. s. 20	$\frac{1}{10}$	
t Ghent	$\frac{1}{10}$	Died on eighth day of experiment.
t. s. 22	.....	Died day after injection.
t. s. 15	.....	Do.

Conclusions.—The greater part of the guinea pigs injected died before the end of the experiment, with a general dissemination of the typhoid organism in all the organs. However, the pig which received bacillus t. s. 20 gave, after fifteen days, a serum agglutinating in dilution of $\frac{1}{50}$, which is a strength closely approaching that obtained by the inoculation of bacilli tE1, tE2, and tE3.

Before drawing these experiments to a close it was indispensable to try whether the serum of guinea pigs injected with colon bacilli of various origins could agglutinate the typhoid bacillus of Liége. The results follow in the subjoined table:

Bacilli injected.	Agglutinating power after fifteen days.	Observations.
Colon, Ghent	nil	Pig died on twelfth day.
s20	nil	Pig died on third day.
s205	nil	
C1	nil	
C2	nil	
C3	nil	
C4	nil	
C5	nil	

Conclusions.—The serum of a guinea pig injected with the colon bacillus does not agglutinate the typhoid bacillus of Liége. Consequently, the study of the agglutinative power of the serum of a guinea pig in which is injected for fifteen days (every two days) 2 c. c. of a forty-eight-hour-old culture of typhoid constitutes a practical and sure method for determining the typhoid nature of certain Eberth bacilli which have lost their sensibility to the agglutinins of an experimental antityphoid serum. Other bacilli which are not agglutinated, and which are, however, the bacilli of Eberth, escape our observation by the methods of which we are in possession at the present time.

General conclusions.—Having thus finished the second part of our work, we believe ourselves justified in formulating the following conclusions:

1. The conception of the destruction of the typhoid bacillus by the colon bacillus, sustained by Wathelet in the laboratory of Malvoz, is weakened by our researches upon the antagonism of these two organisms. This author did not find the typhoid bacillus in his mixtures, not because the typhoid bacillus no longer existed there, but because it was placed under conditions unfavorable for its discovery.

2. Symbiosis may profoundly modify the properties of the two organisms; the typhoid bacillus losing its sensibility to agglutinins, and the colon bacillus being deprived of its properties of gas and indol production, etc.

3. Very different in the beginning from the typhoid colonies certain deep-seated colon colonies approach them insensibly in size and appearance from the third to the fourth week. They are then truly blue in color, while the typhoid colonies are bluish white.

4. The attenuation of the vital energy of the organisms is manifested not only by a diminution of growth of colonies, but also by a lateness of their appearance. This is especially true for the typhoid colonies, which from the third to the fourth week only become visible about the

fifth day, while in the beginning they appear on the second day after planting.

5. If the agglutination of bacilli, presenting the typhoid characteristics, by an experimental typhoid serum in high dilution, is a means sufficient to authorize us to consider it a typhoid, the absence of this sensibility does not permit us to reject it as not belonging to the typhoid group.

6. Bacilli possessing the attributes of the typhoid bacillus, which are not agglutinated by the experimental antityphoid serum, ought to be considered as typhoid if a guinea pig into which it is injected in doses of 2 c. c. every two days for fifteen days furnishes a serum at the end of that period, which agglutinates true typhoid bacilli in a dilution of $\frac{1}{40}$.

7. There may exist true typhoid bacilli, nonagglutinable by antityphoid serum, whose typhoid nature it is impossible to determine either by the process given above or by any other diognostic means of which we are now in possession.

[Reports to the Surgeon-General United States Marine-Hospital Service.]

Smallpox in Girard and Phœnix, Ala., and Columbus, Ga.

MOBILE, ALA., *December 31, 1900.*

SIR: I have the honor to state that in conformity to Bureau orders of December 23 and December 24, directing me to proceed to Columbus, Ga., and confer with health authorities there as to best means of protection against smallpox in Girard and Phœnix, Ala., I left Mobile on the night of the 25th, arriving in Columbus on the morning of the 26th. I called on the city physician, who accompanied me to the mayor's office.

I was informed that there was no smallpox known to exist in Columbus outside of the smallpox hospital, some 10 or 12 cases being confined there, but the situation was thought, and afterwards found to be, much more serious in both Girard and Phœnix. The mayor of Columbus stated that he would be very glad to have the Service advise the local authorities as to the best methods of keeping the disease from reaching Columbus from the 2 cities named. I deemed it best to wait until I knew something about the conditions in Girard and Phœnix before giving advice; I therefore wired Dr. W. H. Sanders, State health officer of Alabama, asking when he would be in Girard. He replied that he would be there the next day (Thursday). On Thursday I met Dr. Sanders in Girard. He accompanied me to Columbus where we had a talk with the mayor; we then visited Phœnix, Lee County, Ala., where we saw the mayor and some of the local physicians. They reported that there were some 12 or 15 cases of smallpox in the city. One of the physicians reported having seen 5 new cases that day. Very little was being done in the way of vaccination or isolation to control the disease. A lack of funds was given as a reason for this. Dr. Sanders gave them some wholesome advice and positive instructions, which if properly carried out, will no doubt lead to great improvement. The disease is confined, I was told, almost entirely to the white people.

From Phœnix we again visited Girard. The conditions there are similar to those in Phœnix, with the exception that there are many more cases in Girard; there are also 15 cases among the negroes in Sugartown, a suburb. Girard is in Russell County, and we were informed

that there were several cases out in the county. Some of the people are not satisfied that the disease is smallpox. Dengue or breakbone fever was present in this vicinity during the fall and early winter and many are of the opinion that the present trouble is only the eruption which follows that disease. Those who have suffered from dengue claim that they are immune to the present disease.

By request of Dr. Sanders, I visited with him a house containing 5 cases of the disease and found them to be undoubtedly smallpox—two very serious cases. I should state, however, that the State health officer and the local physicians had pronounced the disease smallpox from the first. There are no compulsory vaccination laws in Alabama. Neither Lee nor Russell counties can enforce vaccination and the charters of the infected cities do not grant them the right to pass compulsory vaccination ordinances. Furthermore, the laws of the State do not permit the removal of a person from his own premises without his consent. There is a sentiment against vaccination among many of the people and as the disease is mild at present no one will consent to go to a smallpox hospital, even if they had one. For these reasons vaccination and isolation will be hard to enforce. The health officer of Russell County told us that the negroes laughed at him when he insisted on vaccinating them. Most of the factory operatives of Columbus live just across the river in Girard or Phœnix; they come to work in the morning, returning at night. At 12 o'clock, noon, the wives and children of the workmen bring them their dinners. There is, therefore, an almost constant stream of people from these two places to and from Columbus. Taking this fact in connection with those already mentioned regarding vaccination and isolation, I felt justified in giving the authorities of Columbus advice to use rather stringent measures. As protective measures for Columbus I gave the following:

1. Columbus being intimately connected with Girard and Phœnix City, I should strongly advise the placing of guards at the bridges whose duty it will be to see that no person, except those recently successfully vaccinated, pass from the infected town into Columbus.

2. Also that no person from an infected house be allowed to pass into the city of Columbus. It was suggested that Columbus could not enforce these restrictions without declaring quarantine.

3. I therefore advised that should this require a proclamation of quarantine against these cities it should be passed, modifying the requirements to the suggestions above-mentioned.

4. As the charter of Columbus empowers the municipal authorities to use whatever means they find necessary for the suppression or prevention of contagious diseases, I advised the passage of an ordinance of compulsory vaccination and the carrying out of the same.

5. In regard to vaccine virus I have to suggest that none but pure glycerinated virus be used, as in this way only can you assure perfect vaccination.

From Columbus and Girard I accompanied Dr. Sanders to Seale, the county seat of Russell County. Here we saw the county authorities and urged the necessity of joint action with the authorities of Girard in suppressing the trouble or, if necessary, independent action by the county.

In conclusion, I would state that I regard the situation in Girard and Phœnix as likely to become serious unless active measures are taken for vaccination, isolation, and disinfection.

Respectfully,

W. P. McINTOSH,
Surgeon, U. S. M. H. S.

Smallpox at Cripple Creek, Colo.

[Telegram.]

CRIPPLE CREEK, COLO., *January 6, 1901.*

I saw 25 cases smallpox here yesterday. Twenty other cases reported. House to house inspection and vaccination by physicians appointed by the local board of health begins to-morrow. All cases that have been discovered have been isolated.

STIMPSON.

Smallpox in Wyoming.

ROCK SPRINGS, WYO., *December 31, 1900.*

SIR: I beg leave to report 2 cases of smallpox at Evanson, Wyo., 1 case at Green River, Wyo., and 1 case at Rock Springs, Wyo., and 1 suspected case under quarantine at Rock Springs.

The 7 suspects quarantined in car at Green River have been released.

Respectfully, R. HARVEY REED,
Surgeon General Wyoming National Guard.

Quarantine transactions at Columbia River, Oregon.

COLUMBIA RIVER QUARANTINE STATION,
Astoria, Oreg., December 22, 1900.

SIR: I have the honor to transmit herewith weekly report of transactions at this quarantine station for the week ended December 22, 1900.

The United States army transport *Thyre*, which was inspected and passed on the 18th instant, had 26 Chinese sailors on board. These were all passed after careful inspection, and the vessel not delayed, as the captain had a bill of health signed by P. A. Surg. J. C. Perry, at Manila, and a supplementary bill of health from the United States consul at the intermediate port of Nagasaki, Japan. The vessel had been out thirty-five days from Manila and twenty-two days from Nagasaki. The captain and the acting assistant surgeon, United States Army, on board, both certified that with two exceptions no member of the crew had been ashore since being disinfected at Angel Island Quarantine Station several trips ago. The two exceptions had been taken on at Nagasaki this trip and their previous good health and surroundings for some time past certified to by the United States consul at that port.

Respectfully, BAYLIS H. EARLE,
Assistant Surgeon, U. S. M. H. S.

Arrival at Reedy Island Quarantine of vessels from West Indian and Mexican ports.

REEDY ISLAND QUARANTINE,
via Port Penn, Del., January 6, 1901.

SIR: Through the medical officer in command of national quarantine service on Delaware Bay and River, I have the honor to report the arrival of the following vessels: January 4, 1901, British steamship *Mexicano*, from Vera Cruz, in ballast; no passengers; bills of health signed by Acting Assistant Surgeon Hodgson. January 5, 1901, Norwegian steamship *Hero*, from Castries via Daiquiri, with iron ore; no passengers; bills of health signed by Acting Asst. Surg. Juan J. de Jongh.

Respectfully, T. F. RICHARDSON,
Assistant Surgeon, U. S. M. H. S., In Command.

Arrival at Baltimore of vessels from West Indian and South American ports.

BALTIMORE, MD., *January 2, 1901.*

SIR: I have to report the arrival of the following-named vessels from the ports named for the week ended December 29, 1900: December 24, Norwegian steamship *Caprivi*, from Daiquiri, with ore. December 27, British steamship *Alabama*, from Daiquiri, with ore. December 31, Norwegian steamship *Mathilda*, from Daiquiri, with ore; Norwegian steamship *Frey*, from Santiago de Cuba, with ore. December 26, American bark *Baltimore*, from Rio de Janeiro, with coffee; American barkentine *Glad Tidings*, from Rio de Janeiro, with coffee. December 28, American barkentine *Frances*, from Rio de Janeiro, with coffee.

Respectfully,

WM. F. STONE,
Collector.

Arrival at Baltimore of vessels from West Indian and South American ports.

BALTIMORE, MD., *January 5, 1901.*

SIR: I have to report the arrival of the following-named vessels from the ports named for the week ended January 5, 1901:

December 31, 1900, Norwegian steamship *Mathilda*, from Daiquiri, with ore; Norwegian steamship *Frey*, from Santiago de Cuba, with ore. January 2, 1901, British steamship *Kentigern*, from Valparaiso, with general cargo. January 5, 1901, British steamship *King Gruffyd*, from Santiago de Cuba, with ore.

Respectfully,

WM. F. STONE,
Collector.

Reports from the Mexican border.

El Paso, Tex., December 22, 1900—Inspection service.—I have the honor to transmit herewith report of summary of work at this station for the week ended December 22, 1900: Inspection Mexican Central Railway passengers, 208; inspection Rio Grande Pacific Railway train, 30 persons; inspection Mexican Central Railway immigrants, 42; disinfection clothing, bedding, etc., immigrants, 28 pieces; disinfection soiled linen imported for laundry, 414 pieces; disinfected Mexican Central Railway Pullman linen, 4,456 pieces; vaccination of immigrants and children, 15.

El Paso, Tex., December 29, 1900—Inspection service.—I have the honor to transmit herewith summary of work at this station for the week ended December 29, 1900:

Inspection Mexican Central Railway passengers, 147; inspection Rio Rio Grande and Pacific Railway passengers, 27; inspection Mexican immigrants, 32; inspection Russian peasant immigrants, 8 disinfection soiled linen imported for laundry, 379 pieces; disinfection Pullman linen, 3,456 pieces; disinfection of hides imported from Mexico, 320; vaccination of immigrants, 10; disinfection of baggage and trunks of 2 persons from Tampico.

E. ALEXANDER,
Assistant Surgeon, U. S. M. H. S.

Laredo, Tex., December 26, 1900—Inspection service.—I have the honor to submit the following report for week ended December 22, 1900: Number of passenger trains from Mexico inspected and entered, 14; persons on passenger trains inspected and passed, 468; pieces of Pull-

man company sleeping car linen disinfected before being sent on for purpose of laundry, 5,149.

Laredo, Tex., January 2, 1901—Inspection service.—I have the honor to submit the following report of inspection for week ended December 29, 1900: Number of trains from Mexico inspected and allowed entry, 14; persons on trains from Mexico inspected and passed, 729; immigrants inspected and passed, 44.

Disinfected 5,475 pieces of Pullman Company sleeping car linen with formaldehyd.

H. J. HAMILTON,
Acting Assistant Surgeon, U. S. M. H. S.

Statistical reports of States and cities of the United States—Yearly and monthly.

IOWA—*Burlington.*—Month of November, 1900. Estimated population, 27,000. Total number of deaths, 25, including enteric fever, 1, and 1 from phthisis pulmonalis.

Month of December, 1900. Estimated population, 27,000. Total number of deaths, 22, including 1 from diphtheria.

Davenport.—Month of November, 1900. Estimated population, 35,254. Total number of deaths, 27, including diphtheria, 2; enteric fever, 1, and 2 from phthisis pulmonalis.

Dubuque.—Month of November, 1900. Census population of 1900, 36,297. Total number of deaths, 33, including enteric fever, 1, and 6 from tuberculosis.

Fort Madison.—Estimated population, 10,000. Total number of deaths, 9, including 2 from phthisis pulmonalis.

Guthrie Center.—Estimated population, 2,500. No deaths.

Oakland.—Estimated population, 1,000. One death.

Ottumwa.—Estimated population, 18,197. Total number of deaths, 17, including 1 from phthisis pulmonalis.

Seymour.—Estimated population, 2,000. No deaths.

What Cheer.—Population, census of 1890, 3,246. Total number of deaths, 5, including diphtheria, 1, and 1 from phthisis pulmonalis.

The Iowa Health Bulletin for December, 1900, says:

Outbreaks of infectious diseases were reported as having occurred at the several places named during the month of November:

Diphtheria.—Douglas Township, Clay County; Hartley; Woodland; Lake Prairie Township, Marion County; Sabula; Williamsburg; Irwin; Squaw Township, Warren County; Troy Township, Monroe County; Floyd Township, Dickinson County; Belmont Township, Warren County; Monmouth; Donaldson; Johnson Township, Plymouth County; Gray Township, Taylor County; Kinest Township, Carroll County; Des Moines; What Cheer; Davenport.

Scarlet fever.—Hartley; Dallas Center; Quick; Oxford; Village Township, Van Buren County; Griggs Township, Ida County; Ryan; Lake Township, Cerro Gordo County; Washington Township, Story County; Humboldt; Des Moines; Blockton.

Smallpox.—Calmus; Hamilton; Cedar Rapids; Hocking; Burlington; River Sioux; Oxford Junction; Ashton; Sheldon; Sloan; Sioux City; Council Bluffs; Sibley; George.

Typhoid fever.—Gowrie; Milo; Medora; Clark Township, Tama County; Burlington; Colo.; Davenport.

Whooping cough.—Des Moines; Colo.

MICHIGAN.—Reports to the State board of health, Lansing, for the week ended December 29, 1900, from 73 observers, indicate that there was no disease which showed a marked increase or decrease when compared with the preceding week.

Cerebro-spinal meningitis was reported present at 1 place, whooping cough at 11, measles at 17, diphtheria at 27, smallpox at 40, scarlet fever at 93, enteric fever at 123, and phthisis pulmonalis at 155 places.

The Monthly Bulletin of Vital Statistics for November, 1900, says:

There were 2,461 deaths returned for the month of November, corresponding to a death rate of 12.5 per 1,000 population. There were 356 less deaths reported for November than for the preceding month, although the number exceeded that returned for November, 1899, by 111. Among the deaths were 369 deaths of infants under 1 year of age, 168 deaths of children aged 1 to 4 years, both inclusive, and 701 deaths of persons aged 65 years and over. Important causes of deaths were as follows: Pulmonary tuberculosis, 137; other forms of tuberculosis, 51; typhoid fever, 138; diphtheria and croup, 90; scarlet fever, 25; measles, 9; whooping-cough, 2; pneumonia, 165; diarrheal diseases under 5 years, 80; cancer, 125; accidents and violence, 111. There was some diminution in the high mortality from typhoid fever, although the number of deaths returned for the month was over double the number reported for the corresponding month of last year. Diphtheria and pneumonia showed a slight increase, and diarrheal diseases of children fell off by a large amount, there being nearly 300 deaths less from this cause in November than in October. There was 1 death from smallpox in the city of Marquette. In Indiana there were 2,854 deaths during November, corresponding to a death rate of 13.8 per 1,000 population.

MINNESOTA—*Winona.*—Month of December, 1900. Estimated population, 20,000. Total number of deaths, 27, including enteric fever, 1; scarlet fever, 2, and 3 from tuberculosis.

MONTANA—*Butte.*—Period from August 20 to December 20, 1900. Census population of 1890, 10,723. Number of deaths not reported. Two deaths from smallpox reported.

NEW JERSEY—*Paterson.*—Month of November, 1900. Population, United States Census of 1900, 78,358. Total number of deaths, 118, including diphtheria, 5; enteric fever, 3, and 14 from phthisis pulmonalis.

OHIO—*Columbus.*—Month of November, 1900. Estimated population, 140,000. Total number of deaths, 113, including diphtheria, 4; enteric fever, 3; scarlet fever, 1, and 17 from tuberculosis.

PENNSYLVANIA—*Columbia.*—Month of December, 1900. Population, census of 1900, 12,236. Total number of deaths, 23, including diphtheria, 2; enteric fever, 1, and 1 from tuberculosis.

TENNESSEE—*Chattanooga.*—Census population of 1900, 32,490. Total number of deaths, 40, including 1 from smallpox.

TEXAS—*San Antonio.*—Month of December, 1900. Estimated popu-

lation, 55,000. Total number of deaths, 119, including enteric fever, 1, and 38 from tuberculosis, of whom 21 were nonresidents.

VIRGINIA—*Lynchburg.*—Month of December, 1900. Estimated population, 30,000. Total number of deaths, 37, including diphtheria, 3; enteric fever, 1, and 2 from phthisis pulmonalis.

WISCONSIN—*Milwaukee.*—Month of November, 1900. Population, United States Census 1900, 285,315. Total number of deaths, 282, including diphtheria, 14; enteric fever, 7; measles, 2; whooping cough, 2, and 42 from tuberculosis.

Report of immigration at Baltimore for the week ended January 5, 1901.

OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,
Port of Baltimore, January 5, 1901.

Number of alien immigrants who arrived at this port during the week ended January 5, 1901; also names of vessels and ports from which they came.

Date.	Vessel.	Where from.	No. of immigrants.
Jan. 3	Wurzburg	Bremen	470
Jan. 4	Rhein	do	422
	Total		892

PERCY C. HENNIGHAUSEN,
Commissioner.

Report of immigration at Boston for the week ended December 28, 1900.

OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,
Port of Boston, December 30, 1900.

Number of alien immigrants who arrived at this port during the week ended December 28, 1900; also names of vessels and ports from which they came.

Date.	Vessel.	Where from.	No. of immigrants.
Dec. 23	Steamship Boston	Yarmouth, Nova Scotia	128
Do.	Steamship Prince Arthur	do	136
Do.	Steamship Sagamore	Liverpool, England	8
Dec. 24	Steamship Admiral Farragut	Jamaica	4
Do.	Steamship Ultonia	Liverpool, England	135
Dec. 25	Steamship Pomeranian	Glasgow, Scotland	2
Dec. 26	Steamship Irishman	Liverpool, England	14
Dec. 27	Steamship Lancastrian	do	9
Do.	Steamship Prince Arthur	Yarmouth, Nova Scotia	80
Do.	Steamship Boston	do	71
Do.	Steamship Halifax	Halifax, Nova Scotia	19
Dec. 28	Steamship New England	Liverpool, England	128
Dec. 29	Steamship Sylvania	do	19
	Total		753

GEORGE B. BILLINGS,
Commissioner.

Report of immigration at New York for the week ended December 29, 1900.

OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,
Port of New York, December 31, 1900.

Number of alien immigrants who arrived at this port during the week ended December 29, 1900; also names of vessels and ports from which they came.

Date.	Vessel.	Where from.	No. of immigrants.
Dec. 23	Steamship Pennsylvania	Hamburg	384
Dec. 26	Steamship Peninsular	Lisbon and the Azores	33
Do.	Steamship State of Nebraska	Glasgow	68
Do.	Steamship Amsterdam	Rotterdam	278
Do.	Steamship Aller	Genoa and Naples	345
Do.	Steamship La Normandie	Havre	420
Dec. 27	Steamship Laurentian	Glasgow	6
Do.	Steamship Anchoria	do	76
Do.	Steamship Teutonic	Liverpool and Queenstown	113
Dec. 28	Steamship Alsatia	Naples	213
Do.	Steamship Trave	Bremen	327
Do.	Steamship Oldenburg	do	1,051
Dec. 29	Steamship Buffon	Rio de Janeiro	9
Do.	Steamship Patria	Naples	972
	Total		4,295

THOMAS FITCHIE,
Commissioner.

Report of immigration at Philadelphia for the week ended January 4, 1901.

OFFICE OF U. S. COMMISSIONER OF IMMIGRATION,
Port of Philadelphia, January 5, 1901.

Number of alien immigrants who arrived at this port during week ended January 4, 1901; also names of vessels and ports from which they came.

Date.	Vessel.	Where from.	No. of immigrants.
1900.			
Dec. 31	Jkbal	Liverpool	2
1901.			
Jan. 3	Belgenland	do	88
Jan. 4	Nederland	Antwerp	91
Do.	Assyrian	St. Johns, Newfoundland	1
	Total		182

JNO. J. S. RODGERS,
Commissioner.

Report of immigrants inspected at the port of Boston, Mass., during the month of December, 1900.

Total number of immigrants inspected, 790; number passed, 790; number certified for deportation on account of dangerous contagious or loathsome diseases, or for other physical causes, none.

FAIRFAX IRWIN,
Surgeon, U. S. M. H. S.

Report of immigrants inspected at the port of Key West, Fla., during the month of December, 1900.

Total number of immigrants inspected, 1; number passed, none; number certified for deportation on account of dangerous contagious or loathsome diseases, or for other physical causes, 1.

Disposition of immigrants certified for deportation.—Number cases pending at beginning of month, none; number cases certified for deportation during month, 1; total to be accounted for, none; number cases deported, 1; number cases admitted, none; number cases pending at close of month, none.

R. D. MURRAY,
Surgeon, U. S. M. H. S.

Report of immigrants inspected at the port of Portland, Me., during the month of December, 1900.

Total number of immigrants inspected, 290; number passed, 289; number certified for deportation on account of dangerous contagious or loathsome diseases, or for other physical causes.

Disposition of immigrants certified for deportation.—Number cases pending at the beginning of month, none; number cases certified for deportation during month, 1; total to be accounted for, 1; number cases deported, none; number cases admitted, 1; number cases pending at close of month, none.

S. D. BROOKS,
Surgeon, U. S. M. H. S.

Report of immigrants inspected at the port of Portland, Oreg., during the month of December, 1900.

Total number of immigrants inspected, 1; number passed, none; number certified for deportation on account of dangerous contagious or loathsome diseases, or for other causes, 1.

Disposition of immigrants certified for deportation.—Number cases pending at beginning of month, none; number cases certified for deportation during month, 1; total to be accounted for, 1; number cases deported, 1; number cases admitted, none; number cases pending at close of month, none.

CARROLL FOX,
Assistant Surgeon, U. S. M. H. S.

Report of immigrants inspected at the port of Philadelphia, Pa., during the month of December, 1900.

Total number of immigrants inspected, 813; number passed, 795; number certified for deportation on account of dangerous contagious or loathsome diseases, or for other physical causes, 18.

Disposition of immigrants certified for deportation.—Number cases pending at beginning of month, 1; number cases certified for deportation during month, 18; total to be accounted for, 19; number cases deported, none; number cases admitted, 18; number cases pending at close of month, 1.

H. W. AUSTIN,
Surgeon, U. S. M. H. S.

Report of immigrants inspected at the port of Galveston, Tex., during the month of December, 1900.

Total number of immigrants inspected, 1; number passed, 1; number certified for deportation on account of dangerous contagious or loathsome diseases, or for other physical causes, none.

WILLIAM KEILLER,
Acting Assistant Surgeon, U. S. M. H. S.

Report of immigrants inspected at the port of Laredo, Tex., during the month of November, 1900.

Total number of immigrants inspected, 147; number passed, 147; number certified for deportation on account of dangerous contagious or loathsome diseases, or for other physical causes, none.

H. J. HAMILTON,
Acting Assistant Surgeon, U. S. M. H. S.

Reports from national quarantine

Number.	Name of station.	Week ended.	Name of vessel.	Date of arrival.	Port of departure.
	UNITED STATES:				
1	Alexandria, Va	Jan. 5			
2	Beaufort, S. C	do			
3	Brunswick, Ga	Dec. 29			
4	Cape Charles, Va	Jan. 5	U. S. transport Sedgewick.	Jan. 4	Havana
5	Cape Fear, N. C	Dec. 29			
		Jan. 5			
6	Columbia River, Oreg	Dec. 29			
7	Delaware Breakwater Quarantine, Lewes, Del.	do			
8	Dutch Harbor, Alaska	Dec. 15			
		Dec. 22			
9	Eureka, Cal	Dec. 29			
10	Grays Harbor, Wash	do			
11	Gulf Quarantine, Ship Island, Miss.	Dec. 22			
		Dec. 29			
12	Los Angeles, Cal	Dec. 22			
		Dec. 29			
13	Newbern, N. C	do			
		Jan. 5			
14	Nome, Alaska	Dec. 29			
15	Pascagoula, Miss	do			
		Jan. 5			
16	Port Angeles, Wash	Dec. 22			
		Dec. 29			
17	Port Townsend, Wash	do	Br. bk. Queen Margaret	Dec. 22	Hongkong
			Br. ss. Glenturret	Dec. 28	do
18	Reedy Island Quarantine, Del.	do			
		Jan. 5			
19	San Diego, Cal	Dec. 29	H. B. M. ss. Phaeton	Dec. 25	Nanaimo
20	San Francisco, Cal	do			
21	San Pedro, Cal	Dec. 22			
		Dec. 29			
22	Savannah, Ga	do			
23	South Atlantic Quarantine, Blackbeard Island, Ga.	do			
24	Tortugas Quarantine, Key West, Fla.	Dec. 22			
		Dec. 29			
25	Washington, N. C	do			
		Jan. 5			
	CUBA:				
26	Caibarien	Dec. 22			
		Dec. 29			
27	Cardenas	Dec. 22			
		Dec. 29			
28	Cienfuegos	do			
29	Daiquiri	Dec. 15			
		Dec. 22			
30	Gibara	Dec. 29			
31	Guantanamo	Dec. 15	Hai. slp. Perseverance	Dec. 11	Gonaives.
		Dec. 22	U. S. A. transport McClellan.	Dec. 21	San Juan
32	Havana	Dec. 29			
33	Isabela de Sagua	Dec. 22			
		Dec. 29			
34	Manzanillo	Dec. 15			
35	Matanzas	Dec. 29			
36	Nuevitas	Dec. 22			
		Dec. 29			
37	Santiago de Cuba	Dec. 15			
		Dec. 22	U. S. A. transport McClellan.	Dec. 21	San Juan
	HAWAII:				
38	Hilo	Dec. 8			
		Dec. 15			
39	Honolulu	do			
		Dec. 22			

and inspection stations.

Number.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
1				No transactions	
2				No report	
3					7
4	Norfolk	Boarded and passed	Jan. 4	Passed by order of Surgeon-General.	18
5					4
				No transactions	
6					7
7					2
8				No report	
				do	
9				No transactions	
10					1
11					1
					4
12				No transactions	
					1
13				No transactions	
				do	
14				No report	
15					3
					3
16				No transactions	
				No report	
17	Tacoma	Oriental crew bathed; dunnage and forecastle disinfected.	Dec 23		10
	do	do	Dec. 28	1 of crew died en route; cause unknown.	
18					12
					18
19	Central America	Passed on certificate of medical officer.	Dec, 25		3
20					15
21				No transactions	
					1
22					6
23					2
24				No report	
				do	
25				No transactions	
				do	
26				5 vessels passed without inspection.	1
				do	
27					13
					5
28					19
29					2
					2
30				No report	
31	Guantanamo	Mechanically cleaned after unloading.	Dec. 11		5
	New York	Boarded and passed	Dec. 21		3
32					26
33					13
					17
34					8
35					3
36					7
					6
37					17
	Manzanillo	Boarded and passed	Dec. 21		14
38					1
					2
39					10
					4

Reports from national quarantine

Number.	Name of station.	Week ended.	Name of vessel.	Date of arrival.	Port of departure.
	HAWAII—Continued.				
40	Kahului	Dec. 15			
		Dec. 22			
41	Kihei	Dec. 8			
	PHILIPPINES:				
42	Cebu	Nov. 17			
		Nov. 24			
43	Iloilo	Nov. 10			
		Nov. 17			
44	Manila	Nov. 24			
	PORTO RICO:				
45	Ponce	Dec. 22	Sp. ss. Isla de Panay	Dec. 18	Havana
			Cu. ss. Julia	do	do
		Dec. 29			
46	San Juan	Dec. 22	Sp. ss. Isla de Panay	Dec. 19	do
	Subports—				
47	Aguadilla	do			
48	Arecibo	do			
49	Arroyo	do			
50	Fajardo	do			
51	Humacao	do			
52	Mayaguez	do			

Reports from State and

Number.	Name of station.	Week ended.	Name of vessel.	Date of arrival.	Port of departure.
1	Anclote, Fla	Jan. 5			
2	Baltimore, Md	do			
3	Bangor, Me	do			
4	Boston, Mass	do			
5	Carrabelle, Fla	do			
6	Cedar Keys, Fla	do			
7	Charleston, S. C	Dec. 29			
	Do	Jan. 5			
8	Charlotte Harbor, Fla	do			
9	Elizabeth River, Va	do			
10	Galveston, Tex	do			
11	Gardiner, Oreg	Dec. 29			
12	Key West, Fla	do			
13	Marcus Hook, Pa	Dec. 22			
		Dec. 29			
14	Mayport, Fla	do			
15	Mobile Bay, Ala	do			
16	New Bedford, Mass	Jan. 5			
17	New Orleans, La	do			
18	Newport News, Va	do			
19	Newport, R. I	do			
20	New York, N. Y	do			
21	Pass Cavallo, Tex	do			
22	Pensacola, Fla	do			
23	Port Royal, S. C	do			
24	Providence, R. I	do			
25	Quintana, Tex	do			
26	Sabine Pass, Tex	do			
27	Tampa Bay, Fla	do			

and inspection stations—Continued.

Number.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
40				No transactions	
41				No report	1
42					40
43					45 9
44					12 59
45	Genoa	Held in quarantine	Dec. 18	Took passengers and cargo in Quarantine.	3
	San Juan	do	do	To detain non-immune passengers.	
46	Las Palmas	do	Dec. 20	Baggage of local passengers disinfected.	1 6
47					1
48					1
49				No transactions	
50				do	
51					1
52					6

municipal quarantine stations.

Number.	Destination.	Treatment of vessel, passengers, and cargo.	Date of departure.	Remarks.	Vessels inspected and passed.
1				No report	
2				do	
3				do	
4				do	
5				do	
6				do	
7					1 1
8				No report	
9				do	
10				do	
11				do	
12					9
13					21 23
14				No report	
15				do	
16				do	
17				do	
18				do	
19				do	
20				do	
21				do	
22				do	
23				do	
24				do	
25				do	
26				do	
27				do	

Smallpox in the United States as reported to the Surgeon-General United States Marine-Hospital Service, December 28, 1900, to January 11, 1901.

For reports received from June 30, 1900, to December 28, 1900, see PUBLIC HEALTH REPORTS for December 28, 1900.

Place.	Date.	Cases.	Deaths.	Remarks.
Alabama:				
Lee County (Phœnix)	Dec. 26	12		
Mobile	Dec. 26	1		
Russell County (Girard)	Dec. 26	25		
Total for State		38		
Colorado:				
Cripple Creek	Jan. 6	45		
Total for State, same period, 1900.		3		
District of Columbia:				
Washington	Dec. 16–Dec. 29	5		
Florida:				
Jacksonville	Dec. 16–Dec. 22	1		
West Tampa City	Dec. 30–Jan. 5	2		
Total for State		3		
Georgia:				
Columbus	Dec, 26	10		
Total for State, same period, 1900.		5		
Idaho:				
Dempsey	Nov. 23	10		
Illinois:				
Cairo	Dec. 22	3		
Chicago	Dec. 23–Jan. 5	10		
Total for State		3		
Total for State, same period, 1900.		13		
Kansas:				
Wichita	Dec. 16–Dec. 29	12	1	
Kentucky:				
Lexington	Dec. 16–Dec. 22	1		
Louisiana:				
New Orleans	Dec. 2–Jan. 3	17	3	
Shreveport	do	2		
Total for State		19	3	
Total for State, same period, 1900.		25		
Maryland:				
Baltimore	Dec. 16–Jan. 5	2		
Minnesota:				
Minneapolis	Dec. 16–Dec. 29	5		
Winona	do	60		
Total for State		65		
Missouri;				
St. Louis	Dec. 17–Dec. 30	8		
Total for State, same period, 1900.		41	4	
Montana:				
Butte	Dec. 20	181	2	
Nebraska:				
Decatur and vicinity	Apr. 1–Dec. 14	451	4	
Omaha	Dec. 23–Dec. 29	6		
Total for State		457	4	
Total for State, same period, 1900.		2		
New Jersey:				
Jersey City	Dec. 17–Dec. 23	7		
New Hampshire:				
Manchester	Dec. 17–Dec. 29	28		

Smallpox in United States, etc.—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
New York:				
New York	Dec. 16-Jan. 5	43	2	
Total for State, same period, 1900.		1		
North Carolina:				
Caswell County	Dec. 31	250		
Total for State, same period, 1900.		105		
Ohio:				
Ashtabula	Dec. 16-Jan. 5	21		
Cincinnati	Dec. 30-Jan. 5	1		
Cleveland	Dec. 16-Jan. 5	84	1	
Portsmouth	do	4		
Total for State		109	1	
Total for State, same period, 1900.		4		
Pennsylvania:				
Pittsburg	Dec. 23-Dec. 29	6		
Total for State, same period, 1900.		5		
Rhode Island:				
Central Falls	Dec. 26	1		
South Carolina:				
Greenville	Dec. 23-Dec. 29	1		
Total for State, same period, 1900.		2		
Tennessee:				
Chattanooga	Dec. 1-Dec. 31	16	1	
Memphis	Dec. 16-Jan. 5	5		
Nashville	Dec. 23-Dec. 29	1		
Total for State		22	1	
Total for State, same period, 1900.		31		
Texas:				
Houston	Dec. 16-Dec. 29	47	2	
San Antonio	Dec. 1-Dec. 31	2		
Total for State		49	2	
Total for State, same period, 1900.		2		
Utah:				
Salt Lake City	Dec. 16-Dec. 29	83		
Total for State, same period, 1900.		1		
Virginia:				
Alexandria	Dec. 29-Dec. 30	2		
Pittsylvania County	Dec. 31	200		
Total for State		202		
Total for State, same period, 1900.		14	6	
Washington:				
Tacoma	Dec. 9-Dec. 29	2		
West Virginia:				
Wheeling	Dec. 16-Dec. 22	3		
Wisconsin:				
Ashland	Dec. 18	30		
Green Bay	Dec. 24-Dec. 30	1		
Total for State		31		
Wyoming:				
Evanson	Dec. 31	2		
Green River	do	1		
Rock Springs	do	1		
Total for State		4		
Grand total		1,709	16	
Grand total, same period, 1900.		393	12	

Weekly mortality table, cities of the United States.

Cities.	Week ended.	Population, U. S. census of 1890.	Total deaths from all causes.	Deaths from—										
				Tuberculosis.	Yellow fever.	Smallpox.	Varioloid.	Cholera.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Ashtabula, Ohio	Jan. 5	8,338	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Baltimore, Md.	....do....	a 508,957	186	28	.....	.....	.....	.....	.....	4	2	2	.....	.....
Bay City, Mich.	Dec. 29	27,839	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	Jan. 5	27,839	11	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Binghamton, N. Y.	Dec. 29	a 39,647	10	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Do.	Jan. 5	a 39,647	9	3	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Boston, Mass.	..... do....	a 560,892	239	24	.....	.....	.....	.....	.....	1	4	22	.....	2
Bristol, R. I.	Dec. 29	a 6,900	3	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brockton, Mass	.....do.....	a 40,063	10	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Burlington, Vt	.....do.....	a 18,640	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Butler, Pa.	Dec. 8	8,734	2	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Do	Dec. 15	8,734	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Do	Dec. 29	8,734	2	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Cambridge, Mass.	..... do.....	a 91,886	23	2	.....	.....	.....	.....	.....	.....	.....	2	.....	.....
Do.	Jan. 5	a 91,886	15	4	.....	.....	.....	.....	.....	.....	.....	2	.....	.....
Camden, N. J.	.....do.....	a 75,935	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carbondale, Pa.	Dec. 31	a 13,500	11	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Chelsea, Mass.	Dec. 29	a 34,672	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Chicago, Ill.	Jan. 5	a 1,698,575	553	59	.....	.....	.....	.....	.....	4	2	18	3	8
Chicopee, Mass.	.....do.....	a 19,167	9	1	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Chillicothe, Ohio	Dec. 29	a 15,000	7	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cincinnati, Ohio	Jan. 4	a 326,000	106	13	.....	.....	.....	.....	.....	8	.....	.....	.....	.....
Cleveland, Ohio	Jan. 5	a 381,768	131	8	.....	1	.....	.....	.....	7	.....	4	.....	.....
Clinton, Iowa	Dec. 29	10,424	5	1	.....	.....	.....	.....	.....	1	.....	1	.....	.....
Clinton, Mass.	.....do.....	a 13,667	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Do.	Jan. 5	a 13,667	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Cumberland, Md.	Dec. 29	12,727	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dayton, Ohio	Jan. 5	a 85,333	22	4	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Detroit, Mich	Dec. 28	a 286,000	97	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
Dunkirk, N. Y.	Dec 29	a 14,000	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elmira, N. Y.	.....do.....	a 35,672	13	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....
Evansville, Ind	.....do.....	a 59,007	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 5	a 59,007	14	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Everett, Mass	Dec. 29	a 24,336	4	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Fitchburg, Mass.	.....do.....	a 31,531	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Galesburg, Ill.	Jan. 5	a 18,607	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Gloucester, Mass.	.....do.....	24,651	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Green Bay, Wis.	Dec. 30	9,069	6	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greenville, S. C.	Dec. 29	8,607	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Haverhill, Mass	Jan. 4	a 37,175	10	1	.....	.....	.....	.....	.....	.....	.....	2	.....	.....
Houston, Tex	Dec. 29	a 44,633	18	2	.....	1	.....	.....	.....	2	.....	.....	.....	.....
Jacksonville, Fla.	Dec. 22	17,201	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jersey City, N. J.	Dec. 30	a 206,433	104	10	.....	.....	.....	.....	.....	1	1	4	.....	.....
Johnstown, Pa.	Dec. 29	32,479	11	1	.....	.....	.....	.....	.....	2	.....	2	.....	.....
Do.	Jan. 5	32,479	10	1	.....	.....	.....	.....	.....	2	.....	1	.....	.....
Lawrence, Mass.	Dec. 29	a 62,559	25	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lexington, Ky.	.....do.....	21,567	9	2	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Los Angeles, Cal.	Dec. 22	a 102,479	41	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	Dec. 29	a 102,479	48	11	.....	.....	.....	.....	.....	.....	1	1	.....	.....
Lowell, Mass	Jan. 5	a 94,969	32	5	.....	.....	.....	.....	.....	.....	.....	3	.....	.....
Lynchburg, Va.	.....do.....	19,709	6	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McKeesport, Pa.	Dec. 29	a 21,700	15	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
Malden, Mass.	.....do.....	a 3,664	4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	Jan. 5	a 33,664	9	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manchester, N. H.	Dec. 29	a 56,987	22	1	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
Marlboro, Mass.	Jan. 5	a 13,609	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Massillon, Ohio	Dec 29	10,092	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Medford, Mass	.....do.....	11,079	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	Jan. 5	11,079	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Memphis, Tenn.	.....do.....	64,495	29	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Michigan City, Ind.	Dec. 29	10,776	7	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Milwaukee, Wis	..... do.....	a 285,315	78	6	.....	.....	.....	.....	.....	.....	1	1	5	2
Minneapolis, Minn.	.....do.....	a 202,718	53	5	.....	.....	.....	.....	.....	1	.....	1	.....	.....
Mobile, Ala.	Jan. 5	a 38,469	23	4	.....	.....	.....	.....	.....	.....	1	1	.....	.....
Mount Vernon, N. Y.	.....do.....	a 23,000	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Nashville, Tenn.	.....do.....	80,865	37	6	.....	.....	.....	.....	.....	1	.....	2	.....	.....
New Bedford, Mass.	.....do.....	40,733	27	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newburg, N. Y.	.. do.....	a 24,943	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newton, Mass.	.. do.....	a 33,587	14	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New York, N. Y.	Dec. 29	a 3,437,202	1,183	156	.....	2	.....	.....	.....	19	4	33	5	.....
Do	Jan. 5	a 3,437,202	1,405	161	.....	.....	.....	.....	.....	18	18	51	.....	.....
Norristown, Pa.	.....do.....	19,791	12	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
North Adams, Mass.	.....do.....	a 24,200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Omaha, Nebr.	Dec. 29	a 102,555	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

a United States census of 1900.

Weekly mortality table, cities of the United States—Continued.

Cities.	Week ended.	Population U. S. census of 1890.	Total deaths from all causes.	Deaths from—										
				Tuberculosis.	Yellow fever.	Smallpox.	Varioloid.	Cholera.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Oneonta, N. Y	Dec. 29	7,147	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 5	7,147	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Palmer, Mass	Dec. 29	a 7,801	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 5	a 7,801	3	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Philadelphia, Pa	....do....	a 1,293,697	453	61	.....	.....	.....	.....	.....	16	3	20	3	.....
Pittsburg, Pa.	Dec. 29	a 321,616	122	10	.....	.....	.....	.....	.....	21	1	4	5	.....
Pittston, Pa	....do....	10,302	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 5	10,302	3	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Plainfield, N. J	Dec. 29	a 15,369	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 5	a 15,369	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Portland, Me	Dec. 22	36,425	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 29	36,425	14	1	.....	.....	.....	.....	.....	2	.....	.....	.....	.....
Do	Jan. 5	36,425	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Portsmouth, Ohio	Dec. 29	a 17,870	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 5	a 17,870	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quincy, Mass	Dec. 29	a 23,899	4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 5	a 23,899	7	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rockford, Ill	Dec. 29	53,531	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Salt Lake City, Utah	....do....	44,843	14	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Santa Barbara, Cal	Dec. 8	a 6,587	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 15	a 6,587	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 22	a 6,587	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 29	a 6,587	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shreveport, La	....do....	11,979	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Somerville, Mass	Jan 5	a 61,643	20	3	.....	.....	.....	.....	.....	.....	.....	3	.....	1
Steelton, Pa	....do....	a 12,086	4	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tacoma, Wash	Dec. 29	36,006	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Waltham, Mass	....do....	a 23,481	13	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Warren, Ohio	....do....	5,973	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 5	5,973	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington, D. C	Dec. 29	a 278,718	118	14	.....	.....	.....	.....	.....	4	.....	1	.....	.....
West Tampa, Fla	Jan. 5	b 4,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Wheeling, W. Va	Dec. 29	34,522	14	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Wichita, Kans	....do....	a 23,500	5	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....
Williamsport, Pa	....do....	a 28,754	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 5	a 28,754	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Winona, Minn	Dec. 29	8,208	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Worcester, Mass	Dec. 28	a 118,421	44	3	.....	.....	.....	.....	.....	3	1	2	.....	.....
Youngstown, Ohio	Dec. 29	a 44,885	12	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 5	a 44,885	12	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....

a United States census of 1900. b Estimated population.

Table of temperature and rainfall, week ended December 31, 1900.

[Received from Department of Agriculture, Weather Bureau.]

Locality.	Temperature in degrees Fahrenheit.			Rainfall in inches and hundredths.		
	Normal.	a Excess.	a Defic'ncy.	Normal.	Excess.	Deficiency.
Atlantic Coast:						
Eastport, Me	23	5		.86		.51
Portland, Me	25	4		.77		.58
Northfield, Vt	18	7		.70		.67
Boston, Mass	29	6		.77		.41
New Haven, Conn	30	3		.81		.67
Albany, N. Y	26	6		.57		.54
New York, N. Y	32	5		.77		.14
Harrisburg, Pa	30	4		.70		.38
Philadelphia, Pa	33	4		.67		.03
New Brunswick, N. J	32	3		.84		.04
Atlantic City, N. J	34	3		.91		.75
Baltimore, Md	35	3		.73		.26
Washington, D. C	34	3		.70		.31
Lynchburg, Va	37	3		.77		.42
Cape Henry, Va	40	3		.91	.55	
Norfolk, Va	42	2		.84	.47	
Charlotte, N. C	41	1		1.05		.24
Raleigh, N. C	41	3		.77	.30	
Kittyhawk, N. C	42	4		.98	.38	
Hatteras, N. C	47	3		1.26		.79
Wilmington, N. C	47	4		.76	.98	
Columbia, S. C	47		1	.75	1.34	
Charleston, S. C	50	3		.80	.43	
Augusta, Ga	46	1		.77	1.73	
Savannah, Ga	51	3		.77	.59	
Jacksonville, Fla	55	3		.70	1.64	
Jupiter, Fla	66	5		.68		.12
Key West, Fla	69	3		.37		.31
Gulf States:						
Atlanta, Ga	43	2		1.05	.93	
Tampa, Fla	61	1		.56		.28
Pensacola, Fla	51	7		.91	3.62	
Mobile, Ala	50	4		1.05	1.84	
Montgomery, Ala	47	4		1.12		.05
Meridian, Miss	50		1	1.19		.14
Vicksburg, Miss	47	3		1.12		.52
New Orleans, La	53	4		1.00	2.51	
Shreveport, La	45	4		1.05		.56
Fort Smith, Ark	38	3		.68		.67
Little Rock, Ark	41	3		.98	.01	
Palestine, Tex	47	3		.88		.05
Galveston, Tex	53	4		.89	.38	
San Antonio, Tex	50	4		.42		.21
Corpus Christi, Tex	56		1	.33	.52	
Ohio Valley and Tennessee:						
Memphis, Tenn	40	3		1.07	.21	
Nashville, Tenn	39	1		.91	.15	
Chattanooga, Tenn	41	0		1.14		.30
Knoxville, Tenn	38	1		.99		.32
Lexington, Ky	37		3	.77	.31	
Louisville, Ky	35		1	.83	.18	
Indianapolis, Ind	30		2	.70	.12	
Cincinnati, Ohio	34		1	.75		.07
Columbus, Ohio	30	0		.69		.34
Parkersburg, W. Va	34	0		.70		.02
Pittsburg, Pa	33	0		.70		.39
Lake Region:						
Oswego, N. Y	27	3		.75		.38
Rochester, N. Y	26	2		.70		.27
Buffalo, N. Y	27	3		.73		.34
Erie, Pa	30		1	.70		.45
Cleveland, Ohio	29	0		.56		.19
Sandusky, Ohio	30		3	.53		.20
Toledo, Ohio	28		2	.49		.11
Detroit, Mich	27		2	.56		.51
Lansing, Mich	26	0		.42		.35
Port Huron, Mich	25	0		.49		.46
Alpena, Mich	22	2		.56		.52
Sault Ste. Marie, Mich	18	2		.42		.24
Marquette, Mich	20	1		.49		.04
Escanaba, Mich	20	0		.42		.31
Green Bay, Wis	18	2		.56		.47
Grand Haven, Mich	27	1		.58		.47
Milwaukee, Wis	22	1		.48		.29
Chicago, Ill	27		4	.49		.41
Duluth, Minn	13	0		.28		.23

a The figures in this column represent the average daily departure.

Table of temperature and rainfall, week ended December 31, 1900—Cont'd.

Locality.	Temperature in degrees Fahrenheit.			Rainfall in inches and hundredths.		
	Normal.	aExcess.	aDefic'ncy.	Normal.	Excess.	Deficiency.
Upper Mississippi Valley:						
St. Paul, Minn.	13	1		.28		.16
La Crosse, Wis.	19		4	.28		.24
Dubuque, Iowa	22	0		.37		.25
Davenport, Iowa	24		2	.35		.33
Des Moines, Iowa	22		3	.28		.13
Keokuk, Iowa	26		1	.42		.42
Springfield, Ill.	29		2	.59		.33
Cairo, Ill.	36	1		.77	1.14	
St. Louis, Mo.	31	0		.54		.31
Missouri Valley:						
Columbia, Mo.				.42	.29	
Springfield, Mo	32	0		.63	.29	
Kansas City, Mo.	26	2		.28	.24	
Topeka, Kans.	31		3	.21	.12	
Wichita, Kans	32		1	.21	.19	
Concordia, Kans.	27	1		.14	.10	
Lincoln, Nebr.	25	0		.20	.15	
Omaha, Nebr.	20	2		.21	.07	
Sioux City, Iowa	22	4		.21	.16	
Yankton, S. Dak.	16	4		.14	.13	
Valentine, Nebr.	18	5		.13	.12	
Huron, S. Dak.	11	5		.13	.08	
Pierre, S. Dak.	18	4		.12	.13	
Moorhead, Minn.	5	5		.14	.10	
Bismarck, N. Dak	7	8		.14	.09	
Williston, N. Dak.	6	7		.14	.03	
Rocky Mountain Region:						
Havre, Mont.	11	11		.14		.00
Helena, Mont.	16	5		.21		.15
Miles City, Mont	16	5		.07	.03	
Rapid City, S. Dak	23		2	.07	.06	
Spokane, Wash.	27	3		.68		.54
Walla Walla, Wash.	33	2		.56		.52
Baker City, Oreg.	25	0		.39		.07
Winnemucca, Nev.	28	1		.28		.28
Pocatello, Idaho.	23		1	.35	.03	
Boise, Idaho	27	3		.49		.37
Salt Lake City, Utah	30		1	.35		.19
Lander, Wyo.	20			.14		
Cheyenne, Wyo.	24		5	.07	.17	
North Platte, Nebr.	20	6		.14		.10
Denver, Colo	26		2	.14	.28	
Pueblo, Colo.	29		4	.14	.24	
Dodge City, Kans.	26	1		.14		.09
Oklahoma, Okla.	34	2		.52		.52
Amarillo, Tex	34		3	.11		.08
Abilene, Tex.	42	2		.28		.28
Santa Fe, N. Mex.	28		3	.14		.10
El Paso, Tex.	44		1	.07		.07
Phoenix, Ariz.	52		4	.24		.24
Yuma, Ariz.	55		2	.14		.14
Pacific Coast:						
Seattle, Wash.	41	0		1.26		1.00
Tacoma, Wash	40		1	1.62		1.07
Portland, Oreg	39	1		1.77		1.52
Roseburg, Oreg.	40			1.56		1.44
Eureka, Cal	48			1.96		
Redbluff, Cal.	44	2		1.22		1.22
Carson City, Nev.	31	0		.51		.51
Sacramento, Cal.	45		2	.98		.98
San Francisco, Cal	50	0		1.22		1.22
Fresno, Cal.	45		2	.35		.35
San Luis Obispo, Cal.	52	1		1.05		1.05
Los Angeles, Cal	53	2		.90		.90
San Diego, Cal.	55	3		.43		.43

a The figures in this column represent the average daily departure.

FOREIGN AND INSULAR.

BARBADOS.

Information concerning quarantine and contagious diseases.

BARBADOS, *December 22, 1900.*

SIR: On November 6 last the quarantine against Glasgow for plague was removed.

On November 13 the R. M. S. *Don* arrived here from Southampton with a case of confluent smallpox on board, full particulars whereof I sent you on November 27.

On the 4th instant the schooner *Mystery* arrived here from Pernambuco with a bill of health issued on November 16 by the British consul there indorsed to the effect that during the preceding fourteen days there had been 1 case and 1 death from yellow fever and several cases and 1 death from smallpox. On the 10th instant the steamship *Bellaggio* arrived from Pernambuco with a British consular bill of health issued on the 1st instant and indorsed that during the fourteen days ended November 21 there had been several cases of and 16 deaths from smallpox and 1 case and 1 death from yellow fever. The United States consul's bill of health of same date was clean. Pernambuco has been declared infected with yellow fever and smallpox. From the bill of health brought on the 19th instant by steamship *Buffon* and dated the 11th instant, it would appear that there had not been any fresh case of smallpox since November 21.

The latest bills of health to hand from Rio de Janeiro are dated respectively October 30, November 22, and December 1, and give the following returns:

For fortnight ended October 15, 1900, yellow fever, 2 cases, 4 deaths; smallpox, 44 cases, 26 deaths; plague, 13 cases, 2 deaths.

For fortnight ended November 15, 1900, yellow fever, 3 cases, 1 death; smallpox, 69 cases, 46 deaths; plague, 16 cases, 4 deaths.

For fortnight ended November 29, 1900, yellow fever, 5 cases, 4 deaths; smallpox, 62 cases, 29 deaths; plague, 8 cases, 4 deaths.

Respectfully,

JAS. SANDERSON,
Clerk, Quarantine Board.

The SURGEON-GENERAL, *U. S. Marine-Hospital Service.*

BRITISH COLUMBIA.

Smallpox at Nanaimo and Vancouver.

VICTORIA, *December 21, 1900.*

SIR: There are now 5 cases of smallpox in Nanaimo and 1 fresh case in twelve days. Two cases of varioloid were reported from Vancouver on the 16th instant, both cases came from Seattle by train on the 8th, took sick on the 12th, and recognized on the 15th. Same origin for both at Skaguay, all known contacts isolated and cases in quarantine 1 mile outside city limits.

Respectfully,

C. J. F.,
Secretary Provincial Board of Health.

The SURGEON-GENERAL, *U. S. Marine-Hospital Service.*

CHINA.

Reports from Hongkong—One death from plague.

HONGKONG, CHINA, *November 26, 1900.*

SIR: I have the honor to transmit herewith the report of inspection work at this station for the week ended November 24, 1900: Eight vessels were inspected, 643 baths were given, and 466 pieces of baggage were disinfected by steam.

The Japanese steamship *America Maru* was disinfected to kill rats.

No quarantinable diseases were reported to the sanitary board during the week. The Hongkong Daily Press, however, states that 1 death from plague occurred November 25, the only case reported in the colony since October 27.

The total deaths in the colony during the week were 202, 3 being due to enteric fever, and 1 to tuberculosis.

Respectfully,

JOHN W. KERR,
Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

HONGKONG, CHINA, *December 3, 1900.*

SIR: I have the honor to transmit herewith the report of inspection work for the week ended December 1, 1900. Seven vessels were inspected; 280 people were bathed, their body clothing and 68 pieces of baggage were disinfected by steam.

Respectfully,

JOHN W. KERR,
Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

CUBA.

Reports from Cienfuegos, Casilda, and Santa Cruz del Sur.

CIENFUEGOS, CUBA, *December 31, 1900.*

SIR: I have the honor to report that during the week ended December 29, 1900, 21 deaths occurred in this city, the following table showing causes: Infantile tetanus, 3; aortic insufficiency, 3; pernicious fever, 2; tuberculosis, 2; cardiac asthma, 1; nephritis parenchymatous, 1; endocarditis, 1; dysentery, 1; cerebral hemorrhage, 1; mitral insufficiency, 1; enteritis, 1; wounds, 1; arterial schlerosis, 1; congenital debility, 1; pneumonia, 1. Of the preceding deaths, 7 occurred in the civil hospital. Death rate for the week is 27.38.

The case of yellow fever reported December 23, also in my report of last week, was discharged cured from the hospital December 30, 1900. Nineteen vessels have entered this port and been inspected; 14 vessels have been issued bills of health for other ports.

During the week the following certification of passengers and labeling of baggage has been done: Forty-four health certificates issued to outgoing passengers; 42 pieces baggage inspected and passed for outgoing passengers; 25 pieces baggage for Santiago labeled to be disinfected there; 33 pieces baggage of passengers for Cienfuegos inspected and passed; 15 pieces baggage for ports in this district inspected and passed; 14 pieces baggage, destination Manzanillo, disinfected. No alien steerage passengers landed at this port during the week.

Steam was got up on the disinfecting barge *Sentinel* during the week, the machinery worked smoothly, and everything was found to be in a satisfactory condition.

Casilda.—Dr. Alejandro Cantero reports 16 deaths in the city of Trinidad during the week. No contagious diseases reported. Inspected 6 vessels during the week.

Santa Cruz del Sur.—Dr. Juan R. Xiques reports no deaths in that port during the week. No contagious diseases reported. Inspected 5 vessels.

Respectfully,

F. E. TROTTER,
Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

A fatal case of yellow fever at Cienfuegos.

CIENFUEGOS, CUBA, *January 7, 1901.*

Reported 1 case yellow fever.

TROTTER.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

CIENFUEGOS, CUBA, *January 8, 1901.*

Case of yellow fever reported ended fatally.

TROTTER.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

Report from Havana.

HAVANA, CUBA, *December 31, 1900.*

SIR: I have the honor to submit the following report for the week ended December 29, 1900:

Three deaths from yellow fever are reported for the week.

Asst. Surg. F. E. Trotter reports 1 case of yellow fever at the city hospital at Cienfuegos.

With the consent of the Florida State board of health I will stop the disinfecting of first-class passenger baggage for Florida on January 1, and will continue the disinfection of second-class baggage and the inspection of all baggage for bedding and other household articles. This will greatly reduce our work at the disinfecting plant, which has been very heavy during the past two months.

I have been requested by the Louisiana State board of health to continue baggage disinfection for a while longer.

I inclose the usual mortality report for the week.

Respectfully,

A. H. GLENNAN,
Surgeon, U. S. M. H. S.,
Chief Quarantine Officer for the Island of Cuba.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

[Inclosure.]

Report for week ended December 29, 1900.

PASSENGER DEPARTMENT.

Passengers examined	362	Health certificates issued to immigrants by Acting Assistant Surgeon Menocal	72
Passengers vaccinated	20		

SHORE-DISINFECTING PLANT.

Baggage disinfected	170	Express inspected and passed	10
Express matter disinfected	6		
Baggage inspected and passed	193	Total	694
Freight inspected and passed	315		

OUT-DOOR DEPARTMENT.

Vessels inspected and entered	26	Number of crew of outgoing vessels inspected	788
Vessels inspected and cleared	22	Passengers of incoming vessels inspected	482
Immigrants inspected	144	Passengers of outgoing vessels inspected	325
Number of crew of incoming vessels inspected	1,605		

STEAM-DISINFECTING BARGE SANATOR.

Viveros disinfected	4

Mortuary report for week ended December 29, 1900.

Tuberculosis	9	Enteric fever	2
Enteritis	8	Measles	1
Yellow fever	3	Total number deaths from all causes	87
Pneumonia	3		

Inspection of immigrants at Havana for the week ended December 29, 1900.

HAVANA, CUBA, *December 29, 1900.*

SIR: I herewith submit report of alien steerage passengers at this port during the week ended December 29, 1900:

Date.	Vessel.	Where from.	No. of immigrants.
Dec. 23	Steamship Havana	New York	19
Dec. 24	Steamship Seguranca	Campeche, Vera Cruz, and Progreso	16
Dec. 25	Steamship Morro Castle	New York	10
Do	Steamship Douglas	Mobile	5
Do	Steamship Comino	Liverpool and Spain	90
Dec. 26	Steamship Whitney	New Orleans	1
Dec. 27	Steamship Senior	Puerto Cortes	2
Dec. 29	Steamship Mascotte	Tampa	1
	Total		144

Respectfully,

A. H. GLENNAN,
Surgeon, U. S. M. H. S.,
Chief Quarantine Officer for the Island of Cuba.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

Reports from Matanzas, Cardenas, Isabela de Sagua, and Caibarien.

MATANZAS, CUBA, *December 26, 1900.*

SIR: I have the honor to submit herewith the following sanitary report of the quarantine district under my command, for the week ended December 22, 1900:

Matanzas.—Twelve deaths occurred in the city of Matanzas during the period covered by this report, showing a mortality of 13.82 per 1,000. The principal causes of deaths were as follows: Tuberculosis, 2; enteritis, 1; heart disease, 1; yellow fever, 1; senility, 1; tetanus, infantile, 1; angina pectoris, 1; arterio-sclerosis, 1; other causes, 3. No case of infectious or contagious character was reported. The case of yellow fever reported by wire, December 18, died on the 19th instant, and at present there is none under treatment. The building was disinfected by the city health authorities with the assistance of this office. Six vessels were inspected and passed on arrival. Five bills of health were issued to vessels leaving this port. Twenty-two health certificates were issued to persons leaving the island. Thirty-one pieces of baggage were inspected and passed, and 6 bundles of clothes belonging to the case of yellow fever were disinfected.

Cardenas.—Acting Asst. Surg. Enrique Saez reports that 6 deaths occurred in Cardenas during the last week. The principal causes were as follows: Pneumonia, 1; enteritis, 1; malaria, 1; rickets, 1; other causes, 2. No case of infectious or contagious character was reported. The death rate during the week was 12.60 per 1,000. Five foreign vessels and 8 coasting vessels were inspected and passed on arrival. Three bills of health were issued to foreign vessels during the week.

Isabela de Sagua.—Acting Asst. Surg. Pedro Garcia Riera reports that the death rate during the week was 7.04 per 1,000. One foreign vessel and 12 coasting vessels were inspected and passed on arrival. Fifteen bills of health were issued to vessels, 1 of these to a foreign vessel and 14 to coasting vessels.

Caibarien.—Acting Asst. Surg. Leoncio Junco reports that the sanitary condition of the port and town is very good. The death rate during the week was 1.34 per 1,000. Six vessels arrived during the week; 1 of these was inspected and passed and 5 were passed without inspection. Five bills of health were issued to vessels during the week.

Respectfully,

G. M. GUITÉRAS,
Passed Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

MANTANZAS, CUBA, *January 1, 1901.*

SIR: I have the honor to submit herewith the following sanitary report of the quarantine district under my command for the week ended December 29, 1900:

Matanzas.—Thirteen deaths occurred in the city of Matanzas during the period covered by this report, showing a mortality of 14.97 per 1,000. The principal causes of deaths were as follows: Congenital debility, 3; tuberculosis, 3; atresia, 1; senility, 1; enteritis, 1; other causes, 4. One case of diphtheria was reported during the week. Three vessels were inspected and passed on arrival. Three bills of health were issued during the week. Eleven health certificates were issued to persons leaving the island. Two pieces of baggage were inspected and passed and 14 pieces were passed without inspection.

Cardenas.—Acting Asst. Surg. Enrique Saez reports that 6 deaths occurred in Cardenas during the week. The principal causes of deaths were as follows: Tuberculosis, 2; cancer, 1; hemophilia, 1; other causes, 2. No case of infectious or contagious character was reported during the week. The death rate during the week was 12.60 per 1,000. Five vessels were inspected and passed on arrival. Two bills of health were issued.

Isabela de Sagua.—Acting Asst. Surg. Pedro Garcia Riera reports that 17 vessels were inspected and passed on arrival. Eleven bills of health were issued to vessels leaving the port.

Caibaren.—Acting Asst. Surg. Leoncio Junco reports that the sanitary condition of the port and town is good. The death rate for the week was 2.01 per 1,000. Five vessels arrived during the week and were passed without inspection. Five bills of health were issued to vessels leaving the port.

Respectfully,

G. M. GUITÉRAS,
Passed Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

A case of yellow fever at Matanzas.

MATANZAS, CUBA, *January 3, 1901.*

One case yellow fever reported; civilian.

GUITÉRAS.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

Reports from Nuevitas, Puerto Padre, Gibara, and Baracoa.

NUEVITAS, CUBA, *December 24, 1900.*

SIR: I have the honor to submit the following report for the week ended December 22, 1900: Seven vessels arrived during that period and 6 bills of health were issued; there were 2 deaths; the sanitary condition of the town is fairly good; the weather is dry, with warm days and cool night.

Puerto Padre.—Reports show arrival of 5 vessels, 4 bills of health issued, no deaths, and sanitary condition good.

Gibara.—Reports show arrival of 4 vessels, 4 bills of health issued, 1 death, and sanitary condition good.

Baracoa.—Reports show the arrival of 6 vessels, 5 bills of health issued, 7 deaths, and sanitary condition good. No quarantinable disease is reported at any point in the district.

Respectfully,

OWEN W. STONE,
Acting Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

Reports from Santiago, Manzanillo, Guantanamo, and Daiquiri.

SANTIAGO DE CUBA, *December 20, 1900.*

SIR: I have the honor to submit herewith sanitary report of the fourth quarantine division of the island of Cuba, under my command, for the week ended December 15, 1900:

Santiago.—During this period there was a total of 13 deaths reported,

a decrease of 6 from that of the previous week, making the annual death rate 15.72 per 1,000. The following were the chief causes of deaths: Enteric fever, 1; enteritis, chronic, 2; nephritis parenchymatous, 1; tuberculosis, 2; other causes, 7; total, 13. A number of cases of diphtheria have been reported in this city. All preventive measures against its spread are being taken by the board of health in quarantining the houses and disinfecting on discharge of the patients. December 15, 1900, Surg. A. H. Glennan, United States Marine-Hospital Service, arrived on the provisional flag steamship *Julia* and made inspection of the station. This vessel was disinfected and 24 immune certificates were issued to passengers prior to departure for Porto Rico.

Manzanillo.—Acting Asst. Surg. H. S. Caminero reports 4 deaths, due to the following causes: Meningitis, 1; old age, 1; athrepsia, 1; cirrhosis of the liver, 1; total, 4; annual rate of mortality, 14.38 per 1,000.

Guantanamo.—Acting Asst. Surg. Luis Espin reports 7 deaths, the principal causes being: Intermittent malarial fever, 2; pernicious malarial fever, 1; tuberculosis, 1; other causes, 3; total, 7; annual rate of mortality, 20.22 per 1,000. Two cases of diphtheria were reported, otherwise the health of the city is good.

Daiquiri.—Acting Asst. Surg. Juan J. de Jongh reports 1 death due to traumatic tetanus.

Respectfully,

R. H. VON EZDORF,
Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

[Inclosure.]

Report of treatment of passengers' baggage for the week ended December 15, 1900, port of Santiago de Cuba.

Date.	Name of vessel.	Disinfected and passed.							Inspected and passed.				
		Formaldehyd gas.				Steam.							
		Boxes.	Bundles.	Trunks.	Valises.	Bundles.	Trunks.	Valises.	Baskets.	Boxes.	Bundles.	Trunks.	Valises.
Dec. 10	Steamship Josefita (baggage from Havana.)	.....	3	1	2	.....	.....	.....	.....	.....	.....	11	.....
Dec. 12	Steamship Mortera (baggage from Havana.)	.....	4	10	2	.....	.....	.....	.....	.....	.....	.....	.....
Dec. 15	Steamship Julia (baggage from Havana.)	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.....	Steamship Julia (baggage for Porto Rico.)	.....	.....	.....	.....	14	5	2	.....	.....	.....	.....	.....
	Total.....	.....	7	12	4	14	5	2	.....	.....	.....	11	.....

Inspection of immigrants at Santiago during the week ended December 15, 1900.

SANTIAGO DE CUBA, *December 15, 1900.*

SIR: I herewith submit report of alien steerage passengers at this port during the week ended December 15, 1900:

Date.	Vessel.	Where from.	No. of immigrants
Dec. 12	Br. sc. Annie E. Wood	Kingston, Jamaica	17
Dec. 13	Am. ss. Saratoga	New York via Nassau, New Province	1
Dec. 15	Provisional flag ss. Tomas Brooks	Port au Prince, Haiti	16
	Total		34

Respectfully,

R. H. VON EZDORF,
Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

FRANCE.

De Moura's experiments with rattlesnake venom as a cure for leprosy.

PARIS, FRANCE, *December 21, 1900.*

SIR: I have the honor to state that John Bale, London, has published "A Handbook of the Gnats or Mosquitoes, giving the anatomy and like history of the Culicidæ," by Maj. G. M. Giles, J. M. S., M. B., London, etc. It contains 374 pages and the price is 15 shillings. This book is reviewed in the December "Revue d'Hygiène" and spoken of as an authority on its subject. The presswork and cuts are criticised.

In "Le Bulletin Medical" of December 5 an article appeared on the curative value of rattlesnake poison for leprosy. I inclose a translation of the greater part of the same.

Respectfully.

S. B. GRUBBS,
Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

[Inclosure.]

Mr. Ad. Marcoudes de Moura states that in Brazil the poison of the rattlesnake is considered a cure for leprosy. The natives bitten by this animal, after recovering from the intoxication, are always thereafter immune to leprosy. Wishing to investigate upon what this popular belief was based, this author collected the poison of a rattlesnake by squeezing out on a piece of cotton the contents of the poison glands. The cotton was then placed in a mixture of water and glycerin, equal parts. After having thus obtained a sufficient quantity of solution, he determined its approximative virulence by injecting dogs. He then gave daily, by the mouth, to 2 lepers, doses one-fifth of what would have been dangerous if injected. After some time he gave them injections, every two or three days, of one-tenth of this dangerous dose.

This treatment caused at first only fever and sweats, then, after some time, pains that necessitated lengthening the intervals between the injections. The results obtained by Mr. Marcoudes de Moura were excellent, especially when he employed injections. Of 15 cases treated (of which 14 were of the tubercular form) he did not have a single case of failure.

On this subject Mr. L. Servin published a criticism on this popular belief of the cure of leprosy by rattlesnake poison. He thinks it has no specific action on the cutaneous forms (determinations) of leprosy. He reports that a leper let a rattlesnake bite him on the hand. Twenty-four hours after the patient died. This fact proves that lepers are not immune to the poison of this serpent.

GERMANY.

Report from Berlin—Influenza present.

BERLIN, GERMANY, *December 18, 1900.*

SIR: I have the honor to report that no information of importance in regard to the extension of plague has reached the imperial health office during the past week. More of the European countries have raised the quarantine against Glasgow, so at present there is practically no restriction to traffic from that port. Last week there were 4 deaths from influenza against 7 compared with the previous week.

Respectfully, JOSEPH B. GREENE,
Passed Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

Report from Berlin—Plague and cholera in various countries.

BERLIN, GERMANY, *December 22, 1900.*

SIR: I have the honor to make the following report from information obtained from the Imperial health office:

Plague.

BRITISH EAST INDIA.—During the week ended November 9 there were in the presidency of Bombay 1,160 cases of plague and 880 deaths—that is to say, considerably less (259 and 237, respectively) than in the previous week. In the city of Bombay, during the week ended November 10, 101 new cases and 68 deaths were reported due to plague. Besides these numbers, 197 persons are suspected to have died from plague. The total number of deaths during the week (755) in the city of Bombay showed a decrease of 83.

CAPE COLONY.—According to an official communication of the British authorities at Cape Town, of November 14, there occurred in the District King Williams Town, 7 cases of plague among the natives in Izinyoka, 8 miles from King Williams Town. Concerning the introduction of the plague into the colony it is reported on the basis of newspaper statements, that those natives first attacked by the disease had come in contact with cattle drivers from South America or with natives of India, who had joined the British troops and had gone to the camp on Modder River; although no cases of plague had occurred in the camp itself. Official surgeons have gone to Izinyoka, and measures have been taken to prevent the further spread of the plague in several towns of the colony.

QUEENSLAND.—According to the weekly bulletin of the central sanitary authorities of the colony, 1 death from plague occurred at Brisbane during the week ended October 20. On the other hand, there have been no new cases either in that week or in the following week ended October 27. During the week ended November 3, 2 new cases of plague are said to have occurred in Brisbane.

Cholera.

STRAITS SETTLEMENTS.—In Singapore, according to official reports of the colonial government, there were, during the period from November 1 to November 16, inclusive, 29 cases of cholera reported, of which 23 ended

fatally. In addition to this there was 1 case of suspected cholera. Of these cases, 13 occurred at the insane asylum.

Respectfully, JOSEPH B. GREENE,
Passed Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

ITALY.

Report from Naples.

NAPLES, ITALY, *December 19, 1900.*

SIR: I have the honor to report that for the week ended December 19, 1900, the following ships were inspected: December 14, the steamship *Aller*, of the North German Lloyd Steamship Company, bound with passengers and cargo for New York. There were inspected and passed 277 steerage passengers and 73 pieces of large and 346 pieces of small baggage. Ninety-six pieces of baggage were disinfected by steam. December 15, the steamship *Hesperia*, of the Anchor Line, bound with passengers and cargo for New York. There were inspected and passed 146 steerage passengers, and 25 pieces of large and 173 pieces of small baggage. Forty-five pieces of baggage were disinfected by steam.

Respectfully, VICTOR G. HEISER,
Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

JAPAN.

Plague in Japan—Foot-and-mouth disease among cattle.

YOKOHAMA, JAPAN, *December 13, 1900.*

SIR: I have the honor to inform you that, since the date of my last report, December 4, 3 cases of plague have occurred at Osaka and 5 in Wakayama Ken. No second case is returned from the ken of Tokushima.

Further investigation seems to show that the disease was, perhaps, present in Wakayama for some time prior to its detection, the mortality in the town of Yuasa, the present disease center, having been suspiciously large for some weeks preceding. Yuasa is a seaboard town of 10,000 inhabitants, surrounded on 3 sides by mountains and having little or no communication by land with neighboring districts. The strictest examination before departure, and quarantine on arrival is being enforced as regards all shipping from this port, and the authorities have great hope that by these measures they may limit the spread of the epidemic. No foreign bound ships call at Yuasa. Rats dead from plague are reported as being found in large numbers, and the sanitary officials are inclined to think that the disease was brought from Osaka by rats on shipboard rather than by the human sufferer at first suspected. Fifty physicians have been sent to Yuasa from other parts of the ken, and several experts have gone there from the sanitary bureau of the home department. Fifteen thousand yen have been appropriated from the prefectural funds for sanitary purposes.

After consideration of the subject, the Japanese authorities seem to have decided that general prohibition of the orange trade from the Wakayama and Kiushiu regions is not called for, though shipment from Yuasa itself will not, I think, be allowed.

Foot-and-mouth disease is raging among the cattle of this part of Japan, and several deaths of human beings are reported as due to the consumption of milk of infected animals. Active measures are being enforced in the hope of limiting the spread of the malady, and for the control of dairies and butcheries.

Respectfully,

STUART ELDRIDGE,
Acting Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

MEXICO.

Reports from Vera Cruz—Yellow fever deaths from 1866 to 1900, inclusive.

VERA CRUZ, MEXICO, *December 23, 1900.*

SIR: I have the honor to make the following report for the week ended December 22, 1900: From yellow fever there were 3 cases and 1 death reported, and 1 case and 1 death from smallpox. There were 31 deaths from all causes. During the week, 7 vessels were issued bills of health, and health certificates issued to 38 passengers to Havana. The weather conditions have been excellent, cool and dry. There have been no cases of any class of sickness in the shipping, and very few vessels in the harbor.

Respectfully,

SAML. H. HODGSON,
Acting Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

VERA CRUZ, MEXICO, *December 29, 1900.*

SIR: I have the honor to make the following report for the week ended December 29, 1900: From yellow fever there were 5 cases and 5 deaths, and from smallpox there was neither a case nor death. There were 39 deaths from all causes, including 6 from tuberculosis, and 2 from pernicious fever. During the month of December there were 138 deaths from all causes. From yellow fever there were 17 cases and 10 deaths, a death rate that is above the average from yellow fever in this port during the month of December. This high mortality during the winter months is invariably followed by an epidemic during the following summer, as is shown by the inclosed table, the year 1887 being the only exception since 1866.

Respectfully,

SAML. H. HODGSON,
Acting Assistant Surgeon, U. S. M. H. S.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

[Inclosure.]

VERA CRUZ, MEXICO.

Official mortality report from yellow fever from 1866 to 1900, inclusive.

Years.	Months.												Total deaths from yellow fever.	Total from all causes.
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.		
1866	0	0	2	11	26	40	54	48	20	12	21	20	254	.....
1867	18	4	16	54	64	42	8	32	38	17	11	8	212	.....
1868	7	6	7	30	40	16	26	20	21	9	2	3	187	.....
1869	0	0	0	2	0	0	1	1	2	1	2	0	9	.....
1870	0	0	0	0	0	0	0	0	1	3	5	2	11	.....
1871	3	0	1	6	29	113	71	17	10	15	2	4	271	.....
1872	2	2	4	5	14	45	53	39	29	11	5	6	215	.....
1873	1	0	0	3	1	19	58	59	44	20	10	7	222	.....
1874	1	2	0	0	2	3	11	24	7	12	11	6	79	.....
1875	7	2	4	11	29	93	118	105	41	13	2	0	425	.....
1876	0	1	1	0	0	2	4	7	9	6	1	3	34	.....
1877	0	1	0	0	4	7	54	144	164	77	50	27	528	.....
1878	16	5	0	1	7	58	113	110	62	45	24	7	448	.....
1879	6	4	2	1	1	1	2	1	3	0	0	0	21	907
1880	2	0	1	0	0	0	1	3	10	42	92	106	254	1,366
1881	28	21	27	29	94	235	183	39	22	25	17	3	723	1,882
1882	1	1	2	1	5	11	7	14	8	3	5	12	72	1,155
1883	5	3	7	16	90	261	200	67	39	31	21	7	747	1,910
1884	3	2	0	0	3	2	4	3	17	44	39	19	136	1,268
1885	6	5	8	5	21	25	84	84	48	19	14	9	328	1,313
1886	7	3	7	12	18	31	19	26	25	37	13	10	208	1,159
1887	0	0	1	0	0	1	0	0	1	1	0	0	4	1,033
1888	0	0	0	0	0	0	0	0	1	2	0	0	3	1,104
1889	0	0	0	1	0	0	0	0	0	0	1	0	2	1,300
1900	0	0	0	0	0	1	1	5	0	6	9	19	41	1,320
1891	1	4	2	3	10	39	40	19	13	18	20	10	179	1,361
1892	0	2	1	7	20	41	75	53	27	13	10	10	260	1,488
1893	5	1	6	8	17	32	29	8	9	11	5	0	131	1,406
1894	0	0	0	8	39	55	44	38	15	5	3	3	210	1,618
1895	5	1	1	2	12	23	40	36	17	3	3	0	143	1,414
1896	0	0	0	0	0	0	0	0	0	0	0	0	0	1,438
1897	0	0	0	0	0	0	0	0	0	1	1	0	2	1,625
1898	0	0	0	0	0	0	0	9	24	39	32	23	127	2,086
1899	9	5	7	8	101	246	90	68	31	14	5	7	670	3,583
1900	4	3	4	6	26	45	22	36	59	31	21	10	267	2,061
Total	137	78	111	230	673	1,487	1,412	1,115	818	588	457	386	7,423	.....

PHILIPPINE ISLANDS.

Mortality report in Manila and Iloilo for October, 1900.

MANILA, P. I., *November 27, 1900.*

SIR: I have the honor to transmit herewith report showing the total number of deaths, and their causes, occurring in the cities of Manila and Iloilo, P. I., during the month of October, 1900.

Respectfully,

J. C. PERRY,
Passed Assistant Surgeon, U. S. M. H. S.
Chief Quarantine Officer for the Philippine Islands.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

[Inclosures.]

Report of deaths in the city of Iloilo, P. I., from October 1 to October 30, 1900—Estimated population, 12,000.

Apoplexy	1	Senility	2
Convulsions	22	Anæmia	1
Malarial fevers	7	Phthisis pulmonalis	5
Beriberi	9	Diarrhea	6
Total number of deaths from all causes			53

Report of deaths in the city of Manila, P. I., from October 1 to 30, 1900.

CLASS A—GENERAL DISEASES.

Specific febrile (zymotic)—	
Bubonic plague	4
Cerebro-spinal meningitis	4
Influenza	17
Malarial fevers—	
Intermittent	5
Remittent	8
Continued	4
Pernicious	9
Cachexia	4
Typhoid fever	4
Pertussis	1
Diarrheal—	
Diarrhea, acute	6
Diarrhea, chronic	2
Dysentery, acute	14
Dysentery, chronic	7
Zoogenous—	
Anthrax	1
Septic—	
Puerperal septicæmia	1
Trismus neonatorum	13
Parasitic, thrush	1
Diatetic—	
Malnutrition	17
Inanition	6
Constitutional—	
Anæmia, schlerosis	1
Beriberi	68
Carcinoma	1
Diabetes	1
Leprosy	1
Rheumatism	6
Rickets	3
Tuberculosis, meningeal	1
Tuberculosis, pulmonary	64
Developmental—	
Cardiac malformation	9
Marasmus, infantile	8
Marasmus, senile	6
Premature births	11
Stillbirths	3
Senility	8

CLASS "B"—LOCAL DISEASES.

Nervous system—	
Apoplexy, cerebral	4
Brain, congestion of	10
Convulsions, infantile	188
Eclampsia	91
Hydrocephalus	2
Meningitis, cerebral	41
Myelitis	3
Neurasthenia	1
Circulatory system—	
Angina pectoris	8
Arterio-schlerosis	1
Embolism	2
Heart—	
Endocarditis	13
Fatty degeneration	2
Hypertrophy	1
Pericarditis	6
Valvular, diseases of	1

CLASS "B"—LOCAL DISEASES—*Cont'd.*

Respiratory system—	
Asthma	2
Bronchitis, acute	82
Bronchitis, chronic	17
Croup, catarrhal	1
Laryngitis, acute	17
Laryngitis, chronic	5
Pleurisy, acute	3
Pleurisy, chronic	1
Pneumonia, lobar	1
Pulmonary congestion	7
Pulmonary hemorrhage	2
Digestive system—	
Appendicitis	1
Enteritis, acute	13
Enteritis, chronic	19
Entero-colitis, acute	8
Entero-colitis, chronic	8
Gastric hemorrhage	1
Gastritis, acute	7
Gastritis, chronic	7
Gastro-enteritis, acute	14
Gastro-enteritis, chronic	9
Intestines, inflammation	1
Intestines, intussuception	1
Liver—	
Inflammation	3
Cirrhosis	5
Abscess	1
Acute yellow athrophy	1
Urinary system—	
Cystitis, chronic	3
Nephritis, acute	1
Nephritis, chronic	4
Uræmia	2
Reproductive system—	
Abortion	1
Childbirth	2
Pelvic peritonitis	2
Osseous and integumentary system—	
Abscess, muscular	1
Gangrene	1

CLASS "C."

Bullet wound	1
Drowning	3
Homicide	7
Run over by vehicle	1
Shook following operation	1
Suicide	1
Total number of deaths from all causes	961

DEATHS BY NATIONALITIES.

Filipinos	926
Chinese	28
Spanish	3
French	2
Mexican	1
Portuguese	1
Total	961

Report of deaths in the city of Manila, etc.—Continued.

Number of deaths under 5 years of age	578
Number of deaths over 5 years of age	383
Number of deaths with medical attendance	244
Number of deaths without medical attendance	717
Total	961

No new cases of plague or smallpox in Manila for the week ended November 24, 1900.

MANILA, P. I., *November 27, 1900.*

SIR: I have the honor to hereby report that no cases of plague or smallpox occurred in Manila during the week ended November 24, 1900.

The total number of deaths from all causes during this period was 222.

Respectfully, J. C. PERRY,
Passed Assistant Surgeon, U. S. M. H. S.,
Chief Quarantine Officer for the Philippine Islands.

The SURGEON-GENERAL,
U. S. Marine-Hospital Service.

Plague in Smyrna, Turkey.

SMYRNA, *January 9, 1901.*

Plague since January 2.

LANE,
United States Consul.

Hon. SECRETARY OF STATE.

Foreign and insular statistical reports of countries and cities—Yearly and monthly.

AFRICA—*Sierra Leone.*—Week ended October 19, 1900. Estimated population, 35,000. Total number of deaths, 9. No contagious or epidemic diseases.

ARGENTINA—*Buenos Ayres.*—Month of October, 1900. Estimated population, 814,303. Total number of deaths, 700, including diphtheria, 7; scarlet fever, 7; typhus fever, 1; smallpox, 14, and 1 from plague.

AUSTRALIA—*Victoria.*—Six weeks ended November 24, 1900. Estimated population, 1,140,405. Number of deaths not reported. Seventeen deaths from diphtheria and 4 from enteric fever reported.

BAHAMAS—*Dunmore Town.*—Two weeks ended December 24, 1900. Estimated population, 1,472. One death. No contagious diseases.

Governors Harbor.—Two weeks ended December 22, 1900. Estimated population, 1,500. No deaths and no contagious diseases.

Green Turtle Cay—Abaco.—Two weeks ended December 20, 1900. Estimated population, 3,900. No deaths and no contagious diseases.

Nassau.—Two weeks ended December 22, 1900. Estimated population, 12,000. Number of deaths not reported. No contagious diseases reported.

BRAZIL—*Bahia.*—Three weeks ended December 15, 1900, estimated population, 200,000. Number of deaths not reported. No deaths from contagious diseases reported.

Rio de Janeiro.—Two weeks ended November 15, 1900. Estimated population, 779,000. Total number of deaths, 570, including diphtheria, 2; enteric fever, 4; measles, 5; yellow fever, 1; smallpox, 48; plague, 11, and 109 from tuberculosis.

CANADA—*Manitoba—Winnipeg.*—Month of December, 1900. Estimated population, 25,642. Number of deaths not reported. Two deaths from enteric fever and 1 from tuberculosis reported.

CANARY ISLANDS—*Teneriffe.*—Two weeks ended December 15, 1900. Estimated population, 33,500. Total number of deaths, 9. No deaths from contagious diseases reported.

DUTCH GUIANA—*Paramaribo.*—Month of November, 1900. Estimated population, 31,279. Total number of deaths, 60. No deaths from contagious diseases reported.

FRANCE—*Rouen.*—Month of November, 1900. Estimated population, 112,657. Total number of deaths, 237, including diphtheria, 2; enteric fever, 8; scarlet fever, 2; smallpox, 1, and 31 from tuberculosis.

St. Etienne.—Two weeks ended December 15, 1900. Estimated population, 136,030. Total number of deaths, 101, including diphtheria, 4, and 3 from enteric fever.

JAMAICA—*Port Antonio.*—Three weeks ended December 22, 1900. Estimated population not reported. Number of deaths not reported. The health of the port is good.

JAPAN—*Korea—Seoul.*—Week ended November 3, 1900. Estimated population, 300,000. Number of deaths not reported. Smallpox, typhus fever, and enteric fever prevalent.

Nagasaki.—Period from November 21 to November 30, 1900. Estimated population, 131,000. Total number of deaths not reported. One death from typhus fever reported.

JAVA—*Batavia.*—Four weeks ended November 24, 1900. Estimated population, 150,000. Number of deaths not reported. No epidemic or contagious disease.

MALTA—*Valletta.*—Period from November 1 to November 15. Estimated population, 181,698. Total number of deaths, 212, including diphtheria, 3; enteric fever, 1, and 5 from whooping cough.

NORFOLK ISLAND.—Month of October, 1900. Estimated population, 901. Total number of deaths, 4, including 3 from influenza.

ST. HELENA.—Four weeks ended December 1, 1900. Estimated population, 4,270. Total number of deaths, 4. No deaths from contagious diseases reported.

SPAIN—*Malaga.*—Two weeks ended December 15, 1900. Estimated population, 130,000. Number of deaths not reported. No deaths from contagious diseases reported.

Cholera, yellow fever, plague, and smallpox, December 28, 1900, to January 11, 1901.

[Reports received by the Surgeon-General United States Marine-Hospital Service from United States consuls through the Department of State and other sources.]

[For reports received from June 29, to December 28, 1900, see PUBLIC HEALTH REPORTS for December 28, 1900.]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay	Nov. 21-Dec. 4		12	
Calcutta	Nov. 18-Dec. 1		68	
Madras	Nov. 11-Nov. 30		20	
Straits Settlements:				
Singapore	Nov. 8-Nov. 14		5	

YELLOW FEVER.

Brazil:				
Rio de Janeiro	Nov. 1-Nov. 15		1	
Colombia:				
Cartagena	Dec. 10		1	
Cuba:				
Cienfuegos	Jan. 7	1		
Havana	Dec. 1-Dec. 29		17	
Matanzas	Dec. 19-Jan. 3	1	1	
Mexico:				
Vera Cruz	Dec. 16-Dec. 29		6	

PLAGUE.

ARGENTINA:			
Buenos Ayres	Oct. 1-Oct. 31	1	1
BRAZIL:			
Rio de Janeiro	Nov. 1-Nov. 15	16	11
Petropolis	Nov. 12-Nov. 26	6	3
CHINA:			
Hongkong	Nov. 25		1
INDIA:			
Bombay Presidency and Sind:			
Northern Division—			
Ahmedabad City	Nov. 4-Nov. 17		
Ahmedabad District	do		
Bombay City	do	201	118
Broach District	do		
Surat District	do	18	14
Surat Town	do	2	2
Thana District	do	64	54
Central Division—			
Ahmednagar District	do		
Ahmednagar Town	do	2	1
Nasik District	do	19	15
Nasik Town	do	101	86
Poona City	do	480	419
Poona District	do	74	65
Satara District	do		
Satara Town	do	5	3
Southern Division—			
Belgaum District	do	621	454
Belgaum Town	do	47	25
Dharwar District	do	83	76
Dharwar Town	do		
Kanara District	do	9	6
Kolaba District	do	1	1
Political Charges—			
Aundh State	do	8	4
Baroda State	do	34	16
Bhavnagar Town	do	57	32
Cutch State	do	3	
Kathiawar State	do	4	3
Kolhapur and Southern Mahratta country	do	113	85
Mandoi Town	do		
Savanur State	do	33	28

Cholera, yellow fever, plague, and smallpox, etc.—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Outside Bombay Presidency and Sind:				
Madras Presidency—				
Madras City	Nov. 4-Nov. 17	2	1	
North Arcot	do	2	1	
Salem District	do	18	8	
Trichonopoly District	do	1		
Bengal Presidency—				
Bihar Town	do	12	13	
Calcutta	do	68	68	
Chapra Town	do	108	93	
Dinapur Town	do	5	4	
Gaya District	do	217	177	
Monghyr District	do	48	45	
Monghyr Town	do	109	101	
Muzaffarpur District	do	1	1	
Patna City	do	4		
Patna District	do	274	228	
Saran District	do	234	163	
Punjab Province:				
Gurdaspur District	do	11	5	
Mysore State—				
Bangalore City	do	364	272	
Bangalore Civil and Military Station	do	434	334	
Bangalore District	do	182	136	
Kolor Gold Fields	do	9	9	
Mysore City	do	574	423	
Mysore District	do	633	488	
Shimoga	do	111	77	
Tumkar District	do	2	1	
Hyderabad State—				
Aurangabad District	do	26	12	
Japan—				
Osaka	Dec. 4-Dec. 13	3		
Wakayama Ken	do	5		
Madagascar—				
Tamatave	Nov. 19-Nov. 30	1		
Turkey—				
Smyrna	Jan. 9			Plague reported.

SMALLPOX.

Argentina:				
Buenos Ayres	Oct. 1-Oct. 31	22	14	
Montevideo	Nov. 24-Dec. 1	1		
Austria:				
Prague	Dec. 2-Dec. 15	48		
Brazil:				
Rio de Janeiro	Oct. 1-Nov. 15		117	
British Columbia:				
Nanaimo	Dec. 21	5		
Vancouver	do	2		
Egypt:				
Alexandria	Nov. 27-Dec. 10	4	4	
England:				
London	Dec. 2-Dec. 15	2		
West Hartlepool	Dec. 9-Dec. 15	1		
France:				
Paris	Dec. 2-Dec. 15		23	
Greece:				
Athens	Dec. 2-Dec. 8	1		
India:				
Bombay	Nov. 21-Dec. 4		1	
Calcutta	Nov. 18-Dec. 1		15	
Madras	Nov. 17-Nov. 30		2	
Italy:				
Licata	Dec. 9-Dec. 15		1	
Mexico:				
City of Mexico	Dec. 16-Dec. 16	1	2	
Tuxpan	Dec. 11-Dec. 17		2	
Vera Cruz	Dec. 16-Dec. 22		1	
Russia:				
Moscow	Nov. 24-Dec. 8	9	2	
Odessa	Dec. 2-Dec. 15	74	17	
St. Petersburg	Nov. 25-Dec. 8	14	3	
Warsaw	Dec. 2-Dec. 8		15	
Scotland:				
Glasgow	Dec. 8-Dec. 21	47	4	

Weekly mortality table, foreign and insular cities.

Cities.	Week ended.	Estimated population.	Total deaths from all causes.	Deaths from—									
				Tuberculosis.	Plague.	Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Aix la Chapelle	Dec. 15	134,196	57	2	.....	.....	.....	.....	.....	.....	.....	2	.....	.....
Alexandretta	Dec. 8	8,000	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do.	Dec. 15	8,000	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Alexandria	Dec. 10	335,000	200	.....	.....	.....	.....	1	.....	3	1	.....	.....	1
Amherstburg	Dec. 29	2,300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Antigua	Dec. 8	30,000	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 15	30,000	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Antwerp	do	293,111	79	6	.....	.....	.....	.....	.....	2	.....	2	.....	1
Barmen	Dec. 8	141,000	42	.....	.....	.....	.....	.....	.....	.....	3	.....	3	1
Barranquilla	do	40,000	35	4	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Do	Dec. 16	40,000	28	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belfast	Dec. 8	359,000	152	.....	.....	.....	.....	.....	.....	3	.....	2	4	1
Do	Dec. 15	359,000	129	.....	.....	.....	.....	.....	.....	5	.....	1	.....	1
Belize	Dec. 27	13,000	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Berlin	Dec. 1	1,884,345	515	.....	.....	.....	.....	.....	.....	3	12	13	10	.....
Do.	Dec. 8	1,884,345	601	.....	.....	.....	.....	.....	.....	4	12	10	10	.....
Bombay	Dec. 4	821,764	804	145	70	10	.....	.....	.....	1	.....	.....	.....	.....
Bremen	Nov. 24	145,000	40	4	.....	.....	.....	.....	.....	.....	3	1	.....	.....
Do	Dec. 1	145,000	39	4	.....	.....	.....	.....	.....	.....	2	1	2	.....
Do	Dec. 8	145,000	49	2	.....	.....	.....	.....	.....	1	.....	2	1	.....
Breslau	do	300,000	167	32	.....	.....	.....	.....	.....	.....	1	1	.....	6
Brussels	Dec. 15	600,000	142	.....	.....	.....	.....	.....	.....	2	1	4	4	1
Budapest	Dec. 16	640,000	962	.....	.....	.....	.....	.....	.....	.....	5	1	10	.....
Calcutta	Dec. 1	681,560	681	.....	23	33	.....	7	.....	.....	.....	.....	.....	.....
Cartagenea	Dec. 17	25,000	12	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Catania	Dec. 20	124,000	61	5	.....	.....	.....	.....	1	2	.....	.....	.....	.....
Christiana	Dec. 15	230,000	91	.....	.....	.....	.....	.....	.....	.....	1	1	2	2
Coburg	Dec. 8	20,400	6	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cognac	do	20,400	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 15	20,400	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cologne	Dec. 8	367,810	138	20	.....	.....	.....	.....	.....	1	.....	.....	4	4
Colon	Dec. 25	8,000	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Corunna	Dec. 15	40,500	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Do	Dec. 22	40,500	25	.....	.....	.....	.....	.....	.....	2	.....	2	.....	.....
Crefeld	Dec. 15	106,887	32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Curaçao	do	30,303	2	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Dublin	do	349,594	184	19	.....	.....	.....	.....	.....	1	1	.....	1	7
Dusseldorf	Dec. 8	208,483	43	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
Do	Dec. 15	208,483	67	.....	.....	.....	.....	.....	1	.....	2	.....	.....	1
Edinburgh	do	302,262	105	.....	.....	.....	.....	.....	.....	.....	2	.....	3	1
Frankfort-on-the-Main	Dec. 8	287,813	70	.....	.....	.....	.....	.....	.....	1	.....	.....	2	.....
Funchal	Dec. 16	36,982	21	2	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Geneva	Dec. 8	95,350	29	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
Gibraltar	Dec. 16	24,701	6	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Girgenti	Dec. 15	24,426	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glasgow	Dec. 21	743,969	282	.....	.....	.....	.....	3	.....	4	4	1	4	27
Gothenburg	Dec. 15	126,849	36	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2
Halifax	Dec. 29	45,000	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hamburg	Dec. 15	691,849	220	.....	.....	.....	.....	.....	.....	1	3	4	1	2
Hamilton, Bermuda	Dec. 25	2,000	3	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....
Hongkong	Nov. 24	257,000	202	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Karachi	Dec. 2	98,195	78	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kingston, Canada	Dec. 28	18,300	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Jan. 4	18,300	10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Königsberg	Dec. 8	187,186	.....	.....	.....	.....	.....	.....	.....	1	2	1	.....	.....
Las Palmas	do	501,000	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lausanne	do	45,722	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leghorn	do	104,829	38	3	.....	.....	.....	.....	.....	1	.....	3	.....	.....
Do	Dec. 15	104,829	39	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....
Leipsic	Dec. 8	455,089	137	.....	.....	.....	.....	.....	.....	1	2	2	1	.....
Leith	Dec. 15	78,509	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Licata	do	20,000	20	.....	.....	.....	.....	1	3	.....	.....	.....	1	.....
Liverpool	do	668,645	245	.....	.....	.....	.....	.....	.....	1	5	2	8	.....
London	do	6,652,145	1,928	.....	.....	.....	.....	.....	.....	26	12	83	26	82
Lyons	Dec. 8	200,000	170	.....	.....	.....	.....	.....	.....	2	.....	3	.....	.....
Do	Dec. 15	260,000	151	.....	.....	.....	.....	.....	.....	2	1	2	1	.....
Madras	Nov. 30	452,518	404	.....	.....	3	.....	1	.....	.....	.....	.....	1	.....
Magdeberg	Nov. 17	231,239	83	9	.....	.....	.....	.....	.....	1	.....	3	1	.....
Do	Nov. 24	231,239	68	10	.....	.....	.....	.....	.....	.....	.....	2	3	1
Manchester	Dec. 15	550,964	225	23	.....	.....	.....	.....	.....	1	3	4	..	4
Mannheim	Dec. 8	137,063	34	.....	.....	.....	.....	.....	.....	.....	.....	2	1	.....
Matamoras	Dec. 29	18,266	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Melbourne	Oct. 20	477,000	.....	.....	.....	.....	.....	.....	.....	1	.....	2	.....	.....
Do	Oct. 27	477,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....

Weekly mortality table, foreign and insular cities—Continued.

Cities.	Week ended.	Estimated population.	Total deaths from all causes.	Deaths from—										
				Tuberculosis.	Plague.	Cholera.	Yellow fever.	Smallpox.	Typhus fever.	Enteric fever.	Scarlet fever.	Diphtheria.	Measles.	Whooping cough.
Melbourne	Nov. 3	477,060	.....	.....	.....	.....	.....	.....	.....	1	.....	2	.....	.....
Do	Nov. 10	477,000	.....	.....	.....	.....	.....	.....	.....	1	.....	2	.....	.....
Do	Nov. 17	477,000	.....	.....	.....	.....	.....	.....	.....	1	.....	2	.....	.....
Do	Nov. 24	477,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Messina	Dec. 15	107,000	29	2	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Mexico	Dec. 16	344,377	.....	24	.....	.....	.....	2	10	.....	.....	.....	1	2
Milan	Dec. 22	501,611	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monrovia	Nov. 24	5,000	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 1	5,000	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monte Criste	Dec. 22	3,000	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monterey	Dec. 28	25,000	47	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montevideo	Nov. 10	215,061	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Do	Nov. 17	215,061	54	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Nov. 24	215,061	57	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....
Do	Dec. 1	215,061	66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moscow	Dec. 8	1,000,000	540	.....	.....	.....	.....	1	2	2	12	8	8	2
Newcastle-on-Tyne	Dec. 15	234,369	74	.....	.....	.....	.....	.....	.....	.....	1	.....	3	.....
Nottingham	....do....	250,000	103	.....	.....	.....	.....	.....	.....	.....	4	2	.....	5
Nuremberg	Dec. 1	230,743	73	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Odessa	Dec. 15	434,600	217	.....	.....	.....	.....	10	.....	3	8	4	6	.....
Palermo	.....do.....	300,000	106	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Paris	Dec. 8	2,511,629	898	.....	.....	.....	.....	14	.....	11	4	10	2	2
Do	Dec. 15	2,511,629	882	.....	.....	.....	.....	9	.....	14	1	11	2	1
Port au Prince	Dec. 10	60,000	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 17	60,000	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Prague	Dec. 15	198,139	141	12	.....	.....	.....	.....	.....	1	.....	2	.....	.....
Puerto Cortez	Dec. 26	2,000	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quebec	Dec. 22	73,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 29	73,000	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Rheims	Dec. 15	107,963	30	.....	.....	.....	.....	.....	.....	2	.....	.....	5	.....
St. John, New Brunswick.	Dec. 29	45,000	9	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Petersburg	Dec. 1	1,267,063	640	.....	.....	.....	.....	.....	.....	28	19	27	12	5
Do	Dec. 8	1,267,063	672	.....	.....	.....	.....	3	.....	27	18	25	12	5
St. Stephen	Dec. 29	3,000	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Thomas	Dec. 14	12,019	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Singapore	Nov. 14	91,111	240	45	.....	16	.....	.....	.....	.....	.....	.....	.....	.....
Smyrna	Dec. 2	300,000	61	8	.....	.....	.....	.....	.....	4	.....	.....	1	.....
Solingen	Dec. 1	16,000	17	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....
Do	Dec. 8	16,000	17	.....	.....	.....	.....	.....	.....	1	.....	1	.....	1
Southampton	Dec. 15	107,713	27	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
South Shields	.....do.....	105,677	49	3	.....	.....	.....	.....	.....	.....	2	.....	.....	1
Stettin	Dec. 8	210,000	84	.....	.....	.....	.....	.....	.....	2	2	2	.....	.....
Stuttgart	Dec. 13	162,634	66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sunderland	Dec. 15	147,398	53	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	3
Tamatave	Nov. 25	9,000	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 2	9,000	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tampico	Dec. 9	18,000	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 16	18,000	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 23	18,000	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trapani	Dec. 15	53,597	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trieste	Dec. 8	166,499	88	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....
Tuxpan	Dec. 24	13,392	6	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Utilla	Dec. 15	800	0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 22	800	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Valencia	Dec. 16	203,985	113	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Vera Cruz	Dec. 22	31,997	31	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Do	Dec. 29	31,997	39	6	.....	.....	5	.....	.....	.....	.....	.....	.....	.....
Vienna	Dec. 8	1,673,688	593	.....	.....	.....	.....	.....	.....	5	3	4	26	4
Do	Dec. 15	1,673,688	626	.....	.....	.....	.....	15	.....	.....	9	7	28	4
Warsaw	Dec. 8	645,840	243	.....	.....	.....	.....	.....	.....	1	17	9	4	2
Yokohama	Dec. 1	189,455	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....
Do	Dec. 8	189,455	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Zurich	.....do.....	162,169	48	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....

By authority of the Secretary of the Treasury:

WALTER WYMAN,
Surgeon-General U. S. Marine-Hospital Service.