and emoluments of a surgeon. *Provided,* That all commissioned officers of the Public Health and Marine-Hospital Service not below the grade of passed assistant surgeon shall be eligible to assignment to duty in charge of the said divisions of the hygienic laboratory, and while serving in such capacity shall be entitled to the pay and emoluments of their rank.

Sec. 7. That when, in the opinion of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States, the interests of the public health would be promoted by a conference of said service with State or Territorial boards of health, quarantine authorities, or State health officers, the District of Columbia included, he may invite as many of said health and quarantine authorities as he deems necessary or proper to send delegates, not more than one from each State or Territory and District of Columbia, to said conference: *Provided,* That an annual conference of the health authorities of all the States and Territories and the District of Columbia shall be called, each of said States, Territories, and the District of Columbia to be entitled to one delegate: *And provided further,* That it shall be the duty of the said Surgeon-General to call a conference upon the application of not less than five State or Territorial boards of health, quarantine authorities, or State health officers, each of said States and Territories joining in such request to be represented by one delegate.

Sec. 8. That to secure uniformity in the registration of mortality, morbidity, and vital statistics it shall be the duty of the Surgeon-General of the Public Health and Marine-Hospital Service, after the annual conference required by section seven to be called, to prepare and distribute suitable and necessary forms for the collection and compilation of such statistics, and said statistics, when transmitted to the Public Health and Marine-Hospital Bureau on said forms, shall be compiled and published by the Public Health and Marine-Hospital Service as a part of the health reports published by said service.

Sec. 9. That the President shall from time to time prescribe rules for the conduct of the Public Health and Marine-Hospital Service. He shall also prescribe regulations respecting its internal administration and discipline, and the uniforms of its officers and employees. It shall be the duty of the Surgeon-General to transmit annually to the Secretary of the Treasury, for transmission by said Secretary to Congress, a full and complete report of the transactions of said service, including a detailed statement of receipts and disbursements.

Approved, July 1, 1902.

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**CSP1/J2 EN (8) MARITIME HYGIENE AND QUARANTINE.**

By RHETT GOODE, M. D., of Mobile, Ala.

[Read at the third Pan-American Medical Congress, Habana, Cuba, February, 1901.]

**Mr. President, Members of the Congress:** There are few subjects which have a wider bearing, and in the treatment of which the medical profession has had a harder battle against commercial demands on the one hand and the extreme demands of a timid people on the other than the one I purpose to discuss in this paper. It concerns a course of action the aim of which is ever to secure both to society and commerce every concession and safeguard. Hence it is that the rules and regulations of one year are subject to revision the next year; but whatever change is made is made with full recognition that the rights of commerce are second to the right of society, and that the very safety and continuation of commerce are possible only by recognizing that honesty in the enforcement of quarantine regulations is absolutely necessary.

The labors of the bacteriologists are of much moment; and to them is due in great part the changes that are made in sanitary work, and there is always discovery being made in etiology, and bacteriology and disinfection. It is due in great part to them that it is possible for sanitarians to make innovations, departing gradually from rigid rules to those that are just as effective though not so stringent.

There is but one end to be attained by quarantine, and that is the
prevention of the spread of contagious and infectious diseases. There are two ways in which to attain the end. One is to exclude all possible means of the communication of the disease from a prescribed district; that is exclusive quarantine. The other is to prevent communication of the disease outside a prescribed district; this is inclusive quarantine.

The extreme method is an embargo—the complete suppression of all commerce and travel between the points concerned. The second is to so modify this practice as to permit both travel and commerce under certain rules and conditions. This latter is practiced because men demand not only freedom from danger of infection, but commercial intercourse, though the right to protection from infection is the highest of all rights, the right to freedom of trade is a second right, and the demands of the first right are to be conceded only so far as may be necessary and with the least possible interference with commerce.

The one disease which is a terror to the western world is yellow fever. To the people it is terrifying because of misconception of its mortality, and consequently it causes them to practically place an embargo upon commercial relations with any port or place known to be infected or even suspected of having the disease.

We may think as we please regarding the right or wrong of the conduct of the people. We must bow to it, however, and will continue to do so until the people shall have learned that yellow fever can be successfully controlled by an inclosing quarantine, or that it can be excluded from entry at a noninfected place by careful adherence to quarantine regulations.

The duty of those who have the power is to do all possible to satisfy the needs of the people, so far as protection is concerned, and with as little interference as possible with commerce, and at the same time instruct them in the character of the disease and thus quiet their fears of it.

The ordinary precautions used to prevent the spread of yellow fever by sea consist of thorough disinfection of all suspected or infected ships at the port of arrival, and the detention of the ship, crew, and passengers for a period of five days, under observation, to determine whether or not any of the crew or passengers are likely to be afflicted with the disease. If at the end of five days all are well, the vessel, crew, and passengers are allowed to proceed.

All must concede that the grounds upon which these rules are based are reasonable and apparently just, though there are some changes possible which would make the rigorous part of the rules less oppressive.

For convenience in presenting the subject of maritime sanitation and quarantine, we will divide it into two parts: First, the ship and cargo; second, the officers, crew, passengers, and their baggage. This division is made because in practice the two are easily separated, the crew, passengers, and baggage being easily removed from the ship. Then, too, it is possible because of this to consider certain features of maritime quarantine more thoroughly.

In practice both ship and cargo are considered infectable. We may agree or disagree with the practice, but in any event we must bow to it until it is proved beyond a doubt that they are not infectable. Dr. Alvah H. Doty, health officer of the port of New York, contends that they can not carry contagion, and in an able article he cites as proof of his contention a long record at New York which he believes shows beyond a doubt that his contention is correct. Personally I would not
undertake to refute his statements, as I am of the opinion that if they are not absolutely correct they are very nearly so; yet, as one of the members of the Mobile Bay quarantine board, I would not feel absolutely safe in advising as a consequence the abolition of our fumigating plant. The people of Mobile, and of the cities, counties, and States connected commercially with Mobile, would declare their disapproval of the course by imposing an embargo on the port, and therefore fumigation, even though it may be useless, is the lesser evil.

The rules regarding ships are that they must be fumigated with sulphur dioxide and washed with mercuric chloride, if they arrive at Mobile quarantine station having left a suspected or infected port. The ship is to be detained at quarantine for five days, and then, if no cause arises to further detain her, she is to be allowed to proceed.

Fumigation and washing consume, perhaps, twenty-four hours, but why the ship should be detained after the completion of disinfection it is hard to understand. If disinfection at the port of entry is necessary, then it should be performed; but apparently there is no just reason why, in addition to the time of disinfection, there should be added four days of detention. Disinfection is either a failure or is complete within a day's time, and that should be sufficient. Detention time to the ship causes not only delay but great expense, and in some cases it is spent at the risk of the loss of cargo, and if it is possible by any means to avoid this without risk of spreading disease it should be done.

So far as disinfection is concerned, it is a matter of no consequence where it is done, whether at the port of departure or at the port of arrival. This fact is to-day recognized, for at the port of Habana vessels are disinfected before beginning their voyage to the United States, and under practically the same conditions disinfection might be done at any port of departure. By this means detention time at the port of arrival is either shortened or else, if the voyage is one of five days or over, it is entirely avoided, provided the ship be not infected during the voyage. The demands of commerce are such that this practice should be extended wherever practicable.

As a concession to commerce I may mention that special provisions are made regarding fruit vessels plying regularly between Port Limon, Costa Rica, and Mobile. These provisions are designed to avoid all detention possible, as fruit is a perishable commodity. The fruit steamers may enter Mobile and discharge their cargoes without other interference at quarantine than inspection, provided all of the crew are well upon arrival, and the ship has complied with the following regulations: The loading to be done in daytime, at night the vessel being anchored away from the wharf. Only the agent of the company, physicians, and negro fruit handlers are to go on board, and they all to wear newly disinfected clothing. Neither the officers nor crew of the vessel are to go ashore at Port Limon. It is believed that by this means all danger of contracting the disease is avoided. A certificate of compliance with these regulations is demanded, and the ship is free to pass quarantine upon mere inspection, provided all the crew are well, have not been sick on voyage, and were well upon departure. Upon arrival at the Mobile wharf the cargo is discharged over a lighter under the same strict rules under which it is loaded at Port Limon.

This provision, adopted last year, may with justice be extended to
other ports, provided the rules be as rigidly enforced and attested as at Port Limon. It will be noted that this special quarantine rule is practically in keeping with the contention that ships and cargoes are not infectable. It may be added that no case of fever has developed under this practice, and this is the guaranty that it is safe.

Let us now consider the other part of the quarantine subject, that is, the crew, passengers, and baggage.

So far as we know, every epidemic of yellow fever in the United States has been traceable to some infected human being landing in the United States from an infected tropical port. In other words, the conveyance of the contagion is by human and not inanimate bodies. It is therefore toward human beings that the greatest precaution is extended.

The practice regarding them is: If they are immunes they may pass quarantine at once upon proof of their immunity to the disease. If they are not immunes and arrive from a suspected port they are held for five days in quarantine to allow the disease time to develop, it being considered that five days is the period of incubation. If at the end of five days they are well they may proceed.

As with the vessel so with the passengers and crew; it matters not where the five days' detention time is passed, provided it is passed under observation. It may be begun at the port of departure and completed on the voyage, or partly completed on the voyage, or may be passed at the quarantine station of the port of arrival. But wherever passed, it must be begun with a thorough examination to determine whether or not the individual is infected, and may be completed in five days, or it may be determined that the individual is infected, and he must then pass through his disease and convalescence at a quarantine hospital. But whether he be infected or immune his baggage must be disinfected.

This five days' detention may be passed at the port of arrival either upon the vessel or at the quarantine station. If upon the vessel, the vessel must be detained for five days; if at the quarantine station, there is no cause for detention of the vessel after it is disinfected. Thus the vessel, by leaving crew, passengers, and baggage at quarantine, and being disinfected, might pass on to its destination four days before the release of the human beings on board, and within that time might in many cases be unloaded and return to quarantine for officers and crew.

In truth the detention of a vessel for five days, as is now the practice, is almost entirely due to the presence of crew, passengers, and their baggage on board the vessel. If they are removed there can no longer be a cause of detention.

Special regulations and changes in rules might and should be made along these lines. But in order that they be made with proper guaranty that they may be honestly and thoroughly executed several things are needed.

Some of the tropical ports are now classed as not suspected, others as suspected, and others as infected. This last needs alteration, and without doubt upon a thorough examination by a competent commission it would be possible to safely extend liberal rules to many of the ports to the great benefit of commerce.

To some might be extended the privilege of disinfecting ships upon
departure, as is the case with the port of Habana. To others there could be a relaxation of the rules classing them always with suspected ports. To these might be extended the privilege granted the fruit steamers at Port Limon, and with proper precaution it might be possible to extend to them even the liberal rules which apply to passengers from Habana.

It is especially desirable at this time that such a commission should be appointed, that there may be an accurate, thorough, and satisfactory report made upon the sanitary condition of the various tropical ports. At many of these ports the officials and others are not aware upon just what grounds they are excluded from unrestricted trade, nor do they know what they may do to raise their classification as to sanitary condition as regards the requirements in the North and increase their commercial privileges. These things could be pointed out to them, and perhaps with slight change and with small expense they could enhance their commercial importance.

The value of the work of such a commission cannot be well overestimated. It is such as is in this day and age in the Western Hemisphere of enormous importance.

Our nations or republics are separate in jurisdiction only. They are almost a unit in their needs, and their prosperity is closely interwoven. The national boundary lines merely divide the States. There are now no real frontiers. The real frontier is the line of conquest, the place at which national demands clash. There is none such among us. The glorious century which has just passed away has been the greatest, the best, the most momentous in the world’s history, and not the least evidence of the wonderful work done within its life is the close cementing of the lives that bind the people of these great, good, and prosperous republics.

This century may work the growth of that unity until all will be as closely united in their desires, their aims, and hopes as are the different States of the United States, and yet every one preserve its freedom from government by any and all of the others. Then we may in a measure look for that glorious day when there shall be “Brotherhood of good, equal laws of right, Freedom, whose sweet food feeds the multitude all the days and nights with the bread full-fed of her body blest from her table spread where the world is guest.”

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CSP1/J3 EN (3) VESSELS AS CARRIERS OF MOSQUITOES.

By S. E. Grubbs,
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At the present time, when evidence is pointing with more and more clearness to the mosquito as the sole means of transmitting yellow fever, nothing is of greater interest to the quarantine officer than to decide to what extent and under what circumstances these infecting insects may be carried by vessels.

This subject may be approached in three different ways. First, by observations on the length of time after leaving infected ports vessels may develop yellow fever. Second, by experiments with mosquitoes under artificial conditions made to simulate as much as possible those