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The Questions of Cholera, Quarantine and Immigration Analyzed.

PLAGUES AND PUBLIC HEALTH

THEORIES CONTROVERTED BY EXPERIENCE

National Exclusion an Annoying and Useless Expedient-Local Conditions Foster Endemies, Air Corrents Spread Them-Important Data.

The Sanitarian for February contains an important paper by Dr. C. W. Chancellar, secretary of the Maryland Board of Health, on the kindred subjects of cholera, quarantine and immigration. The origin and spread of the dread disease, the value of rigid quarantine, and the greater value of thorough local sanitation and individual care as preventives are considered in detail. from the standpoint of an observant and experienced physician. As these subjects are of vital and timely interest, the inajor portion of the paper is appended: In the whole range of politics, nay, even that of science itself, there is no subject on which such vague notions have prevailed; none respecting which men's minds have been so completely and so generally mystified as that of the etiology and spread of Asiatic cholera, and the possibility of excluding it by quarantine regulations. The subject certainly opposes to its investigation no peculiar difficulty; but by the aid of one enormous assumption, and by failing to distinguish between one or two well ascertained facts, which it is essential to discriminate, the extent to which both medical and unprofessional men of

their understanding to be abused is perfectly astonishing. For many years the subject of excluding cholera and other diseases from communities and countries by nonintercourse measures, more or 10.68 restrictive, has seemingly had the effect of depriving the physician, the sanitarian, and the statesman of the power of applying to its investi-gation the commonest rules of reasoning; and men have argued on this topic. apparently to their own satisfaction and to that of others, in a manner which would have covered them with shame and overwhelmed them with confusion had they so done with reference to any other subject of human inquiry. And yet it is a subject on which it is of the greatest importance that the ideas should be clear and the judgment sound.

the greatest intelligence have allowed

The incidence and spread of cholera have heretofore been governed almost invariably by the proportion of material found ready made to its taste -- that is to say, the number of ill-fed people living in filthy, crowded houses, and breathing poliuted atmosphere. New York fought the cholera last summer by every effort and artiflee that science could suggest or energy execute, but in spite of the great energy displayed by national, state and munic-ipal authorities the ready material was there, and a dozen or more persons fell victims to the disease. At once it was preclaimed that the fons et origo malorum was several infected ships anchored in the lower bay, under quarantine surveillance as rigid as any that could well be devised. The disease entered the city, but it was not communicated from the steerage to the cabin passengers on the infected ships; and on this it is that we are asked to rest our faith in the tremendous efficacy of quarantines. It would have been reasonable suppose, a priori, that a disease arising from specific causes inhering in the individual and his personal effects would ob serve peculiar laws, and spread from person to person as readily on board ship as in the city: but it was not found to do so in the case of the Normannia at the port of New York recently, and a knowledge of this fact is essential to an understanding of this subject. It has been established by a multitude of evidence perfectly overwhelming that cholera will not spread by contagion from person to person, but only through infected food or drink, or an infective principle in the atmosphere defendent upon local conditions. Prof. von Pettenkofer of Munich, the great modern authority upon such subjects, in an address published in the Munchener Medicinische Wochenschrift, November, 1892. said that "the etiology of cholera is an equation with three unknown quantities, namely, x, a specific germ disseminated by human intercourse; y, a factor dependent on place and time, which he calls 'local disposition.' and z, the individual predisposition." While not denying that x, the specific some etiological germ, has portance, Prof. von Pettenkofer says he cannot think that the comma bacillus, without the assistance of local disposition, can cause epidemics of cholera. Practically he believes that local. physical, and sanitary conditions must be attended to in order to make a place cholera-p oof. To show his utter disbelief in the cholera being transmitted by germs of the disease, except where the "local disposition" exists, Prof. von Pettenkofer obtained some cholera bacilli from Hamburg, which he carefully cultivated in bouillon, and after neutralizing the small amount of acid in his stomach to produce a good medium for the developent of the cholera spirilli, he swallowed a draught of the fresh bouillon containing numberless comma bacilli, from which he experienced no inconvenience except colleky pains and a moderate dia rhora two days after. The stools were examined bacteriologically by Drs. Pfeiffer and Eisenhohr during the duration of the diarrhoea, and were found to be swarming with comma becilli, yet no symptoms of Asiatic there were cholera. Prof. Emmerich made an exactly similar experiment on himself, with much the same result. A specific virus or germ entering the human system cannot enjoy more than a temporary interval of calm-a period of incubation-after which it must work its work of destruction or cease to be a factor in the causation of the disease. "Pinces as well as persons," says you Pettenkofer, "often enjoy immunity, and places which suffer at one time often remain free at another, even when the 'specific germ' and the "individual predisposition' are present. But the nature and the degree of the local conditions, such as narrow, filthy streets, bad drainage, impure water, illventilated and overcrowded houses colluted soil with a certain degree of hydration, and the state of the weather exercise an important influence, both in the causation and dissemination of cholera, and thus the seat of the disease may be considered essentially local. From the date of the earliest historical records, the opinions of men have been divided on the subject of the causes and origin of pestilential diseases; and modern physicians and scientists, unable to account for the spread of pestilence on the principle of extraordinary seasons, and disclaining to admit that such discases can arise de novo from patridity of the air or pollution of the water, have resorted to invisible animaleula concealed in clothing or bales

the air, and explained the peculiar symptoms of diseases by the influence of an epidemic constitution of the air. His occult qualities" have been ridiculed by later physicians; but so far as his theory in this respect has been neg-lected the science of medicine has degenerated, and the cause of humanity has suffered. One of the most import ant as well as most difficult branches of medical science is to ascertain the effect of the reigning constitution of the air on pre-vailing diseases, and to apply that knowledge to the arrest and cure of those diseases. In opposition to the theory that cholera

is never propagated in America, but always imported from abroad, it is very robable that the disease may, and gencally does, originate in the country where it exists as an epidemic. Th ommon opinion of the propagation of postilential diseases solely through the deadly germ diffusing itself in the air has had a most calamitous effect on medicine and human happiness. It has prevented the researches of modern sci-entists who might have been able, by a ligent and comprehensive view the subject, to trace pestilence to its real causes, and to suggest the true means of avoiding the terrible scourge of Asiatic cholera, without denying to trade and travel any of those facilities which consistently with every prudential regard for considerations of protection and safety it may be permitted to enjoy.

The quarantine theory errs in demanding the exclusion of the germ of the dis-case at the expense of neglecting all other sanitary precautions. Such re-strictive measures, when carried beyond the point of mere inspection and disinfection, are utterly useless and always injurious, not only to commerce, but to communities as well, inducing a condition of the public mind which readily results in a disgraceful panie such as was witnessed at Fire Island last fall. Cholera is to be dealt with on the same general principle as all other diseases, and that is, that every sanitary defect must be sought out and, as far as possible, remedied.

Keeping within the definite limit of established facts, it is to be noted that quarantine has, with rare exceptions, if ot invariably, proved an utter failure in excluding infectious diseases from any community or country, nor does it follow that the entrance of an infected ship at any port will necessarily spread the discase in that port. There are no recorded facts to show that restricted measures have ever succeeded in keeping the cholera out of any country, or even in

staving its progress, where the local conditions are favorable to its spread.

and connected with the health department of the city, and is entirely familiar with the onset of the disease. After minute inquiry he was unable to ascertain that the first person attacked the disease-a mechanic who lived and worked in a part of the city remote from the river front-had had any intercourse whatever with persons who had come from any other place; nor could direct personal intercourse be traced between any two of the first half dozen cases which were developed rapidly and simultaneously in different parts of the city, without the sick having had any intercourse one with an-

During the month of December, 1872, and January, 1873, there arrived at New Orleans a total of nearly 2,000 limin-grants from cholera-infected districts in Curope, but it was not until May or June. 1873, that the initial case of the disease occurred in that city. In 1884 cholera provalled epidemically in France and Italy, the feature of the epidemic being the sigor and deadliness of the attack, notwithstanding the constant and, intercommunication between two countries and the United States, and the general inefficiency of our quarantine system at that time not a single case occurred in this country. Fugitives from Masseilles and Tou-lon died at Aix, Grenoble, Nimes, and other towns in southern France, but the pidemic was not kindled in either of these places, nor were any persons at-tacked except such as brought the disease

with them. It was estimated, on good authority, that 100,000 persons from Marseilles and 50,000 from Toulon, during the epidemic of 1884, were distributed throughout France, Austria, Switzerland, Belgium, and the Netherlands, but no authenticated case of cholera occurred among this army of fugitives at any point north of Grenoble. It may be said that these are isolated

facts; that in this argument individual cases, however striking, however calculated to impose on the imagination. ought to be reckoned as nothing, and that no events but such as are on a large scale can warrant any general conclusion Be it so. There are proofs of the same thing on as large a scale as can be de-It can be shown by official docustred.

ments that the most rigid quarantine laws, enforced by the whole power and authority of despotic governments, were of no avail in 1831 in warding off cholera from Astrachan, Moscow, St. Peters-burg, Berlin, Breslau, Vienna, Hamburg, Paris, Cairo and Alexandria. The cholera appeared first

England in 1832, in the town of Sunderland, notwithstanding the most vigilant quarantine, amounting almost to nonintercourse

barous rigor recalled the middle ages, but even Corsica has not escaped. Colonel Mason further states (report to State department, Washington, Juty 31, 1884): "Arles, which is an old, densely built, and, badly drained and ventilated city, has been most severely stricken, and the 'pimic there has been so extreme that three-fourths of the en-tire population have fled. At Nimes, however, less than twenty miles distant. a number of refugees from Marseilles and Toulon have died of cholera, but the city is so clean and the sanitary management so good that the contagion has not been kindled there.

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In this connection it is worthy of note hat England, Belgium, Germany that Austria, that took no precaution and against cholera during the outbreak in France, remained almost entirely free from infection, only a few cases having occurred among the refugees who had taken shelter in Switzerland and Austria. Italy, with the most rigorous while coast and frontier quarantine, was not able to keep off the disease. The action of the Italian government in imposing such restrictive measures was severely criticised by the eminent Italian au thority Tommaso Crudeli, who had made a special study of cholera, and declared his belief "that such precautions are useless; that they full the people into a false security, besides entailing a serious and unnecessary injury upon trade.

Unquestionably the first law is that of self-preservation, but the need of a law stringent as that contemplated in the several bills before congress to protect the people of this country from an invasion of the cholera has yet to be satis-factorily determined. There is a disposition on the part of many to make the condition of affairs in this country worse than it really is, in order to secure the doubtful advantage of a national quarantine. The most trustworthy and scien

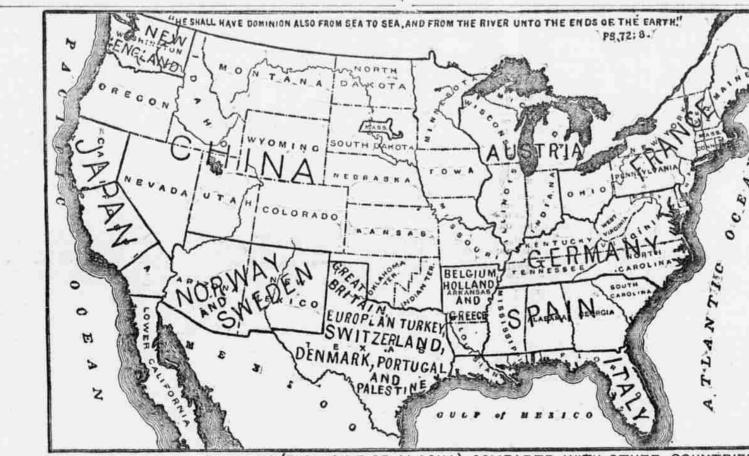
tific authorities of Europe, some of whom have been quoted above, do not concur in the opinion, so generally expressed by the medical men of this country, that the only, or even the best way to exclude cholera is that of hermetically sealing our ports against ships from all infected places. In fact, such rigorous exclusion is denounced by the savants of Europe as an unfit survival of a custom more commonly observed in the dark ages

It has been stated that the closest intercommunication was maintained all through the epidemic in Hamburg last summer between that city and other European cities. The communication by sea and by land between Hamburg. the chief continental seat of choiera, and Liverpool and London, or Berlin and Vienna, is said to have been constant,

of disease occurs in port; this oblige the detained ship, although she may have had no communication whatever the shore, to sail with a foul bill. On their arrival at New York, or any other scaport in the United States, one ship is immediately released; the other is obliged to perform quarantine, under the president's proclamation, for twenty days. Again, two ships load with foul cargoes during an epidemic. One sails thirty days after the pestilence has ceased; under the forty days quarantine system she must carry a foul bill; the other waits ten days more, when she is entitled to a clean bill. The ship with a foul bill will be obliged to undergo quarantine for twenty days, that with a clean bill will discharge her cargo in three or four days; but it is obvious that the danger in each case is equal, and, were the danger real, the ship with a clean bill must of necessity convey contagion to the market in which her goods are sold. Once more, a ship loads with a foul cargo during pes-tilence: she waits forty days after its termination and sails with a clean bill. Another ship loads with a clean cargo during these forty days; she is detained a few hours and a case of cholera is reputed to have hap pened in the port: she has no communi-cation with the shore, yet she is obliged to sail with a foul bill. In this case, also, a contagioned cargo is covered with a clean bill, and a clean cargo is accompanied with a foul bill. It is certain, therefore, that were contagion capable of being conveyed by goods the cargoes of ships with foul bills would often be without the slightest danger, while the cargoes of ships with clean bills would frequently be extremely per-ilous. From these facts it is clear that the system of quarantine as practiced in this country cannot be supported by bills of health, the last prop on which it stands.

The experience of every people and every nation, since all created animal life was quarantined on Noah's ark for the regulation period of forty days, attests the inutility, nay, more, the folly, of attempting to exclude infectious discases by mere quarantine regulations. A theoretically perfect quarantine, which it would be impossible to break at any point, and which must, of course include the full period of incubation of the particular disease quarantined. would doubtless, if practicable, afford a certain higher degree of security against the introduction of disease than is to be attained in any other way; but where are the conditions of a perfect quarantine to be found, and at what cost would the experiment be carried on? A perfect quarantine can only exist in imagination, and a quarantine





SIZE OF THE UNITED STATES (EXCLUSIVE OF ALASKA), COMPARED WITH OTHER COUNTRIES!

Under such circumstances there can be no parallel to the folly of attributing every outbreak of cholera to infected persons or infected merchandise, and of establishing quarantine restric tions inessential to their object and destructive to commerce. The following recorded facts have been selected from many of a similar character to show that cholera does not spread from immigration, nor from the importation of merchandise in places where the "local disposition" necessary for its propagation is absent.

Prior to May 1, 1832, 30,000 immigrants had arrived in the St. Lawrence river from infected ports in Europe, and yet not a single case of cholera developed in Canada or the United States until the middle of June, 1832, when the first case occurred in Montreal, and from this center of infection it spread throughout the United States. ages of cholera.

On December 2, 1848, a steamer in fected with cholera landed in New York. Of the immigrants by this steamer, fifty died at the quarantine, which at that time was merely nominal, and yet not a case of the disease occurred outside the lazaretto until the 11th day of May. 1849, nearly six months after the deaths at quarantine, when two deaths were reported in the city of New York.

In November, 1853, no less than twenty vessels, on which 1,141 persons had died of cholera, arrived at the port of New York, but the disease did not obtain a foothold in the country until January 1854, at which time it broke out in the city of St. Louis. From this center it passed to Chicago in April, to Detroit in May, and in June it became epidemic in New York

In 1865 three steamers arrived in New York from Havre on which there had been deaths from cholera during the voyage, but no cases occurred in the city. In the spring of 1866 cholera was carried into Halifax by the steamer England, of the National line, which vessel afterwards proceeded to New York, where, on April 20, she landed 895 passengers and 116 officers and mon, having lost 316 by cholera There were eight cases and five deaths among those who had to do with the vessel at Halifax, but there was no further extension of the disease, and not a case occurred in New York from this mportation. Subsequently, however, there were 3,000 arrivals in New York of individuals who had been directly exposed to the infection at Liverpool, on ship and at quarantine, but so slowly does the cholera spread from person person (except where there is epidemic constitution of the air) to that there were only twenty-one deaths from the disease in New York up to July

1866, although there were frequent arrivals of the cholera infected ships , during all the time. The epidemic of cholera which decimated Memphis, Tenn., in 1866, made its

appearance about the middle of July of that year. The pestilential constitution of the air which pervaded the whole of the Mississippi valley at the time was d goeds transported from foreign count teles and let loose at certain periods to received period. The great Sydenham received period period period of the sailing. Now suppose tagion. The writer of this was at the time a praticing physician in Memphis, the Mediterranean, which for bar-

voluminous and direct, but there were with the world; it also sprang up suddenly in other towns, both in England and Scotland, when the most vigorous restrictive measures had been practiced. In 1832 Breslau, the capital of Silesia, strictest quarantine, supplemented by action of the United States marine hoswhich was considered to have the most pital service in rigidly enforcing hunperfect system of quarantine, both on the frontiers and on the river Oder, was dreds of passengers to remain in infected ships, among the dead and the dying during the time-an act of suddenly alarmed by cholera appearing in one of its suburbs. The first case was cruelty which coming generations will a female who had never quitted the city, nor been in communication with any now do the persecutions of the witches person suspected of being infected, nor engaged in any traffic of any kind. In in the seventeenth century or the cruela few days after her death many persons ties of the black hole of Calcutta. Progressing on this line, our next step toward the practices of the barbaric ages and institutions of the world will were attacked with cholera, in parts of the city remote from each other, and without having had any communication be to draw lines of circumvallation around the town or district to be proone with another. About the same time Berlin, despite a sanitary cordon, com-posed of the choice troops of the kingtected, and to station, beyond these lines, dom, under the eye of the sovereign cordons of marines, armed with cutlas himself, became a theater for the ray and mitrailleuse, as a means of preventing the entrance of pathogenic The inhabitants of Hamburg, the same

ear, looking with anxiety toward Berlin and the country to the eastward, and enlisting all the means in their power. Our government has gone so far as to by sanitary cordons and quarantines, to event the disease from approaching from any quarter, found it suddenly ap-pear in the city, rising as it were from the ground and attacking all sections of the city and all classes of the community simultaneously, without the sick having had intercourse one with another. The disease could not be traced to importation from any source, but the sanitary conditions of the city were notoriously bad. Similar restrictive measures imposed by the Austrian government were attended with the same want of uccess, and Vienna became the seat of

the disease, while many places where no artificial barriers had been interposed escaped entirely. These facts produced a great impression upon most of the governments of Europe, and thereafter they released vessels from the necessity of performing a rigorous quarantine that is to say, many of the governments repealed the most obnoxious features of their quarantine law.

In the eighteenth annual report of Dr. unningham, the imperial sanitary commissioner of India, bearing upon this subject, he says, page 127: "The experience of fairs and other gatherings in this country [India] has again and again testified to the truth of the conclusion that cholera is not carried by persons from one locality to another, so as to cause persons not themselves exposed to the ecessary local influence [the "local pe-

culiarities" of von Pettenkofer] to become affected by the disease." In reporting to the United States government the supposed cause and transmission of cholera in Europe during the epidemic of 1884, Consul Mason of Mar-seilles says: "It is to be noted that this year [1884] has witnessed the utter failure of the quarantine system. At the first signal of danger from Toulon and Marsellles, Italy established a rigorous quarantine, both by land and by sea, against France: and yet cholera has spread to nearly the whole of Italy, from not more cases of the pestilence in either of those four cities than in the city of New York, which maintained the differs from "quarantine" in the follow regard with the same horror that we

germs in the atmospheric currents which convey such germs unseen from place to place or country to coun-

require vessels coming from foreign ports to perform quarantine for twenty days, whether any cases of disease have occurred during the voyage or not. The reason why twenty days has been fixed on as the period necessary and sufficient to exterminate infection in all its known and unknown states no one has ever pretended to assign. Let us look at the system in relation to merchandise. The argument against a national quarantine, up as applicable to merchandise, is short and unanswerable. As the germ of cholera is, according to Prof. Koch, killed by drying, and as it cannot be conveyed by currents of air except when

dry, but little importance is attached by scientists to the influence of the atmos phere in contaminating merchandise. The only way, therefore, in which goods can be contagioned is by being handled, or by coming in contact, by some means or other, with those affected with the disease. But people sick with cholera cannot labor in the fields to gather the raw material; they cannot labor in the various processes by which the raw material is manufactured: they cannot labor in the warehouses, at the docks, or on board ship in order to pack and store these goods, It' is not, then, particularly easy to see how merchandise can become impregnated with the infectious matter, or germs of the disease. But granting that merchandise may

be infected, what immunity is afforded a community by quarantine from contami-nation by pestilential contagion con-veyed in such goods? Bills of health are documents from consuls to ships sailing from places subject to their conjurisdiction, certifying the of health of these place sular state in reference to pestilential dis-cases at the time of the departure of the vessel. A foul bill declares the presence and a clean bill the absence of contagious or infectious disease in the seaport from which a vessel departs at

which is not perfect is simply an irrational derangement of commerce with out any benefit to public health. What we need, and all that we need in this respect, is "a system of medical inspections" as prac ticed by the English government, which

ing essential respects: 1. It affects only such ships as have been ascertained to be, or as there is reasonable ground to suspect of being, infected with pestilential disease. ship is deemed infected unless there has been actual occurrence of the disease on board in the course of the voyage.

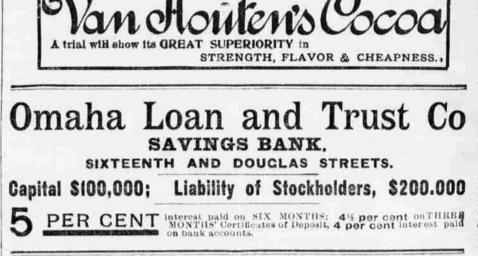
2. It provides for the detention of the vessel only so long as is necessary for the requirements of a medical inspection, for dealing with the sick, if any, in the manner it prescribes, and for carry ing out the process of disinfection. . It subjects the healthy on board t

detention only for such length of time as admits of their state of health being de termined by medical examination. In regard to the question of immigra-

tion, it may be stated that we have about 65,000,000 people in the United States, while we have unoccupied territory that will comfortably accommodate at least 300,000,000 inhabitants and, if settled as thickly as Belgium and some other European countries, the surface area would contain a population not less than 1,250,000,000 people. If, therefore, we can secure a desirable class of immigrants, the fear of cholera should not induce our government to turn them They will not only serve to fill away. the desolate wilds of America and "make two 'blades of grass grow where one now grows." but they will supply much needed labor to the plantations of the south and the farm lands of the west



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