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# **Epidemiology of Military Intervention at the International Sanitary Conferences**

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## **Abstract.**

Within the five decades (1851 - 1900) along which 10 international sanitary conferences were held, a measure of successful repeal of contagious was thought in terms of military intervention. The influence of the climate of cooperation inductive to the establishment of an international sanitary convention, paid much attention to the civil and military public health relations. Extensive discussions on exceptions regarding the military capacities offer a view of the disease as a social negotiation “actor”. To the global control of the disease implying massive employ of military troops is incorporated the progressive presence of the laboratory based scientific background in the meetings. A singular approach to the subject matter of each one of these conferences is offered by focusing on which were the characteristics of the military interventions and their capabilities to take control over their host governing apparatus. Conflicts always exist although many of the medical discoveries in the international epidemiological environments were a result of military dominion over colonies. As a “less” developed culture, military beliefs result in a determinant of a violent information gathering early public health activity.

**Key words:** Communicable diseases. History. Military medicine. International cooperation. Cholera. Quarantine.

## Introduction

As would have been the case if drugs secondary effects had been described, contagious sicknesses attained an initial scheme by way of the use of a simple urn model.<sup>1</sup> The intensity of this process is time-dependent, although a transitional period could stop the prevalence of the sickness, depending on the quality of the historical information available.<sup>2</sup> As such, the model of a contagious sickness, a limit of a time-homogeneous function, conceals itself as an only-birth non-stationary diffusion process. But a sole focus would not be able to generate a model for the state described by the sickness statistics.<sup>3</sup>

Such a violent transition exists also in the collaboration patterns of the authors whose productivity is the most prolific; determining so, the increment of those less productive. Because when different groups that use audience-centered strategies for the spread of their works, do meet to keep themselves informed about the work being performed by others elsewhere, the result is that more authors read other authors, and that more models are built taking as a base other models. So the existence of an “in-group” seems a basic phenomenon to promote dissemination.

The research performed in an interacting seclusion that was forced under military circumstances emerged along the International Sanitary Conferences (ISC) proceedings.<sup>4</sup> But international conferences are just a symptom within the continuous close contact of a group of a hundred.

Because armies spread disease. As a 1866 communication to the International Sanitary Conferences (ISC) at Istanbul reported, ‘as for the propagation of cholera by armies or by bodies of troops in movement, it is a fact too well known to require much

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<sup>1</sup> “The idea to use urn models to describe after effects (contagious diseases) seems to be due to Polya. His scheme [first introduced in F. Eggenberger and G. Polya, *Über die Statistik verketterter Vorgänge*, *Zeitschrift für Angewandte Mathematik und Mechanik*, vol. 3 (1923), pp. 279-289] served as a prototype for many models discussed in the literature,” William Feller, *An introduction to probability theory and its applications*, New York [etc.], John Wiley & Sons, 1968, on p. 119.

<sup>2</sup> “Consequently, in a historical perspective, health transition processes, as a comprehensive look at epidemiologic, socioeconomic, cultural and behavioural changes in contemporary societies [...] have been regarded as one of the most representative signs of the dramatic improvement in well-being standards happened in a number of countries mainly during the 20th century. This area of well-being has consequently preferred final output indicators able to capture epidemiological and environmental scenarios that influence the number and quality of the years lived by a population or the mean height finally attained in adulthood by a given cohorte,” Diana López-Falcón, Antonio D. Cámara, “Human capital and biological well-being: intragenerational and intergenerational effects in 20th-century Spain.” *European Population Conference 2010*, Vienna, Austria, 1-4 September.

<sup>3</sup> Feller was the first to inquiry on birth processes as generalizations of Pólya's, and noted that “an excellent fit of Polya's distribution to observations is not necessarily indicative of any phenomenon of contagion in the mechanism behind the observed distribution. In order to decide whether or not there is contagion, it is not sufficient to consider the distribution of events, but a detailed study of the correlation between various time intervals is necessary,” William Feller, 'On a General Class of "Contagious" Distributions', *The Annals of Mathematical Statistics*, 1943, 14: 389-400, on pp. 398-399, '5. The nature of contagion.'

<sup>4</sup> The urgent need to collaborate due to epidemics may have been a foretaste of the emergence of groups of researchers, as separate entities. “[...] Probably during World War II, pressure of circumstances forced us to form such knots of men and keep them locked away in interacting seclusion,” Derek J. de Solla Price, *Little science, big science ...and beyond*, New York, Columbia University Press, 1986, on p. 119.

argument here'.<sup>5</sup> Cholera was spreading among the troops but when 'the first indigenous cases occurred' it was among the workmen who were in need 'to pass through a barrack occupied by the military workmen of the Arsenal'<sup>6</sup> near the Marine Hospital, as 'the disease rarely attacks [the native troop] them with any great severity'.<sup>7</sup>

The (army) camp, naval ship, military hospital and jail were environments that engendered diseases. This picture showed 'that in very numerous instances it is in the hospital, among patients under treatment for other diseases, that cholera first appears'.<sup>8</sup> Aware that these hospitals (unlike their civil counterparts) had to admit men already suffering from the communicable disease, military hospital planners clearly preferred to remove patients attacked by cholera from the regular hospital.<sup>9</sup> At a time when moisture and smells were believed to be powerful contributory causes of the fever, 'the air in a tent or grass hut is less likely to become contaminated and the ground can be changed as often as may be desirable'.<sup>10</sup>

The epidemics did overflow the medical services, like the battles. And as the number of medical officers was thought to be adequate for an army in good health, crises provoked by epidemics resulted in that certain detachments lacked medical care. The personal cleanliness of the men was a matter of much consequence as a preventive measure. Been a common duty for the staff surgeon and cantonment magistrate to keep a special watch on the condition of the barracks. Although the essential tension was again on the side of the militaries, when in an attempt to avoid the sickness any case of cholera was to be immediately reported to the commanding officer of the station.<sup>11</sup>

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<sup>5</sup> "It is sufficient to recall the war in Poland in 1831, which was the great cause of the rapid propagation of cholera in Europe; the circumstances of the civil war in Portugal in 1833 (Gomez), when cholera was transmitted to the province of Algarva, and to the towns of Torres-Vedras, Caldas, Leiria, and Coimbra, by the movements of troops," in International Sanitary Conference (3rd: 1866: Istanbul, Turkey). "Report to the International Sanitary Conference of a Commission from That Body, to Which Were Referred the Questions Relative to the Origin, Endemicity, Transmissibility and Propagation of Asiatic Cholera". Boston [Mass.: s.n.], quotation on p. 77.

<sup>6</sup> op.cit., above, p. 29.

<sup>7</sup> "The same principles as are contained in these rules should govern the measures to be taken when cholera appears among native troops; but as the disease rarely attacks them with any great severity, it is left to the military and medical authorities on the spot to determine in their case how far the procedure herein prescribed ought to be adopted under the particular circumstances," International Sanitary Conference (6th: 1885: Rome, Italy). "Protocoles et Procès-Verbaux de la Conférence Sanitaire Internationale de Rome, Inaugurée le 20 Mai 1885". Rome: Impr. Du Ministère des Affaires Étrangères, 1885, quotation on p. 267.

<sup>8</sup> "The question of hospital management during the prevalence of cholera is one of urgent importance. No sanitary precaution must for a moment be neglected; no approach to anything like crowding must be permitted; all unimportance cases, the treatment of which in hospital is not essential, should be discharged; every case in hospital must be carefully watched; and it must be borne in mind that in very numerous instances it is in the hospital, among patients under treatment for other diseases, that cholera first appears," op.cit., note 7 above, p. 275.

<sup>9</sup> "Every arrangement must be made, so that if a case of cholera should occur, it may be immediately removed there, and not be treated in the regular hospital. For the treatment of patients suffering from cholera tents are unobjectionable at all seasons of the year," op.cit., note 7 above, p. 275.

<sup>10</sup> op.cit., note 7 above, p. 275.

<sup>11</sup> Nevertheless, the General required a type of information profoundly biased, "General and other officers in command should at all times give their utmost attention to the conservancy and general sanitary condition of a station. If an outbreak appears probable, every ordinary precaution should be attended to with increased vigilance; but if the disease has actually appeared in the cantonment or its vicinity, more harm than good is likely to arise from any attempts at improvement which may then be made. This is not the time to cleanse foul drains or to remove nuisances, which may have hitherto been neglected, and such possible sources of disease should, in these circumstances, be left undisturbed," op.cit., note 7 above, p.

The success in every military operation could depend to a significant degree on the health and vigour conditions of the troops. So, a central question was if the medical officers were applying the best precautionary measures, in a competent way. The treatment of the troops was subject of significant discrepancies. There was an inducement to consider the predominance of the hospital, and of physicians and surgeons. And the supervisors function of hospital physicians and surgeons could help young officers to advance in the army and when they returned to the civil world.<sup>12</sup>

### Less “advanced” cultures and military belief in contagionism

If the establishment of cordons and quarantines was rigorous, the costly regulations that founded this policy were just useful to secure ‘that coincidence between the employment of preventive measures and preservation is [was] far from being a constant fact’.<sup>13</sup> In the 19<sup>th</sup> century, at a time when the communicable disease public-health agenda was rapidly becoming more apparent, ‘international health conferences and the drafting of quarantine and sanitary conventions produced the first set of global strategies and regulations for combating infectious diseases’.<sup>14</sup> Although like in the eighteenth century, at the same time, authorities supported a “pest house” and administered sporadic quarantines.<sup>15</sup>

But the era of laboratory sciences, it means of bacteriology and immunology, determined a new set of options. As early as the 1860’s the biological substrate categorizing the conception of sickness as an existent disease resulted in the appointment of the first “microscopists” in the hospitals. The clinical laboratory was becoming a part of the hospital routine, by the careful and systematic use of the

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267. In the previous 1866 Conference (Istanbul), the Spaniard Pedro Felipe Monlau (1808-1871) had refused to vote a measure that diminished the risk of crowding for inmates of lazarettos, and that was inspired by the fact that not only the cholera did not penetrate into the island of Crete (during the summer 1865 epidemic), but there was no case among the people of people at quarantine. Monlau provided the 1853 case, at Cessantes, near Vigo, where cholera was communicated to two washerwomen who washed the linen from a lazaretto, while their village and town were free from the sickness. Monlau, from Minorca, had perhaps in view Cleghorn’s *Observations*, ‘During the Time of the critical Sweats, the Patient’s Shirt and Sheets should frequently be changed; for when once they are thoroughly wet, they do not readily absorb the Sweat; and besides this, there is a Chance lest the morbid Exhalations should be absorbed from the wet Linnen by the cutaneous Veins, and again conveyed into the mass of Blood,’ George Cleghorn, *Observations on the epidemical diseases in Minorca. From the year 1744 to 1749* (London: D. Wilson, 1751), quotation on p. 175.

<sup>12</sup> The role of the young medical officer in the British Army could be improved, in particular. “The treatment of troops was to some extent regularised by the predominance of the hospital and particularly of the physicians and surgeons. [...] Hospital physicians and surgeons also had a supervisory function and the hospital had oversight of all medical officers. The favour of a physician or surgeon could help a young medical officer to advance in the army and perhaps when he returned to the civilian world. There was, for this reason, an inducement for him to conform in terms of practice,” Paul E. Kopperman, ‘The British Army in North America and the West Indies, 1755-83: a medical perspective’, in G.L. Hudson (ed.), *British Military and Naval Medicine, 1600-1830* (Amsterdam: Rodopi, 2007), 51-86, quotation on p. 73.

<sup>13</sup> “[...] that many other places visited without restriction by people coming from cholera-infected places have been in the same way spared, while others have not been secured, either by cordons not very severe quarantines; [...]” op.cit., note 5 above, p. 37.

<sup>14</sup> Alexandra Minna Stern, Howard Markel, ‘International Efforts to Control Infectious Diseases, 1851 to the Present’, *JAMA*, 2004, 292: 1474-1479, p. 1478.

<sup>15</sup> Christine Stevenson, ‘From palace to hut: the architecture of military and naval medicine’, in G.L. Hudson (ed.), *British Military and Naval Medicine, 1600-1830* (Amsterdam: Rodopi, 2007), 227-251.

microscope in evaluating tissues and fluids. And an examination of the quality and quantity of the laboratory reports in the mid- to the end- nineteenth century military hospitals, resulted in that the military doctors activity was seeking mass cures and the implement of prophylactic measures, rather than in favouring individual therapeutics.

As Italy was backing increasing measures of control in the Red Sea, because of the propagation of cholera, England was reproached to prefer her commercial interests to the hygienic conditions required in all other places. British opposition to quarantines was the result of the ships strict screening before their departure from India and along the travel. Quarantines, isolation measures and sanitary cordons were abandoned. And without fear the ships that arrived daily from the Indies were welcomed to the British harbours along the year. As it can be read in the proceedings of the Rome conference,<sup>16</sup> when the first cholera invasion in Europe started in 1831, the steam engines ships did not exist and the troops were transferred from Bombay to England aboard sailboats through the Cape of Good Hope in travels of 90 to 100 days. With no report of infection coming from a British ship. The fact that sailors were believed to be particularly vulnerable, reinforced the interest in the health and welfare of soldiers in epidemics. This policy, that responded Italian severe concerns, was backed by two delegates for Great Britain acting with the British Ambassador at Rome, and two other representatives from the British Indian Empire.<sup>17</sup>

To develop a “belief” about the communicable disease or to “respond” to it miss the best understanding of the practices associated to the sickness.<sup>18</sup> England’s enormous commerce with India made unnatural for other countries the guarantees obtained by the authorities of the British harbours on the sanitary state of their ships.<sup>19</sup> And the ‘matters derived from the adoption of an international system of sanitary notifications have naturally to be referred’<sup>20</sup> to these practices. That were practices of the distribution of diplomatic power inside the scientific boards.

The military hospitals were in many ways a world unto themselves. So the merely less advanced practice to prefer tents as the best accommodation to sick soldiers, in the sense of transient and ephemeral, reflects the ritual interaction between increased vigilance and policies encompassing to left undisturbed nuisances or foul drains, once

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<sup>16</sup> “Telle fut la première invasion du choléra en Europe; mais jamais on n'a prétendu qu'il y ait été introduit par un vaisseau anglais venant des Indes,” op.cit., note 7 above, p. 370.

<sup>17</sup> “The International Sanitary Conference of Rome, 1885”, *Nature*, 1885, **33**: 25.

<sup>18</sup> “For such scholars, Michel Foucault, not Robert Merton, has become the sociologist of choice. [...] Medical knowledge is not value-free to such skeptics, but is at least in part a socially constructed and determined belief system, a reflection of arbitrary social arrangements, social need, and the distribution of power,” Charles Rosenberg, *Explaining epidemics and other studies in the history of medicine*, Cambridge, Cambridge University Press, 1992, on p. 259.

<sup>19</sup> In the case of cholera,, it was particularly clear that “etiological speculations reflected and rationalized real or potential social conflict in particular national contexts,” op.cit., note 18 above, p. 266.

<sup>20</sup> Four years before Rome, at the 1881 conference held in Washington D.C., Dr. Ignacio Alvarado, special delegate from Mexico, proposed that “the undersigned believes that the best system of international notification could be obtained by means of scientific agents appointed ad hoc, and not by any other means, in view of the considerations deduced from the perusal of the present document. [...] To develop and make this idea feasible it will be necessary to create a system of international scientific boards, subject in their fundamental proceedings to general regulations uniform to all the boards,” International Sanitary Conference (5th: 1881: Washington, D.C.). “Proceedings of the International Sanitary Conference: Provided for by Joint Resolution of the Senate and House of Representatives in the Early Part of 1881”. Washington: G.P.O., 1881, quotation on p. 27.

the local insanity is detected, inside the camp. An invisible connection of air inside the hospital and the free access of air inside the tents, sought to define an external symbol of an internal state of health linked phenomena. How much associated to practice the threat of the infection was, might also be appreciated because ‘also in the military hospital illnesses were not noticed due to sump air’.<sup>21</sup>

After 1848 revolution medicine was named a social science. And a greater degree of political participation, improved education, and measures to raise income levels were suggested to stop the oppressive conditions that bred disease among the population. Along the period 1850-1900, a continued dialogue between sociological epidemiology and the new bacteriological etiology remained alive. This continuity between the civilian and the military appears to be carefully scrutinised in the case of the transmission of information.<sup>22</sup> And the belief, the illusion, regarding that the authorities were alive to the danger and prepared to meet it, relied on that ‘all information received by the military authorities should be at once communicated by them to the chief civil authorities of the district’.<sup>23</sup> As a consequence, the laboratory made slow progress in military hospitals’ atmosphere.

A very old understanding of disease underpins this military account of the infection. And the troops were always considered more healthy in motion than in a fixed camp. This preparatory camps were considered for those among the soldiers or their families under cholera occurrence circumstances.<sup>24</sup> The whole garrison determined the dimensions of this camp. But “disagreeable” smells can cause putridity. And the troops if necessary being moved by railway, military authorities ‘must arrange for trenches being dug in the vicinity of the stations’.<sup>25</sup> So the discipline, that obliged to bury the faeces at a given place, had averted the infectious soldiers and their attendant diseases behind them.

In an attempt to afford with the epidemiology of the military intervention through the 1851-1900 period facing the arrival and spread of communicable diseases, a follow-up of the ten XIX<sup>th</sup> Century ‘International Sanitary Conferences’ (ISC) provides meaningful contributions. As a “less” developed culture, military authorities would express their prestige by seeking to control the human action. A prescient example could be their support to the epistemic status of the contagionist theory, in favour of sanitary cordons, quarantines and lazarettos. Through the use of the concept of pathocenosis – the structural complex of disease and morbose syndromes in social, environmental and historical determined conditions – the views of the liberal policies on

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<sup>21</sup> “Auch in dem Militärspital sind Erkrankungen durch Sumpfluft nicht bemerkt worden,” Rudolf Virchow, *Krankenhäuser und Hospitalwesen*. In: *Gesammelte Abhandlungen aus dem Gebiete der öffentlichen Medicin und der Seuchenlehre*, Berlin, A. Hirschwald, 1879, Zweiter Band, on p. 94.

<sup>22</sup> “Whenever cholera is to be apprehended, the staff surgeon and cantonment magistrate should keep a special watch on the condition of the bazaars, and any case of cholera should be immediately reported to the officer commanding the station. The register of deaths should be carefully scrutinised,” op.cit., note 7 above, p. 267.

<sup>23</sup> “All information received by the military authorities should be at once communicated by them to the chief civil authorities of the district, who in their turn must be held responsible for obtaining immediate notice of the outbreak of cholera in their jurisdiction, and of communicating the fact to the military authorities without delay,” op.cit., note 7 above, p. 269.

<sup>24</sup> “Section II. Measures to be adopted on appearance of cholera,” op.cit., note 7 above, p. 269.

<sup>25</sup> “Previous to detachments proceeding by rail, the military authorities must arrange for trenches being dug in the vicinity of one or two of the stations at convenient intervals on the journey, so that all discharges may be received in them,” op.cit., note 7 above, p. 272.

the contrary can be viewed as putting out disease with business and reforms opened up the way to their anticontagionist rivals.

The identity of the intervener, the military, was related to the causal map of the inevitable intricacies of their practice. From the canonical initial decision privileging the quarantine, to changes with time in communicable diseases' response, a highly informative war stories set can be approached through the ISC proceedings. Hygienists and scientists were at the base of political calculation. But what probably matters more than the nature of prophylactic measures – and necessarily those programs were an imposition of the will of some on the habitus of others – was the previous mutual understanding between the agents of the intervention and the receptors of their actions. The nature and magnitude of the intervention was often far less important than the identity of the intervener.<sup>26</sup>

As can be considered through the diversity of thoughts on the trajectory of the direction of causation along the Conferences (ISC), the military intervention is a scrambling for anything that may work in a desperate situation. The officers ignore important details and realities of practice but their continual presence as grand agent of policy asserts its status by creating public health policy. Reasonably in touch with each one,<sup>27</sup> all countries networks include the militaries, as their allegiance to the institutions that support them anchored national selecting policies until there exist a constituent body of people at charge with the elaboration of international regulations.

### **Military interventions disaggregated into the ten XIX<sup>th</sup> Century International Sanitary Conferences (ISC)**

**International Sanitary Conference (1<sup>st</sup>: 1851: Paris, France).** *“Procès-Verbaux de la Conférence Sanitaire Internationale Ouverte à Paris le 27 juillet 1851”*. Paris: Impr. Nationale, 1852.

The plague of cholera flourished in Europe and Asia in the first half of the 19<sup>th</sup> century. And the military intervention was considered as fundamental in the social management of the epidemics. Focusing on these views, when the first international conference met in Paris in 1851, its attendees explained the past defeats of isolation strategies as a matter of negligence. Sanitary cordons in 1829 and 1830 did not obtain perfect results

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<sup>26</sup> “[...] Always, underlying the great questions of environment or contagion, was the shared apprehension that societies were dealing with problems in which the behaviors of some were, unintentionally, causing the illness and death of others. Necessarily, prevention was an imposition of the will of some on the doing of others. What probably mattered more – though Baldwin never quite says this – than the nature of the prophylactic programs were the prior relations between the agents of those programs and the recipients of their actions. The nature and magnitude of the intervention was often far less important than the identity of the intervener. What might be impossible for a state might be viable as a local initiative,”

Christopher Hamlin, 'Peter Baldwin. Contagion and the State in Europe, 1830-1930'. (review), *The Bulletin of the History of Medicine*, 2001, 75: 137-139, on p.138.

<sup>27</sup> This is the dynamics of a reference group, “[...] the body of people meet in select conferences (usually held in rather pleasant places), they commute between one center and another, they circulate preprints and reprints to each other, and they collaborate in research,” Derek J. de Solla Price, *Little science, big science ...and beyond*, New York, Columbia University Press, 1986, on p. 119.



because the needs of the war opposed to its strict observance.<sup>28</sup> Also when the 11 European countries attendees to the conference considered the formulation of an international sanitary convention, by virtue of exceptionality the warships were not obliged to pay a health tax.<sup>29</sup>

Nevertheless, the presumed efficacy of military interventionism in the social order maintenance was a shared assumption. Thus the shaping of an interventionist agenda oriented this first conference in the sense of considering the territorial sovereignty through an international rationale. In the XIX<sup>th</sup> century last half, the ISC proceedings evoke that the intellectual roots of the interventionist model were in the health care system having failed to provide adequate care in some singular national cases. For instance, as the extensive public and state concern arouse out of the wars and its disastrous mortality, the elaboration of mutually acceptable measures relative to merchandise coming from nations in war were included as pertinent works of the Conference. Actively “contagious” materials, inspected in the harbours as dangerous in direct contact, were identified by those who were opposed to the “facultative quarantine”. Specifically, capacities coming from dead men in campaigns were designated.<sup>30</sup>

Thus the discussion on the merchandise infected with cholera is thought through some soldiers who had been killed during the war. The argument is not indifferent to the history of the disease, and its battery of moral dimensions. And when yellow fever is mentioned, the transmission of the disease to the 4<sup>th</sup> division of the “Armée d’Espagne” in retreat from Andalusia in 1812 is explained for contemporary epidemiologists by the use of the furnitures coming from houses having had inhabitants with yellow fever, and not the water neither the atmosphere were mentioned.<sup>31</sup> From this conference it can be appreciated also, how much relief the sudden violence of the startup of an epidemic makes the image of war relevant as a matter of prejudice.<sup>32</sup>

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<sup>28</sup> “Si en 1829 et 1830, les cordons sanitaires du Danube et du Pruth n'ont pas eu des résultats aussi heureux, c'est que les nécessités de la guerre s'opposaient à la stricte observance des mesures; mais un nouveau cordon placé sur le Dniester, empêcha la maladie d'envahir le reste de l'empire,” International Sanitary Conference (1st: 1851: Paris, France). “Procès-Verbaux de la Conférence Sanitaire Internationale Ouverte à Paris le 27 juillet 1851”. Paris: Impr. Nationale, 1852, quotation on 'Séance du 18 septembre 1851', p. 7.

<sup>29</sup> “1<sup>o</sup> Tous les navires arrivant dans un port payeront un droit sanitaire proportionnel sur leur tonnage, qui sera fixé par chaque Gouvernement et signifié aux puissances consignataires. Ne seront point soumis à ce droit: 1<sup>o</sup> les bâtiments de guerre; [...]” op.cit., note 28 above, 'Annexe No 1 au Procès-Verbal de la Séance du 21 octobre 1851', p. 3.

<sup>30</sup> “M. Rosenberger dit, en terminant, que le bâtiment qui a apporté à Odessa la peste dont parle M. Heine venait de pays où se trouvaient des troupes russes, alors en guerre, et qu'il apportait non pas des marchandises, mais les effets et les équipements des hommes qui étaient morts pendant la campagne,” op.cit., note 28 above, quotation on 'Séance du 24 octobre 1851', p. 12.

<sup>31</sup> “M. Paysan, médecin de l'hospice militaire de Cambrai, qui a fait paraître, dans le *Journal de Médecine militaire*, l'histoire de la fièvre jaune qui attaqua la 4<sup>e</sup> division de l'armée d'Espagne, lors de sa retraite de l'Andalousie, en 1812, rapporte : "Les boulangers de la division, qui avaient couché sur des fournitures prises dans les maisons où il y avait eu des malades, furent atteints de la contagion et perdirent beaucoup des leurs,"” op.cit., note 30 above, p. 14.

<sup>32</sup> Quarantines were thought just as a sophism along the September 27 (1851) Session. “On tombe dans le sophisme en question, lorsqu'on affirme qu'une guerre, une disette ou quelque autre calamité a eu pour cause l'apparition d'une comète, ou bien une éclipse, phénomènes qui n'ont aucun rapport de causalité avec de semblables malheurs, nonobstant leur coïncidence. Voilà pourquoi l'on donne encore à ce vice de raisonnement le nom de sophisme par non causa pro causa. Nous ne sommes pas coupables d'un semblable sophisme, Messieurs. On y tomberait bien plutôt en argumentant, comme je l'ai entendu faire dans une de nos dernières séances, pour soutenir qu'il n'y a pas de dangers à ne pas faire de quarantaines. Le choléra éclata à Marseille, disait un de nos savants collègues; des milliers de Marseillais se

**International Sanitary Conference (2<sup>nd</sup>: 1859: Paris, France).** “Protocoles de la Conférence Sanitaire Internationale: Ouverte à Paris le 9 avril 1859”. Paris: Impr. Impériale, 1859.

For the second international sanitary conference one of the hot topics with heaviest concentration on disease and contagion as engineered from the military services was the naval and public health balance. This 1859 Conference voted and international sanitary convention project. And in the submitted Article 4, attention was certainly paid to the security of the arrival harbour; by considering the warships’ requirements to obtain a certified bill of the sanitary state at the departure harbour. A complete report (‘annexe au Protocole N° 24’<sup>33</sup>) on this matter was added to the proceedings.

So one of the things this conference discussed was the introduction of a disposition inside the Convention specifically addressed on the secret commonly assumed in relation with the destination of the naval ships. Strengthening the military identity by granting the secret priority to the ship Commandant ‘domestic’ decisions. The discussion turned to who knows “what to do” among the officers. And the most attractive member was in fact the Surgeon. So he was chosen, as who could best prepare ultimately decisive declarations of the Commandant.<sup>34</sup> At this level of formal recognition in an often-conflicted social negotiation, morally important for the victims of sickness, the disease had become an “actor” in a complex network.<sup>35</sup> Indeed an adequate model that could fit the maintenance of the unity of action and responsibility own to the military command was in search. In accordance, the article as approved at last, removed any mention to the Surgeon implementing a status quo regulation that confirmed the Commandant authority.

**International Sanitary Conference (3<sup>rd</sup>: 1866: Istanbul, Turkey).** “Report to the International Sanitary Conference of a Commission from That Body, to Which Were Referred the Questions Relative to the Origin, Endemicity, Transmissibility and Propagation of Asiatic Cholera”. Boston [Mass.: s.n.].

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réfugièrent à Lyon sans être assujettis à aucune quarantaine, et malgré cette circonstance ils n’importèrent pas le choléra à Lyon,” quotation on ‘Séance du 27 septembre 1851’, p. 15.

<sup>33</sup> International Sanitary Conference (2<sup>nd</sup>: 1859: Paris, France). “Protocoles de la Conférence Sanitaire Internationale : Ouverte à Paris le 9 avril 1859”. Paris: Impr. Nationale, 1859, quotation on ‘Séance du 2 juillet 1859, Annexe au protocole N° 24, Rapport sur la patente des bâtiments de guerre’.

<sup>34</sup> When exceptional circumstances made the war navires free from requirements associated with health taxes, the surgeon signature was enough to leave the harbour. “Les navires de guerre seront tenus, en règle général, de se munir d’une patente de santé au port de départ; cependant ils seront dispensés de cette formalité dans des circonstances exceptionnelles qui seront laissées à l’appréciation du commandant, et dont il n’aura à rendre compte qu’à son gouvernement. Dans ce cas, la déclaration du chirurgien du bord, certifiée par le commandant, tiendra lieu de patente,” op.cit., note 33 above, quotation on ‘Séance du 2 juillet 1859’, p.5.

<sup>35</sup> “Once crystallized in the form of specific entities and seen as existing in particular individuals, disease serves as a structuring factor in social situations, as a social actor and mediator. This is an ancient truth. It would hardly have surprised a leper in the twelfth Century, or a plague victim in the fourteenth. Nor, in another way, would it have surprised a “sexual invert” at the end of the nineteenth Century,” op.cit., note 14 above, p. 312.

Arguments about cholera endorsing quarantine procedures were formulated again at the 3<sup>rd</sup> meeting, 1866 Istanbul. It can be appreciated from an anecdote describing the epidemic of 1865, at Istanbul. The question on dispute on quarantine preservation efficacy is put into relation with ‘the pupils of the Military School, to the number of five hundred, [who] were kept by themselves in their establishment, and cholera did not penetrate there, although it raged in the neighborhood’.<sup>36</sup> Unnatural Naval crowded conditions were said to have been an important factor that suggested the discussion on contagion as the base to contract this disease. The history of the epidemics as narrated by the Surgeon-in-Chief of the French fleet in the Black Sea, in 1851, served to permeate the analysis of the causes with the idea of the role of crowding in the losses by cholera.<sup>37</sup> To the effects of which is assigned that “the very destructive epidemics of cholera on board ships have occurred in those which were carrying a great number of men, who had not, before embarkation, been exposed to the influence of a cholera atmosphere”.<sup>38</sup> Thus the question was posed on what influence the great collections of men in armies, fairs, pilgrimages, exercised upon the development and propagation of epidemic of cholera. Although, ‘whether the principle of cholera be called contagion ... it had always escaped all investigations’.<sup>39</sup>

But the characteristics of the military organizations made them limit themselves to the facts and remarkably emphasized that ‘all has not been said with regard to the auxiliary causes of cholera’.<sup>40</sup> This absence of serious discernment is shocking. As it evidenced an insight away from understanding physical realities, on the base of Pettenkofer's soil-doctrine of cholera.<sup>41</sup> Nevertheless, the facts were established in statistical terms. Like when in 1865 cholera raged at the Arsenal in Istanbul and “the soldiers and the marines of the Arsenal lost one man in nine from cholera”,<sup>42</sup> but the galley slaves of a prison that was situated within the limits of this establishment gave but one per cent.

**International Sanitary Conference (4<sup>th</sup>: 1874: Vienna, Austria).** *“Procès-Verbaux de la Conférence Sanitaire Internationale Ouverte à Vienne le 1 juillet 1874”*. Vienne: Impr. Impériale et Royale, 1874.

<sup>36</sup> International Sanitary Conference (3<sup>rd</sup>: 1866: Istanbul, Turkey). “Report to the International Sanitary Conference of a Commission from That Body, to Which Were Referred the Questions Relative to the Origin, Endemicity, Transmissibility and Propagation of Asiatic Cholera”. Boston [Mass.: s.n.], p.37.

<sup>37</sup> “Dr. Marroin showed the cholera making its entry into the Black Sea, on the 13th and 14th of July, with the " Primanguet" and the " Magellan," which had sailed from Gallipoli,” op.cit. note 36, p. 64.

<sup>38</sup> op.cit. note 36, p. 65. The debate on contagion appears with clarity when reporting on ships (almost) free from the sickness, “It must be added (for in such a case, we should tell everything, at the risk of furnishing weapons for a opinion which we do not admit) [...] This fact may be interpreted as you please: [...]”

<sup>39</sup> “Whether the principle of cholera be called contagion, a germ, miasm, whether we suppose it formed of an organic substance or not, it has always escaped all investigations, which have never been able to isolate it, and it is known to us only by its effects”, op.cit. note 36, p.94.

<sup>40</sup> “The Commission limits itself to mentioning these facts, which show that all has not been said with regard to the auxiliary causes of cholera,” op.cit. note 36, p.86.

<sup>41</sup> In a note it is explicitly established that “Dr. Pettenkofer explains in a very ingenious way how entirely different conditions of soil may aid in forming partial depots of similar detritus. He explains also, by a very subtle theory in which we do not propose to follow him, how penetration into the soil in question of cholera matters, is not indispensable in order that exhalations from this soil may give origin to combinations which favor the development of cholera,” op.cit. note 36, p.86.

<sup>42</sup> op.cit. note 36, p.86.

The 4<sup>th</sup> 1874 Vienna Conference was characterised by a landscape of struggling confrontation. The medical profession was the only present between the delegates, and so all the diplomatic channels were excluded. The military intervention was fragmentary on the Turkish-Persian frontier. For the reporters in the conference, that was the reason why the field quarantines were not effective. A counterexample indicated that although the mountain frontier was long, the use of a massive military detachment could effectively repeal the sickness “importation”.<sup>43</sup> As a historical remembering, the inability of the Donau military cordon to avoid the problems that plagued Kronstadt with pest in 1849 was opposed.<sup>44</sup>

Where the making known of the disease could be delegated to a medical officer, diverse experiences are offered along the sessions in which the sanitary notifications that reported where and when cholera had been occurred were referred to specific military populations.<sup>45</sup> So the denunciation of cholera cases was a partial contributory factor to military intervention also in the information domain. Thus the optimal information system was obtained on the sanitary conditions by two means, by statement (vessels’ bills of health) and by fact (the sanitary commission furnished the necrological table of the preceding week).<sup>46</sup> This search for an optimal level of information output, considered prisoners, sick soldiers and “lunatics” patients together under scrutiny.

**International Sanitary Conference (5<sup>th</sup>: 1881: Washington, D.C.).** *“Proceedings of the International Sanitary Conference: Provided for by Joint Resolution of the Senate and House of Representatives in the Early Part of 1881”*. Washington: G.P.O., 1881.

The loss of power to punish the national sanitary laws infractions, that was observed along the Vienna conference, was amended by the next Conference. Because only diplomatic officers met at Washington in 1881. By far, in this meeting the most important statements recorded about military hospitals came from Cuba. In explaining yellow fever propagation from person to person through the existence of an intermediary agent, the mosquito, Carlos Finlay had carried an important discover; that was accepted at this international scenario.<sup>47</sup> The secret revealed a plague unfamiliar to

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<sup>43</sup> From the easy control of nomad camps a positive image is derived, “Quant aux tribus, dont Monsieur Polak a fait mention, je dois déclarer que, d’après mes expériences de vingt ans, je ne pourrais citer aucun cas d’importation du choléra par elles. D’ailleurs elles ne s’arrêtent jamais dans les villes et peuvent être parfaitement surveillés dans leur campements toujours isolés,” International Sanitary Conference (4<sup>th</sup>: 1874: Vienna, Austria). “Procès-Verbaux de la Conférence Sanitaire Internationale Ouverte à Vienne le 1 juillet 1874”. Vienne: Impr. Impériale et Royale, p.294.

<sup>44</sup> This tension on the causa causans of the “importation” of cholera was made possible by the exclusive presence of medical doctors in the meeting, “Monsieur Sigmund fait remarquer que le cordon militaire qui a existé durant deux siècles, sur les bords du Danube en Autriche, n’a pas empêché que la peste ne se propageât à Cronstadt. Aussi le gouvernement a-t-il supprimé ces mesures en 1849,” op.cit. note 43, p.294.

<sup>45</sup> To the denunciation of cholera cases in the civil populations (by the use of notes posted free of charge) was added an specific system for the military populations, “De la même manière on doit arranger les notifications des cas de choléra dans la population militaire,” op.cit. note 43, p.453.

<sup>46</sup> “Dans l’Inde anglaise, on fait mieux que cela; voyant que les autorités sanitaires ottomanes, sur l’avis de la Conférence de Constantinople, exigeaient la patente sanitaire, la douane des ports de départ délivre au navire ce document, et en même temps la Commission Sanitaire lui donne le tableau sanitaire de la semaine qui précède son départ. Ainsi, d’après ce système, on est renseigné sur l’état sanitaire par deux moyens, à savoir par la déclaration et par le fait,” op.cit. note 43, p. 216.

<sup>47</sup> The Special Delegate for Cuba: “It is my personal opinion that three conditions are necessary in order that the propagation of yellow fever shall take place: [...] 3. The presence of an agent entirely independent

continental European medieval experience. And the consensus on the role played by mosquitoes was more important than the disclosure of anomalies between the two early epidemiologic positions (Anticontagionism vs. Contagionism), because it opened the meaning of the 1880s as the laboratory explanation power evidence decade. The significant role military and naval department played on the study of yellow fever in Havana, was a claim insistently repeated at the conference. Finlay, a civil authority at charge of a special commission appointed by a professional society ('Sociedad de Estudios Clínicos'), obtained the transmission of all the 'information as is needed in order to appreciate the death rates of yellow fever in the Army and in the Navy'.<sup>48</sup>

Further aspects of military relevance, emerge in the regulatory obligations upon the consuls (who were the attendees in this 1881 event). They reported on the sanitary conditions and departure of vessels from foreign harbours. And that required to be in good terms with the managers of the civil and military hospitals. Apart from that the Marine Hospitals had to give notice of the infected vessels.<sup>49</sup>

**International Sanitary Conference (6<sup>th</sup>: 1885: Rome, Italy).** *“Protocoles et Procès-Verbaux de la Conférence Sanitaire Internationale de Rome, Inaugurée le 20 Mai 1885”*. Rome: Impr. Du Ministère des Affaires Étrangères, 1885.

The starting point of this conference was the establishment of a sanitary police as a department under the Ministry of Internal Affairs.<sup>50</sup> And that meant to include the assignation of a military force as a maritime police to avoid the travel of the pilgrims between the Egyptian and the Arabic littorals.<sup>51</sup>

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for its existence both of the disease and the sick man, but which is necessary in order that the disease shall be conveyed from the yellow-fever patient to a healthy individual. It will be objected that this is a mere hypothesis; and, indeed, it is only as such that I give it,” International Sanitary Conference (5th: 1881: Washington, D.C.). “Proceedings of the International Sanitary Conference: Provided for by Joint Resolution of the Senate and House of Representatives in the Early Part of 1881,” Washington: G.P.O., p.119.

<sup>48</sup> “[...] We receive every month from the bishopric bills of mortality classified according to the printed forms of our commission, with permission to verify them, when required, with the original death certificate. From the port authorities we receive accounts of all the passengers that enter and leave the port of Havana each day, also classified according to our forms. From the military and naval departments we receive such information as is needed in order to appreciate the death rates of yellow fever in the army and in the navy,” op.cit. note 47, p.109.

<sup>49</sup> “[...] as requires consular officers or other representatives of the United States at foreign ports to report the sanitary condition of and the departure of vessels from such ports to the Supervising Surgeon-General of the Marine Hospital Service; and so much of said act as requires the Surgeon-General of the Marine Hospital Service to frame rules and regulations, and to execute said act, and to give notice to Federal and State officers of the approach of infected vessels, [...]” op.cit. note 47, p.164.

<sup>50</sup> In the case of Spain in the time of Restoration (1876-1923) the Parliamentary Archives provide with an ample material on this health politics that evolved “from medical police to the birth of social insurances,” Esteban Rodríguez-Ocaña, 'Hedwig Herold-Schmidt. Gesundheit und Parlamentarismus in Spanien: Die Politik der Cortes und die öffentliche Gesundheitsfürsorge in der Restaurationszeit (1876-1923)'. (review), The Bulletin of the History of Medicine, 2001, 75(3): 594-595, on p.594.

<sup>51</sup> “L'application convenable de cette mesure suppose l'existence d'un service sanitaire organisé sur le littoral de la Mer Rouge, comme il a été exposé précédemment, et de plus, la présence d'une force militaire suffisante, tant pour maintenir le bon ordre parmi les pèlerins, que pour la police maritime,” International Sanitary Conference (6th: 1885: Rome, Italy). “Protocoles et Procès-Verbaux de la Conférence Sanitaire Internationale de Rome, Inaugurée le 20 Mai 1885,” Rome: Impr. Du Ministère des Affaires Étrangères, p.41-42.

As an example of the “practical” vs. “scientific” criteria methodologies facing quarantines,<sup>52</sup> the India Government denied the permissions to the British regiments in the case of sanitary cordons.<sup>53</sup> Behind this governmental disposition was the suspicion that if exceptionally a quarantine was a success, with tested immunity, the troops commander would see reinforced its views on the adequacy of terrestrial quarantines.<sup>54</sup>

The enforcement of sanitary law with respect to the shipment of pilgrims from India on the steamships of English companies, meant to strictly impose the 1858 British Native Passengers Act to all the naval flags and in all countries.<sup>55</sup> Differences between cholera in India and in the West falls under consideration in a British troops set of rules that advocated measures to be adopted in case of cholera outbreak.<sup>56</sup> A prejudice against native troops was explicitly obvious. Their frugal tradition way of behaviour was to be maintained at a minimum level in the case of epidemics and, only the military and medical authorities were to determine how far the general system of prevention was to be extended in their case. It was a version of the less-eligible principle.<sup>57</sup>

In crafting prevention frameworks the attendees conceptualized the carriage of the troops by railway.<sup>58</sup> The journey was to be undertaken without stop at stations, only from time to time were previewed stops for a few minutes.<sup>59</sup> A number of other focuses were the railway stations latrines,<sup>60</sup> the telegraph as a material development to give

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<sup>52</sup> “A second area of disease-related conflict has resulted from the dominance of acute, interventionist models in medical-career priorities and institutions. [...] Yet it is a system that is widely perceived as having failed to provide adequate care for the old and chronically ill, or even human death for the moribund,” op.cit., note 18 above, p. 271.

<sup>53</sup> “Le gouvernement de l’Inde, depuis plus de quinze ans, a interdit les quarantaines et les cordons sanitaires, comme contraires à la loi”, International Sanitary Conference (6th: 1885: Rome, Italy). “Protocoles et Procès-Verbaux de la Conférence Sanitaire Internationale de Venise, Inaugurée le 5 Janvier 1892”. Rome: Impr. du Ministère des Affaires Étrangères, 1885, quotation on p. 91.

<sup>54</sup> “M. Lewis cite comme exemple le cas d’un officier commandant, qui avait établi un cordon autour d’une ville atteinte du choléra. Le gouvernement refusa de permettre le maintien de ce cordon, et cependant nul cas de choléra ne se produisit parmi les troupes. Si ce cordon avait été maintenu, il est probable qu’on aurait, pendant longtemps, cité ce cas d’immunité comme exemple des résultats que l’on peut espérer de la quarantaine,” op.cit., note 53 above, quotation on p. 91.

<sup>55</sup> “Selon la Conférence, il est de la plus haute importance de chercher à prévenir l’exportation maritime du choléra de l’Inde. Dans ce but le règlement promulgué en 1858, sous le titre de Native Passenger Act, serait un des moyens principaux, si l’application en était faite indistinctement à tous les pavillons et dans tous les pays, et s’il était complété au point de vue des précautions sanitaires,” op.cit., note 53 above, p. 39.

<sup>56</sup> “The following rules regarding the measures to be adopted on the outbreak of cholera amongst British (\*) troops are published for information and guidance. (\*) The same principles that are contained in these rules should govern the measures to be taken when cholera appears among *native troops*; but as the disease rarely attacks them with any great severity, it is left to the military and medical authorities on the spot to determine in their case how far the procedure herein prescribed ought to be adopted under the particular circumstances,” op.cit., note 46 above, p. 267.

<sup>57</sup> This anti-contagionist position always favouring open international economy was actively promoted by Chadwick’s health administration, vid. Knut Ringen, ‘Edwin Chadwick, the market ideology, and sanitary reform: on the nature of the 19th-century public health movement,’ *International Journal of Health Services*, 1979, 9(1): 107-120, on p. 116.

<sup>58</sup> “They [the civil authorities] should use every lawful means to prevent delay in obtaining carriage for the troops, as the loss even of a few hours in moving troops away from a station may lead to most serious consequences,” op.cit., note 53 above, p. 270.

<sup>59</sup> “These trains should not stop at stations, except when necessary to procure fuel, &c.; they might stop for a few minutes from time to time on the line,” op.cit., note 53 above, p. 272.

<sup>60</sup> “Previous to detachments proceeding by rail, the military authorities must arrange for trenches being dug in the vicinity of one or two of the stations at convenient intervals on the journey, so that all

notice that the necessary trains had been kept in readiness, and the instant removal of men from buildings where a case of cholera was identified. The conference is not to be understood without constancy of its, in some way lack of continuity because after the fourth session the subsequent ones were never concluded.<sup>61</sup>

**International Sanitary Conference (7<sup>th</sup>: 1892: Venice, Italy).** *“Protocoles de la Conférence Sanitaire Internationale: Ouverte à Paris le 5 Janvier 1892”*. Rome: Impr. Nationale de J. Bertero, 1892.

Different levels of analysis pervaded the discussions on the dangerousness of military vessels.<sup>62</sup> When considering its passage through the Suez Channel.<sup>63</sup> To keep cholera out of Europe and to confine it to India (to its perceived focus in India<sup>64</sup>), through a military experienced division between the Northern and Southern extremes of the British Empire. For the European sanitary safeguard, the “Sultan” and the “Shah” were obliged to submit themselves to the regulations established by the Conference.<sup>65</sup> But as a line of safeguards was established by this conference in the neighborhood of the Suez Channel to preserve the cities of Egypt from infection, the transport of troops made two different purposes. The Austro-British protocol suggested that the English Ships, subject to quarantine requirements, that travel directly to Great-Britain, with no stop along its route, were permitted to access to the Mediterranean Sea. For the French delegation if the ship had a medical doctor and a disinfection engine, the sanitary authority on board had to declare which was the area where the infected passengers were located. The area was disinfected and the passengers disembarked. Then the ship was allowed to continue its travel. Ten countries voted favourably for the consideration of the military transports as the most dangerous ones.<sup>66 67</sup>

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discharges may be received in them. The troops on no account should be allowed to use the railway stations latrines,” op.cit., note 53 above, p. 272.

<sup>61</sup> Juan B. Mateos Jiménez, ‘Proceedings of the international sanitary conferences (1851-1938),’ Rev. Esp. Salud Publica, 2005, 79(3): 339-349, on p.343.

<sup>62</sup> “Je ne citerai, pour des raisons que la Conférence appréciera, que des transports français ayant voyagé avec le choléra à bord. [...] Il nous est donc impossible d'accorder aux transports militaires les mêmes facilités qu'aux navires postaux, [...]” in International Sanitary Conference (7<sup>th</sup>: 1892: Venice, Italy). “Protocoles de la Conférence Sanitaire Internationale: Ouverte à Paris le 5 Janvier 1892”. Rome: Impr. Nationale de J. Bertero, 1892, quotation on p. 170.

<sup>63</sup> “Sommes-nous remontés aux origines du choléra, dans son foyer, dans les Indes? Nullement. Nous le prenons à sa fin, lorsqu'il menace l'Europe?,” op.cit. note 62 above, p. 224.

<sup>64</sup> “Whenever the European powers, acting in concert for the defense of all of them, shall undertake to keep cholera out of Europe and to confine it to India, [...]” ‘The Powers could bar out Asiatic cholera,’ The New York Times, 1893, July 8.

<sup>65</sup> “The history of cholera in Arabia and Asia Minor during the last four or five years shows how useless are the Sultan's sanitary officers and regulations. [...] The line of safeguards established in the neighborhood of the Suez Canal by the Venice conference should be extended. [...] Thus far the Shah has refused to establish a sanitary corps on his eastern frontier or in the southern part of his empire. There should be at Teheran an international sanitary council like the one in Egypt,” op.cit., note 64.

<sup>66</sup> The Dutch delegation explicitly rejected the military transports as the most dangerous, “La Délégation des Pays-Bas a déclaré s'associer à l'accord qui s'était fait; et en votant les propositions françaises elle s'est prononcée seulement contre cette partie de l'amendement présenté par les délégués anglais qui traitait des bateaux troupiers, ces bateaux étant, de son avis, les plus dangereux,” op.cit. note 62 above, p. 282.

<sup>67</sup> “[...] By 26 January, the President, summing up the debates, was able to declare that agreement had been reached on all but two points: the passage of troopships through the Canal in quarantine, and the number of Egyptians who should be members of the Sanitary Council of Egypt. Two days later the conference voted on the first of these questions, and the British amendment to French proposals - which would have permitted infected troopships and passenger ships to traverse the Canal in quarantine - was

But long range imperial military campaigning required large scale transport mobilisation, and Great Britain, with only the support of four countries, again considered the assignment of exceptional permissions to cross the Suez Channel for British military vessels under quarantine. That was the subject of a Paris meeting after the conclusion of the Venice conference in 1893, June.<sup>68</sup>

**International Sanitary Conference (8<sup>th</sup>: 1893: Dresden, Germany).** *“Procès-Verbaux de la Conférence Sanitaire Internationale de Dresde, 11 mars-15 avril 1893”*. Dresde: Impr. B.G. Teubner, 1893.

As an intracomponent specific to military organizations Ottomans young militaries were sent to European faculties in order to learn the bacteriology.<sup>69</sup> Those medical officers were requested to diagnostic contagious diseases. They were shaped by the spread of the infection and their new identity was created to minimize the disturbing influence from the far region to which they belonged. Otherwise, as far as land quarantines measures were abandoned after the reappearance of cholera in France, in Spring 1892, the military medical doctors were associated to the river quarantines. Because the 1892 epidemics appeared to be noticed along the course of the rivers and drainage areas (according to geographical positions and not around the principal lines of traffic). The ten powers signed *ad referendum*, ie without a mandatory scheme; nine countries did not signed it, a Convention. Explicit mention was made of the consequences of military occupation. Such was the case of the Kingdom of Greece in 1854; cholera spread all over the country from the Piraeus where the allied French-British military troops occupied the harbour. Thus suggesting for such a South Europe country having not attained excellence in its sanitary administration, that still quarantine should be taken in consideration by authorities.

**International Sanitary Conference (9<sup>th</sup>: 1894: Paris, France).** *“Conférence Sanitaire Internationale de Paris, 7 février-3 avril 1894: Procès-Verbaux”*. Paris: Impr. Nationale, 1894.

Mecca and Europe was the particular subject of study of this international sanitary conference. The importance to determine if contagion might be inferred from the

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defeated by 10 votes to 4,” Norman Howard-Jones, 'The scientific background of the International Sanitary Conferences 1851-1938', Geneva, World Health Organization, 1975, on p. 64. Germany, Austria-Hungary and Italy voted with Great Britain.

<sup>68</sup> “After the conclusion of the conference, the British decided that the concessions offered by France did not go far enough, and there were exchanges of correspondence between Britain, Austria-Hungary, and France that led to a meeting in Paris from 19 May to 9 June 1892,” op.cit. note 67 above, p. 64.

<sup>69</sup> “Bonkowski-Pacha, Ier Délégué de l'Empire Ottoman, approuve la déclaration précédente; il ajoute que les médecins connaissant la bactériologie sont rares en ce moment en Turquie, mais S. M. I. le Sultan, soucieux des intérêts de Son Empire, a envoyé de jeunes militaires ottomans dans les facultés Européennes pour y apprendre à fond la bactériologie en vue du diagnostic des maladies contagieuses,” International Sanitary Conference (8th: 1893: Dresden, Germany). “Procès-Verbaux de la Conférence Sanitaire Internationale de Dresde, 11 mars-15 avril 1893”. Dresde: Impr. B.G. Teubner, 1893, quotation on p. 210.



instable population at Mecca accentuated domestic factors as the level of institutionalization in the explanation of military implications. Should the European powers take possession of the “holy place”? How should they force the Ottoman sanitary representatives to change their behaviour? Requirements of supplies like tents and related conditions of place were under the competence of both medical doctors and colonels.<sup>70</sup> Also viable samples of water were taken from military hospitals with purposes of scrutinizing them; and it was confirmed that military activity expressed a depressing effect upon water composition.<sup>71</sup> The reshaping of authority for officers and sub-officers made a place for them as sanitary guards. This was the answer to the screening duties that obliged both the medical and military organizations and that was supported by the approved Convention.<sup>72 73</sup> Otherwise the evidence concerned with the lazaret external cordon and its inner quietness, was also connected with the armed forces political control of this segment of the population. Dealing with the influence of most military doctors, the operational measure of success in the inspection of pilgrims was found to be related with a claim for the appointment of a medical doctor by the government, thus anticipating the local health administration.<sup>74</sup> The pathological condition of military transport was once more mentioned, by making reference to the route from Yemen to Asia Minor.<sup>75</sup> Pilgrims and soldiers were still considered together, like in the mid-nineteenth-century health policies.

**International Sanitary Conference (10<sup>th</sup>: 1897: Venice, Italy).** *“Conférence Sanitaire Internationale de Venise, 16 février-19 mars 1897: Procès-Verbaux”*. Rome: Forzani et Cie, Imprimeurs du Sénat, 1897.

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<sup>70</sup> “Grâce à l'obligeante intervention du directeur de la quarantaine, Docteur Zachariades, et du chef militaire colonel Radley Bey, mes pèlerins ont été traités et casés convenablement,” said Dr. J. Karlinski who surveyed the Bosnian and Herzegovinian pilgrims return to Sarajevo, International Sanitary Conference (9th: 1894: Paris, France). “Conférence Sanitaire Internationale de Paris, 7 février-3 avril 1894: Procès-Verbaux”. Paris: Impr. Nationale, 1894, p. 67.

<sup>71</sup> For instance, the daily investigations of the Altona (Hamburg) waterworks, in February 1893, showed that “the specimens to which these last numbers refer were not taken from the pure-water-reservoir but from a tap in the military hospital in Altona. The water of the pure-water-reservoir, being nearer the filters, would probably have yielded somewhat lower numbers,” Robert Koch, ‘Professor Koch on the bacteriological diagnosis of cholera, water-filtration and cholera, and the cholera in Germany during the winter of 1892-93’. Edinburgh, D. Douglas, 1894.

<sup>72</sup> This conference Convention was for the prophylaxis of the Mecca pilgrimage and the Persian Gulf health vigilance, op. cit. note 70 above, quotation on p. 219.

<sup>73</sup> “Afin d'assurer les garanties nécessaires au bon fonctionnement des divers établissements sanitaires énumérés dans la présente Convention, il sera créé un corps de médecins diplômés et compétents, de désinfecteurs et de mécaniciens bien exercés et de gardes sanitaires recrutés parmi les personnes ayant fait le service militaire comme officiers ou sous-officiers,” op.cit. note 72 above, p. 245.

<sup>74</sup> A discussion between the French and the Dutch delegates was conducted on military vs. local medical doctors engagement in pilgrim ships inspection, “M. le Professeur Proust propose ensuite le texte suivant, [...] Visite obligatoire individuelle des pèlerins faite, de jour, par un médecin de l'administration avant l'embarquement. M. le Docteur Ruysch (Pays-Bas) fait remarquer que les médecins des Compagnies néerlandaises aux Indes, qui sont des médecins militaires, passent actuellement l'inspection des pèlerins qui s'embarquent et ont toujours refusé les pèlerins suspects. Il demande, en conséquence, à voir définir le terme de "médecin désigné par le Gouvernement". M. le Professeur Proust répond qu'il s'agit d'un médecin indépendant, nommé par le gouvernement local.” op.cit. note 72 above, p. 257.

<sup>75</sup> “Les transports militaires provenant du Yémen ont apporté le choléra en Asie-Mineure, les transports de pèlerins soumis à une désinfection insuffisante ont porté le choléra à Tripoli de Barbarie, Constantinople, Trébizonde, sans parler des cas sporadiques observés au Caire, à Beyrouth, etc.,” op.cit. note 72 above, p. 384.

The first Sino-Japanese war (1894-1895) was the focus of pest epidemics in the last years of the XIX<sup>th</sup> century, after early reports from the Spanish Navy.<sup>76</sup> It was reported that the sickness came from the 1850-1854 Tapings rebels and Muslims war.<sup>77</sup> Under rough unconcordance with the familiar way pest arrived to continental Europe since the fourteenth century from Egypt and Constantinople. Also the tensions and war (1897-98) following the tribal uprising in the frontier between Afghanistan and the British territory were suggested to have risen the attention of the new “black death” venue. Connected to the conditions in which soldiers died, some understanding of the etiology of the disease was transferred to the rigours of military life, like creating sleeping areas in some Persian cemeteries.<sup>78</sup> Furthermore, as a prophylactics assumption, the moribund mariners and soldiers personnel boxes destined to be sent back their homes were included into a forbidden objects list (that was adopted in Dresden.<sup>79</sup> The control of the Persian Gulf and Suez channel relevance explained the military intervention. And the Ottoman government considered both the installation of a sanitary post in Kuwait and the presence of a war ship in the Ormuz strait.<sup>80</sup>

## Conclusion

Been explained in terms of putting knowledge back into the contexts in which it has meaning, contagion assures the social argument for military intervention. The changing configuration of the boundaries between medicalized spaces in terms of public health emerged in the mid nineteenth century in the form of “sanitary science”. Nation’s armed forces generally agitated to confer its status quo to the management of inequalities and infections. Military intervention is important in the process of configuration of a standard idea of quarantine. And it is also involved in the emphasis of control of the surveillance system and in the process of configuration of the information collecting system. The leading ideas of territorial dominion and commercial business upon which were based the governments’ practices have also concentrated the military intervention.

In order to clarify the nature of the epidemic process the question that followed was the uniformity. Both militarily and economically the standardisation was desirable.

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<sup>76</sup> “Depuis de longues années la Direction de santé de la Marine espagnole savait parfaitement qu'il y avait des foyers de peste à l'intérieur de la Chine; heureusement elle n'en était pas sortie. Mais, sans doute par suite de la guerre sino-japonaise, et des communications plus faciles de l'intérieur avec le littoral de la mer en Chine, une irradiation de la maladie arrive à Canton; et vous savez la terrible mortalité qui se produit dans cette ville, s'élevant, selon les données statistiques, à 95 %,” International Sanitary Conference (10th: 1897: Venice, Italy). “Conférence Sanitaire Internationale de Venise, 16 février-19 mars 1897: Procès-Verbaux”. Rome: Forzani et Cie, Imprimeurs du Sénat, 1897, quotation on p. 35.

<sup>77</sup> “Pestes du Yunnan et des régions du S. O. de la Chine de 1850 à 1870. La maladie aurait sévi dans ces pays depuis la guerre des rebelles Tapings et musulmans de l'ouest de la province (de 1850 à 1854). De grandes épidémies se montrent en 1866, en 1871 et en 1872,” op.cit. note 76 above, p. 316.

<sup>78</sup> “Épidémies en Perse. [...] Ayant débuté parmi les soldats, sur des buttes élevées, place d'un ancien cimetière, l'épidémie cessa au moment des grandes chaleurs,” op.cit. note 76 above, p. 315.

<sup>79</sup> prof. Brouardel (president of the Association of the Medical Men of the Seine Department (founded in 1833 by Orfila) demanded their elimination by inclusion in the list, “Il demande aussi que l'on ajoute en dernier lieu à la liste les paquets laissés par les soldats et les matelots et renvoyés dans leur patrie après décès,” op.cit. note 76 above, p. 459. For the Dresden conference list of items susceptible to transmit cholera, see op.cit. note 69 above, p. 234.

<sup>80</sup> “Au moment de l'apparition de la dernière épidémie de peste, le Gouvernement ottoman a décrété l'installation d'un poste sanitaire à Koweit. Il affirme que son Gouvernement fera tous ses efforts pour assurer la surveillance du détroit d'Ormutz, qui, d'ailleurs, est déjà très activement exercée. Un navire de guerre surveille la côte,” op.cit. note 76 above, p. 295-296.

Most patients were in no position to object to medical doctors treatment. And most soldiers has little option but to accept what was a professional intervention from its own organization. Only senior officers had the privilege of personal physicians. The existence of large populations under military discipline or scrutinized by military criteria, enabled European missions and Western bacteriologists to conduct mass testing experimentations on human and animal subjects of research in a way that today we will find impossible in most contexts. It should not be forgotten that although mostly coming from a Cuban civilian context, the insect-vector transmission theory of yellow fever was formulated by Finlay in the military environment of the Spanish war hospitals fighting the Cuban insurrection in the early eighties. And that Lowson and Kitasato isolated the best pest bacillus in Hong Kong due to the facilities of a pro-British and Christian hospital and were honoured by the Hong Kong colonial government and the Japanese consulate when the first Sino-Japanese war began. Or that the medical world of the British-ruled Egypt and India institutionalized the clinical practice conducive to the determination of the cholera cause.

In colonial countries under imperialistic army intervention this obtention of medical discoveries is the relatively limited number of successful events of a time interval that produced today's international epidemiological disorder.

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